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BEFORE THE

COMMITTEE ON

INTERIOR AND INSULAR AFFAIRS

UNITED STATES SENATE

NINETY-FIRST CONGRESS

SECOND SESSION

ON

THE NOMINATION OF DR. ELBURT F. OSBORN
TO BE DIRECTOR OF THE BUREAU OF MINES

OCTOBER 12, 1970

TECH 02 009TTV



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

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 1970

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**NOMINATION OF DR. ELBURT F. OSBORN TO BE
DIRECTOR OF THE BUREAU OF MINES**

MONDAY, OCTOBER 12, 1970

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

The committee met, pursuant to notice, at 2 p.m., in room 3110, New Senate Office Building, Senator Gordon Allott presiding.

Present: Senators Allott, Jackson, Anderson, Bible, Metcalf, Jordan of Idaho, Fannin, Hatfield, Stevens, and Bellmon.

Also present: Jerry T. Verkler, staff director; Stewart French, chief counsel; Charles F. Cook, minority counsel; and Thomas A. Nelson, assistant minority counsel.

Senator ALLOTT. The committee will come to order. This proceeding today is an open hearing by the Senate Committee on Interior and Insular Affairs on the nomination by President Nixon of Dr. Elburt F. Osborn to be Director of the U.S. Bureau of Mines, Department of the Interior.

Dr. Osborn presently is vice president for research, Penn State University. He would succeed, as Director, John O'Leary, who left the post in March of this year.

Without objection, this whole statement by Senator Jackson, the chairman of the committee, will be inserted in the record as if given by him.

(The statement referred to follows):

**STATEMENT OF HON. HENRY M. JACKSON, A U.S. SENATOR FROM
THE STATE OF WASHINGTON**

This proceeding here today is an open hearing by the Senate Committee on Interior and Insular Affairs on the nomination by President Nixon of Dr. Elburt F. Osborn to be Director of the U.S. Bureau of Mines, Department of the Interior. Dr. Osborn presently is vice president for research, Pennsylvania State University. He would succeed as director, John O'Leary, who left the post in March of this year.

Dr. Osborn has had a distinguished career as a research scientist, scholar, and teacher. During the war, he was a physical chemist, National Defense Research Committee, Office of Scientific Research and Development.

The Department of the Interior has submitted a biographical sketch of Dr. Osborn, including a list of the learned societies of which he is a member and a statement of his publication. Without objection, I will direct that this material be made a part of today's hearing record.

The Bureau of Mines and the Office of its Director is a post of critical importance to the economy of our Nation and to the safety, health and well-being of many hundreds of thousands of Americans. It was established by the 61st Congress in the act of May 16, 1910, which is found, as amended, in section 1, and following sections, of title 30, United States Code. The 1910 act sets forth the duties of the Bureau and its director as being concerned primarily with methods of mining in relation to the safety of miners and improvements of conditions under which mining operations are carried on.

Subsequent acts of Congress broadened the duties to emphasize scientific and technologic investigations, economic development, and the—quote—“conservation of resources through the prevention of waste in mining * * *” unquote. Other special duties have been added from time to time, such as responsibilities for the helium program, and the Bureau has had a highly important role in the anti-pollution and environmental quality control efforts through its metals recovery developments with respect to solid waste disposal.

Some idea of the breadth and importance of the Bureau of Mines activities may be seen in the appropriation of Federal funds for fiscal 1971. Public Law 91-361, Interior appropriations, allocates \$46-422,000 to the Bureau for “promoting the conservation, exploration, development, production, and utilization of mineral resources, including fuels;” another \$54,395,000 is allocated to mine health and safety; another \$1,799,000 for administration.

These sums add up to a total of \$102,616,000 for the Bureau of Mines for the fiscal year 1971.

In view of the money—nearly \$103 million—the programs, administered by the Director of the Bureau of Mines, it is well that the organic law for the Bureau requires the director—quote—“shall be thoroughly equipped for the duties of said office by technical education and experience * * *” unquote.

On his record, Dr. Osborn would seem to have the technical qualifications for the post.

Now, I will ask if any members of the committee have any comments they wish to make. I will state that the committee has invited the chairman of Committee on Labor and Public Welfare, Senator Yarborough; the chairman of its Subcommittee on Labor, Senator Harrison A. Williams, Jr.; and the ranking minority member, Senator Jacob K. Javits, to participate in these hearings. The Labor Committee was the unit that had initial responsibility for the coal mine and safety legislation.

Senator ALLOTT. Senator Jackson has been detained through a change in the business of the floor on the continuing resolution and will be here shortly.

Let me say that I am delighted with Dr. Osborn's nomination, and should the Senate in its wisdom, confirm his nomination, I am confident that he will serve in that office with great distinction.

Members of this committee will recall that Dr. Osborn presented testimony before our committee in July of last year on my bill, S. 719, which will establish a national mining and minerals policy. In his testimony, Dr. Osborn placed particular emphasis upon the alarming deterioration of our mineral education and research in this country. I have shared his concern for some time and have been greatly disturbed by the remarkable lethargy of our Government to the import-

ance of research and advancement in this particular area. From your statement before this committee in July of last year and from the report of the Committee on Mineral Science and Technology of the National Academies, of which you were chairman, it would appear that you and I are in agreement with respect to the need for a program to encourage and enhance education and research in the mining and minerals field.

In a reprint of an address you delivered in Toronto in April of this year, you set forth the areas in which our mineral science and technology is deficient, and I quote from page 5 of that reprint:

We thus have, without question, a serious deficiency in the state of mineral science and technology in the United States. This shows up in every sector: first, in the decreasing number of students graduating in mineral engineering curricula; second, in the decrease in the number of mining departments in universities; third in the low level of funding of university research programs in the mineral engineering fields; fourth, in the decrease in the relative position of the United States among nations of the world in mineral technology; and fifth, in the obvious lack of the necessary technology to mine coal and to produce oil without recurring disasters.

With respect to the first four of those items I could not agree with you more. While I am not sure I would go quite so far as you did with respect to the fifth, nevertheless, there is little question about the fact that both the coal and oil industries could achieve substantial benefits from expanded research and educational programs.

I look forward to hearing what steps you would plan to take and what actions you would recommend to the Congress to correct these deficiencies.

I was also interested in your comments relative to establishing a program with respect to minerals similar to that which is presently applicable to agriculture under the first Hatch Act—that is the land-grant college program. Such a program could produce an important beneficial effect by helping to recoup some of our losses in the minerals education field; however, it would seem to me that it must be coupled with a well-defined and expanded research program. Consequently, it would be my hope that you would take an in-depth look at the research programs of the Bureau of Mines and recommend to this committee a comprehensive proposal for an aggressive research program coupled with a plan to support and encourage the redevelopment of our minerals educational system.

In my opinion, such a program is important to the well-being of this Nation for two reasons:

First, as we become more and more dependent upon foreign sources, we tend to lose the ability to find and produce, domestically, minerals important to our industry. Our dependence tends to encumber our foreign policy and limit our freedom of movement within the family of nations.

Secondly, the new demands of environmental quality cannot be dealt with effectively unless industry has the necessary tools. In order for the minerals industry to remain economically viable under such heavy demands, there must be readily available trained specialists, the results of successful research in improved mining, beneficence, and waste disposal practices, and governmental policies must take into account these newly increased burdens. The supply of an adequate number of highly trained specialists is, perhaps, the most important single tool in the industry's kit.

Dr. Osborn, you may comment on that at a later time.

Senator Bellmon, do you have any questions?

Senator BELLMON. No, Mr. Chairman.

Senator ALLOTT. The first witness, then, would be Mr. Richard S. Schweiker, the junior Senator from Pennsylvania, the home of the nominee.

**STATEMENT OF HON. RICHARD S. SCHWEIKER, A U.S. SENATOR
FROM THE STATE OF PENNSYLVANIA**

Senator SCHWEIKER. Thank you very much, Mr. Chairman, and members of the committee.

In behalf of Senator Scott and myself, and I am sure we will be hearing from Senator Randolph and Congressman Johnson, I am very pleased to make the following statement as well as their additional remarks.

Mr. Chairman, and members of the committee. It is my privilege today to introduce to this committee my fellow Pennsylvanian, Dr. Elbert F. Osborn.

I enthusiastically support the confirmation of Dr. Osborn to become the new Director of the Bureau of Mines. In Dr. Osborn, President Nixon has chosen a man eminently well-qualified to lead the agency of the Federal Government responsible for mining policies and programs and the enforcement of mining laws.

Dr. Osborn has been at Pennsylvania State University for the last 24 years, first as professor of geochemistry, later as associate dean and dean of the College of Mineral Industries, and finally, since 1959 as vice president for research.

With Penn State as his home base, he has written two books and close to 100 articles relating to earth and mineral sciences. He has been a national leader in numerous scientific societies and has been advisor to the National Science Foundation. He currently chairs the Mineral Science and Technology Committee of the National Academy of Engineering in the National Academy of Sciences.

In his role as vice president for research at Penn State, Dr. Osborn supervises a \$40 million a year research program. Thus he would bring to the Bureau of Mines not only the background of a leading mineral scientist but also the talents of a high-ranking university administrator.

This is a time when the Bureau of Mines is sorely in need of able leadership, and I am confident that Dr. Osborn will provide it. First of all, the Bureau has just been given vastly increased responsibilities for coal mine health and safety. And second, the Bureau is being looked to for action on the dual crisis of our environment. By "dual crisis," I mean the threat of environmental pollution accompanied by a shortage of fuels for our energy needs.

In 1969 Congress passed the Federal Coal Mine Health and Safety Act, charging the Bureau of Mines with the strongest mandate it has ever had to insure safe, healthful working conditions for the Nation's coal miners. I personally took part in the development of this legislation, along with Senator Randolph, as a member of the Labor Subcommittee of the Committee on Labor and Public Welfare. As a Senator from a major coal mining State, as well as a member of the subcommittee, I worked with my colleagues to make this a strong law and I hoped it would go far to alleviate injuries, sickness

and loss of life in the Nation's most hazardous occupation—coal mining.

I am confident that Dr. Osborn will do an effective job at the Bureau of Mines to implement the coal mine health and safety legislation. In addition, he will bring to this post an outstanding background for dealing with both the problems of our energy fuel shortage and the problems of environmental pollution within the jurisdiction of the Bureau of Mines.

As this committee is certainly well aware, we have an urgent national need for new policies to insure an adequate supply of fuels for our energy requirements. Dr. Osborn, through his extensive background in mining science and technology, will be a source of strength and wisdom as we pursue these matters in the Federal Government. Finally, Dr. Osborn, I am sure, will do his utmost to carry out the programs of land reclamation and conservation entrusted to the Bureau of Mines, as he has written and spoken many times on this aspect of the mining industry.

Throughout the Appalachia mining region, of which Pennsylvania is a part, mining has taken its toll on the air, the water and the landscape. Now the harm must be somehow redressed. In Pennsylvania, for example, acid water draining from abandoned coal mines has polluted streams. Underground fires from abandoned mines, and above-ground fires in coal banks, poison the landscape. Strip mines leave gaping holes in the countryside. In the anthracite region of northeastern Pennsylvania homes and other properties situated over abandoned mines are sinking into the earth and must be abandoned themselves.

The Bureau of Mines has important responsibilities to perform in the environment, in the overall fuels and energy problem and in mine health and safety. In conclusion, Mr. Chairman, I am pleased that President Nixon saw fit to name Dr. Osborn to head this important agency. I know that he will serve with distinction and I hope that you and the committee will take favorable action on his nomination.

Senator ALLOTT. Thank you, Senator. I have no questions. That is a very fine statement in support of Dr. Osborn.

Senator BELLMON, do you have any questions?

Senator BELLMON. No.

Senator ALLOTT. The next witness is Senator Jennings Randolph of West Virginia.

Senator RANDOLPH. Mr. Chairman, I think it would be perhaps appropriate to have the Representative from Pennsylvania.

Senator ALLOT. I am sorry. Mr. Albert W. Johnson, a Representative from Pennsylvania.

STATEMENT OF HON. ALBERT W. JOHNSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. JOHNSON. Thank you, Senator Allott.

It is my great pleasure to appear on behalf of Dr. Elbert F. Osborn and urge his appointment as Director of the Bureau of Mines. I have known Dr. Osborn since 1946 when he first came to Pennsylvania State University. I was then a member of the Pennsylvania Legislature and during my 17 years as a member of this body, 9 years of which

I was the floor leader, I had a good deal of contact with Dr. Osborn in the relations of Pennsylvania State University. I learned to know Dr. Osborn as an excellent scientist with a worldwide reputation.

Pennsylvania State University is now in my congressional district and I am informed that Dr. Osborn is a very fine administrator and one of his main concerns is over the status of the mineral resources of this Nation. He is a strong believer in research in this field increasing the technology and is a great advocate of education of more mining engineers. Under his direction, Pennsylvania State University has completed one of the outstanding research programs in the Nation.

As a person, Dr. Osborn is a very fine, honorable man, possesses an even temperament, is a good listener, and is devoted to the mineral industry program in the Nation. Despite his busy life, he has found time to be a member of the board of the Geisinger Hospital at Danville, which was founded by a former doctor from the Mayo Clinic, and is a Mayo Clinic, you might say, of the East. He has come to Washington on many occasions seeking Hill-Burton funds for the expansion of this very fine hospital.

It will be a great loss to Pennsylvania State University to lose the services of Dr. Osborn, but it will be a tremendous boon to the Nation to have a person of such character and ability to assume this important post. I urge his confirmation.

I thank you.

Senator ALLOTT. Thank you very much.

Senator Scott.

STATEMENT OF HON. HUGH SCOTT, A U.S. SENATOR FROM THE STATE OF PENNSYLVANIA

Senator SCOTT. I have asked Senator Randolph if he would permit me, because of the press of business, to say very briefly that I happily endorse the designation of Mr. Osborn. I am very pleased to be here and I want to thank my colleagues for allowing me to come here and briefly wish Dr. Osborn a successful career.

Thank you very much.

Senator ALLOTT. Thank you very much, Senator Scott.

Senator Randolph.

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

Senator RANDOLPH. Mr. Chairman, it is not only a privilege but, more importantly, it is a responsibility for me to testify on behalf of the nominee who is being considered by this committee to assume the vital responsibilities of the directorship of the U.S. Bureau of Mines.

Senator Schweiker has underscored the situation which is present in the coal mining areas of producing States. In Appalachia and other coal regions of the country, the debilitating results of, in some instances, improper mining practices are being felt. And, too often, closed or abandoned mines contribute acid drainage into our streams and larger bodies of water generally and cause considerable pollution.

I must not stress out of proportion the provincial interests that I might manifest as a Senator from West Virginia appearing in behalf of the nominee today. Certainly the committee members—Chairman Jackson, Senators Allott, Fannin, Hatfield, Bellmon, Stevens, and

Metcalf, the six members of the committee who are here this afternoon, know the importance of the Bureau of Mines within the structure of the Department of the Interior. That Department and that Bureau likewise have impact on the areas from which you come.

I remind you, however, that the Bureau of Mines has been without a director for more than 7 months.

Mr. Chairman, this has been to use the trite expression, a ship without a rudder. I do not depreciate those who have stepped into the positions and have assumed the leadership within the Bureau since the resignation of John O'Leary. But we urgently need now, not later, the leadership, experience, and a record of achievement possessed by Elbert Osborn.

I have had occasion to talk with Dr. Osborn. I have questioned him, not as a member of this committee, but appropriately, I hope, as one who has been identified, as has Senator Schweiker, with hearings in the Labor Subcommittee, and drafting of coal mine health and safety legislation within the subcommittee and the full Committee on Labor and Public Welfare, as well as within the Senate and then in conference with the House of the Coal Mine Health and Safety Act.

We need very much the leadership of a director of the Bureau of Mines at this time. I underscore this. West Virginia is the largest coal producing State in the Union. We have, of course, huge tonnages that are moving to many types of markets which contribute, as Senator Schweiker has indicated, to the stability of the fuels and energy needs of this Nation. And I have also discussed with Dr. Osborn the need to have in the mining industry, the knowledge on the part of the thousands and thousands of coal miners, as to the regulations being implemented by the Bureau under that important act passed by the Congress.

We cannot do the job overnight; we cannot screen and place in the field the additional 500 inspectors called for by that legislation above the present number of inspectors. It has only been done in part—and this is not criticism of the Department of the Interior and the Bureau of Mines. It can only be done in the way that it must be done, and that is promptly by a director who will give the dynamic leadership which is absolutely necessary.

Mr. Chairman, I hope that if it is within the time format of this committee, and after careful consideration of the qualifications of the nominee, that there will be a prompt decision on this nomination.

I believe the Senate itself and the people of the country generally are hoping that we in the Senate will make a quick determination in this matter.

I unhesitatingly approve of this nominee because of his background, his training, and of his announced purpose to do a job which needs to be done.

I thank you, Mr. Chairman.

(Whereupon, Senator Jackson, chairman of the committee, assumed the chair.)

THE CHAIRMAN. Thank you, Senator Randolph, for a very fine statement. I have talked to you personally about the nominee and it is reassuring to know that you have such a high regard for him. This is particularly true in view of the importance of your State in connection with the coal industry and your chairmanship, of course, of the Labor

Subcommittee that has very important responsibility in connection with coal mining safety, and you have played a very important role in this area.

I think no doubt that the nominee before us comes to this committee with the finest professional qualifications of any one to my knowledge, that we have had—at least equal to and if not better than anyone we have had before the committee and I think the only question that the committee needs to be satisfied on is the question of safety.

As I understand in talking with Dr. Osborn he has assured me that he has no compunction about this matter and that as far as he is concerned the law will be enforced.

Is that not correct, Dr. Osborn?

Dr. OSBORN. Yes, sir.

The CHAIRMAN. Thank you, Senators Randolph and Schweiker. I am sorry I couldn't be here. I was detained on the floor when you presented the nominee and I appreciated very much your high regard of him and I know, I guess you concede that Pennsylvania is second to West Virginia in coal production?

Senator SCHWEIKER. Only in volume; not in quality.

The CHAIRMAN. Well, you do very well in quality of candidates.

Any questions of the two Senators? They have other business, I am sure, and we don't want to detain them.

Thank you very much, Senator Randolph and Senator Schweiker. We appreciate your remarks.

Without objection, we will place in the record at this point the official biography of Dr. Osborn.

(The biography referred to follows):

BIOGRAPHY OF DR. ELBURT FRANKLIN OSBORN

Born: Kishwaukee, Winnebago County, Illinois, August 13, 1911.

Married: Jean McLeod Thomson, Canada, August 12, 1939.

Children: James F. Osborn, B. 1942 and Ian C. Osborn, B. 1946.

Education:

West Chicago High School 1924-1926.

Roosevelt High School, Chicago, Illinois 1926-1938.

Crane Jr. College, Chicago, Illinois 1928-1929.

DePauw University, Greencastle, Indiana 1929-1932, B.A.

Northwestern University, Evanston, Illinois 1932-1934, M.S.

California Institute of Technology, Pasadena, California 1934-1937, Ph.D.

Employment:

Teaching Fellow, in geology, Northwestern University 1932-1934.

Teaching Fellow, California Institute of Technology 1934-1937.

Instructor in geology, Northwestern University 1937.

Geologist, Val d'Or, Quebec 1938.

Petrologist, Geophysical Laboratory, Carnegie Institution of Washington 1938-1942.

Physical Chemist, Division 1, National Defense Research Committee, Office of Scientific Research and Development 1942-1945.

Research Chemist, Eastman Kodak Company, Rochester, New York 1945-1946.

Professor of Geochemistry and Chairman of the Division of Earth Sciences, College of Mineral Industries, The Pennsylvania State University 1946-1952.

Associate Dean, College of Mineral Industries, The Pennsylvania State University 1952-1953.

Dean, College of Mineral Industries, The Pennsylvania State University 1953-1959.

Vice President for Research, The Pennsylvania State University 1959-.

Professional Societies Membership:

- American Association for the Advancement of Science.
- American Ceramic Society.
- American Chemical Society.
- American Geophysical Union.
- American Institute of Mining, Metallurgical and Petroleum Engineers.
- Canadian Ceramic Society.
- Geochemical Society.
- Geological Society of America.
- Geological Society of Washington.
- International Association of Geochemistry and Cosmochemistry.
- International Association of Volcanology and Chemistry of the Earth's Interior.
- Mineralogical Society of America.
- Mineralogical Association of Canada.
- National Council of University Research Administrators.
- Society of Economic Geologists.
- Western Pennsylvania Conservancy.

Principal Professional Offices and Committees:

- American Association for the Advancement of Science.
- Council 1964-1968 (Representative of American Ceramic Society).
- 1960-1961 (Representative of Society of Economic Geologists).
- American Ceramic Society:
 - President 1964-1965.
 - President Elect 1963-1964.
 - Vice President 1962-1963.
 - Edward Orton, Jr. Memorial Lecturer for 1970.
 - Long Range Planning Committee 1970.
 - Honorary Members Committee 1966- , Chairman 1970- .
 - Engineering Committee 1967- .
 - Continuing Education Committee 1966- .
 - Trustees Nominating Committee 1964-1967, Chairman 1964-1965.
 - Publications Committee 1958-1963, Chairman 1960-1963; 1968- Chairman 1970- .
 - Board of Trustees 1962-1965, 1958-1961.
 - Executive Committee 1962-1965, 1958-1959.
 - Technical Advisory Committee, National Bureau of Standards 1954-1958, Chairman 1957-1958.
 - Basic Science Division, Trustee 1957-1960 Chairman 1951-1952.
- American Geological Institute:
 - Member, House of Representatives 1968- .
 - Director 1956-1959.
- American Institute of Mining, Metallurgical and Petroleum Engineers, Inc.:
 - Hal Williams Hardinge Award Committee 1969- .
- Geochemical Society:
 - President 1967-1968.
 - Vice President 1966-1967.
 - Councilor 1958-1960.
- Geological Society of America:
 - GSA Representative to U.S. National Committee on Geochemistry 1968- .
 - Ad Hoc Committee on Revision of By-Laws 1961-1963.
 - Councilor 1959-1962.
 - Policy and Administration Committee 1956-1958.
- International Mineralogical Association: Representative of Mineralogical Society of America 1961-1964.
- International Union of Geological Sciences: National Committee Member 1961-1964.
- Mineralogical Society of America:
 - President 1960-1961.
 - Vice President 1959-1960.
 - Chairman, 50th Anniversary Celebration Symposium: "Mineralogy and Petrology. of the Upper Mantle", November 1969.
 - Representative to the American Geological Institute 1968- .
 - Associate Editor American Mineralogist 1953-1955.
 - Councilor 1950-1953.
- National Academy of Sciences—National Academy of Engineering—National Research Council:

- Committee on Engineering Aspects of Environmental Quality 1970-
 Executive Committee, Division of Earth Sciences 1969-
 U.S. National Committee on Geochemistry 1968-
 Committee on Mineral Science and Technology, Chairman 1966-1970.
 National Materials Advisory Board 1969-70.
 Materials Advisory Board 1965-1969.
 Committee on Basic Research Advisory to the U.S. Army Research
 Office in Ceramics 1960-1963.
 Division of Chemistry and Chemical Technology 1960-1963.
 Advisory Panel to the Metallurgy Division of the National Bureau of
 Standards 1958-1964.
 Advisory Panel to the Mineral Products Division of the National Bureau
 of Standards 1958-1962, Chairman 1958-1959.
 Committee Advisory to Geophysics Branch of Office of Naval Research
 1947-1950
 National Association of State Universities and Land-Grant Colleges:
 Special Senate Committee on Mineral Resources 1970- , Chairman
 1970-
 Council for Research Policy and Administration.
 Water Resources Committee 1965-
 National Science Foundation:
 Advisory Panel for Physical Sciences Facilities 1960-1964.
 Advisory Panel on Course Content Improvement Programs 1960-1961.
 Divisional Committee for Mathematical, Physical and Engineering
 Sciences 1955-1959, Chairman 1957-1958.
 Earth Sciences Panel 1953-1955.
 Pennsylvania Research Corporation, Secretary, 1959-
 Society of Economic Geologists:
 Vice President 1965.
- Honorary Societies:**
- Keramos.
 Phi Beta Kappa, President, Penn State University Chapter 1951.
 Phi Kappa Phi.
 Phi Lambda Ipsilon.
 Sigma Xi:
 The Committee on National Lectureships 1969-
 National Executive Committee 1961-1964.
 President, Penn State University Chapter 1952.
- Other Organizations:**
- Centre Hills Country Club.
 Cosmos Club.
 Delta Tau Delta, Faculty Advisor, Penn State University Chapter 1953-1958
- Boards:**
- The Institute for Medical Education and Research, The Geisinger Medical
 Center, Board of Directors 1969-
 Earth Sciences Advisory Board, Stanford University 1969-
 Pennsylvania Science and Engineering Foundation, Member of Board
 1968-
 Pennsylvania Health Research Institute, Board of Directors 1966-
 SIRIMAR Corporation, La Spezia, Italy, Board of Directors, Vice-Chairman
 1961-1963.
 The Geisinger Medical Center, Board of Directors, Danville, Pennsylvania
 1962-
 University Corporation for Atmospheric Research, Board of Directors
 1959-1967 (PSU Representative at Corporation Members' Meeting 1967-
).
- Honors and Awards:**
- Member National Academy of Engineering 1968.
 Doctor of Science (honorary) Alfred University 1965.
 Fellow American Association for the Advancement of Science.
 Fellow American Ceramic Society.
 Fellow American Geophysical Union.
 Fellow Geological Society of America.
 Fellow Mineralogical Society of America.
 Honorary Life Member Canadian Ceramic Society 1965.
 Edward Orton, Jr. Memorial Lecturer for 1970, American Ceramic Society.
 National Science Foundation, Senior Post Doctoral Fellow, Cambridge
 University, England 1958.

American Iron and Steel Institute Regional Technical Meetings Award Medal 1954.

War-Navy Certificate of Appreciation June 1, 1947.

War Department Certificate of Appreciation November 30, 1945.

PUBLICATIONS OF E. F. OSBORN

- with Bhre, C. H., Jr., and Rainwater, E. H. Contact ore deposition at the Calumet Iron Mine, Colorado. *Econ. Geol.* 31, 781-804 (1936).
- Structural petrology of the Val Verde Tonalite, southern California. *Bull. Geol. Soc. Amer.* 50, 921-950 (1939).
- with Schairer, J. F. The ternary system pseudowollastonite-akermanite-gehlenite. *Am. J. Sci.* 239, 715-763 (1941).
- The system CaSiO_3 -diopside-anorthite. *Am. J. Sci.* 240, 751-788 (1942).
- The compound merwinite, $(3\text{CaO}\cdot\text{MgO}\cdot 2\text{SiO}_2)$ and its stability relations within the system $\text{CaO}\text{-MgO}\text{-SiO}_2$ (preliminary report). *J. Am. Ceram. Soc.* 26, 321-332 (1943).
- Silicate chemistry and petrology. *The Compass* 25, 247-249 (1948).
- Cellular structures in glass as related to structures in lava. *J. Geol.* 57, 73-78 (1949).
- with Roy, R. The system lithium metasilicate-spodumene-silica. *J. Am. Ceram. Soc.* 71, 2086-2095 (1949).
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The CHAIRMAN. Dr. Osborn, we are delighted to welcome you to the committee. Just a minute.

Senator Bible.

Senator BIBLE. Mr. Chairman, I find that I am called to a markup on Labor-HEW appropriations bill handled by your colleague from Washington. I must leave.

I must say I do not know Dr. Osborn. I met him for the first time several days ago. I am tremendously impressed with his credentials and his ability. I think it is unfortunate that 7 months or thereabouts have come and gone before this position has been filled. I had hoped it would be filled at a very early date.

I regret personally the loss of the prior Director of the Bureau of Mines. He was born and raised in Reno, Nev., educated at the University of Nevada, and I think was a great Director of the Bureau of Mines. But I also understand some of the vicissitudes of political appointments and I think he fell victim of that. But that doesn't involve you, Doctor, and I know of your high credentials and great ability and personally I look forward to working with you. I don't want you to forget the hardrock miners of the West as well as the coal miners of Pennsylvania and West Virginia as you move on in this area.

That is all I have, Mr. Chairman.

The CHAIRMAN. Thank you. Any other Senators wish to comment?

SENATOR ALLOTT. Just before Dr. Osborn makes his statement, I would like to say, as the Chair is well aware, that when Dr. Osborn and Secretary Dole made their courtesy visit to this committee last week we were placed in a quandary. Both Secretary Hickel and Secretary Dole had longtime commitments out of the city today which they couldn't cancel, so Dr. Osborn is accompanied today by Mr. Gene Morrell, Deputy Assistant Secretary for Mineral Resources.

I thought I ought to make this remark because Secretary Hickel and Secretary Dole are both completely and unanimously in support of Dr. Osborn and something else might possibly be read into their absence. But, we had a choice to make, whether to wait for their return, in which case we could not act upon this appointment until after the recess, or proceed today, and we thought—the chairman thought it was best to go ahead today.

THE CHAIRMAN. I wish to corroborate the statement of Senator Allott. Secretary Dole expressed his special regrets. I believe he is at Princeton today. It was fully understood that if anyone desired his presence here that would be done, but I told him it was not necessary and we are delighted to have the Deputy Assistant Secretary here, Gene Morrell, to represent the Department, and we fully understand the complete backing of the Department, of course, of Dr. Osborn.

I have a letter from Senator Williams of New Jersey, who regrets that he cannot be with us at the hearing because of another commitment. His letter will be included in the record at this point.

(The letter referred to follows:)

U.S. SENATE,
Washington, D.C., October 12, 1970.

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

DEAR MR. CHAIRMAN: Thank you for your invitation to appear before your committee regarding the nomination of Dr. Osborn to be Director of the Bureau of Mines.

I regret I could not be there as I am floor manager of the Occupational Health and Safety bill. However, I wish to reiterate to your Committee the especially deep concern of the Subcommittee on Labor with this specific nomination.

The Labor Subcommittee was primarily responsible for the drafting and enactment of the Federal Coal Mine Health and Safety Act of 1969. Our continuing concern for effective enforcement of that Act has been demonstrated in our recent series of oversight hearings on the implementation of the Act. During those hearings, it became abundantly clear that the Bureau of Mines was dismally failing to enforce the Act properly. It was still approaching the problems of mine health and safety with a business-as-usual attitude.

It is vital that the new Director be dynamic, far-seeing and committed to using the legislative tools and resources at his disposal to ending the carnage in the coal mines.

I know of your long years of concern for the health and safety of all of the workers in this country, including the nation's coal miners.

I have every confidence that you will ensure that the nominee meets these qualifications, and that he will be allowed the freedom from political considerations that is necessary for the law enforcement process.

Sincerely,

HARRISON A. WILLIAMS, Jr.

THE CHAIRMAN. Any other questions? Any comments before I call on Dr. Osborn for a statement?

(No response.)

THE CHAIRMAN. Dr. Osborn, we would be delighted to hear from you now.

Dr. OSBORN. Mr. Chairman, I appreciate the remarks and statements on my behalf, and at the risk of being slightly repetitive I would like to read a brief statement.

The CHAIRMAN. Yes, sir; you go right ahead.

STATEMENT OF DR. ELBURT F. OSBORN, NOMINEE TO BE DIRECTOR
OF THE BUREAU OF MINES

Dr. OSBORN. My background for undertaking the job of Director of the U.S. Bureau of Mines includes four decades of study and research in various aspects of the mineral resources field, and of administration of research programs and of organizational units at various levels. During my six years as Dean of the College of Mineral Industries at the Pennsylvania State University, my administration included the whole spectrum of the earth and mineral sciences, including mining engineering, petroleum and natural gas engineering, mineral preparation engineering, mineral economics, metallurgy, ceramics, fuel science, the geological sciences, geography and meteorology. Research projects in mineral engineering during that time included those concerned with roof bolting, dust in coal mines, rock mechanics, sulfur in coal, coal combustion, coal petrography, tertiary recovery of oil, blast furnace slag and steel furnace refractories problems, and others dealing especially with Pennsylvania's mineral resources. For the past decade I have administered the university's overall research program as it developed from one expending about \$9 million per year in 1959 to the present approximately \$40 million per year. This included working with Federal agencies, the State government, industry, and foundations as well as internally with deans, department heads, members of the faculty, and students.

I have recently been especially concerned about the low state of mineral science and technology in the United States. This country is developing many serious problems which are at least partly a consequence of our neglect of education and research in the fields concerned with mineral resources. There is little excuse, for example, in having about 40 abandoned coal mines burning underground in my State of Pennsylvania, wasting this valuable resource, contaminating the atmosphere, and causing subsidence of the surface. We simply have not developed the technology, and followed with regulations, to cope with the problem. The gap in the United States between net value of mineral imports over exports is over \$3 billion annually and increasing. This, too, is at least partly because we have not developed the mineral technology to keep up with our mineral needs. It is substantially true that we are running out of mineral technology, not mineral resources in this country.

At the request of the Director of the U.S. Bureau of Mines in 1966, the National Academy of Sciences established a Mineral Science and Technology Committee. I was asked to be chairman. The committee was charged with the task of determining the state of mineral science and technology in the United States and providing information and recommendations regarding its health and effectiveness. We issued a report.* One of our recommendations called for the establishment of a National Minerals Reference Center, to be "created

* "Mineral Science and Technology: Needs, Challenges, and Opportunities." A report by the Committee on Mineral Science and Technology of the National Academy of Sciences—National Academy of Engineering—National Research Council, Washington, D.C., 1969.

within the office of the Assistant Secretary for Mineral Resources to assist him in supplying the detailed information and analyses required for sound judgment by the executive and legislative branches in the formulation and execution of national mineral policy." We need this to be able to make more adequate predictions and plans, and to thus lessen the chance of energy shortages and other imbalances of mineral products. The committee felt so strongly about the need for better high-level coordination of programs and policies that it recommended that a cabinet-level Council on Mineral Resources be established.

One cause of the problems besetting the U.S. Bureau of Mines is the lack of a strong base in our universities. The U.S. Geological Survey is backed up by 85 university geology departments with Ph. D. programs, an additional 63 with M.S. programs, and 126 other universities and colleges with baccalaureate programs. In addition, there are several very good State geological surveys. The U.S. Bureau of Mines complements the U.S. Geological Survey.

As you know, the Bureau's mission is to provide the needed basic and applied research having to do with the conservation and development of the Nation's mineral resources. Its backup in universities has been the departments of mining, mineral preparation, metallurgy, petroleum and natural gas engineering, ceramics, fuel science, and mineral economics—the mineral science and technology fields. But these departments have been disappearing rather than expanding. For example, mining engineering departments have been dropped in recent years at Lafayette, Lehigh, Pittsburgh, Ohio State, Illinois, Washington, Minnesota, Kentucky, and the University of California. Relatively little research and graduate training is going on in the universities in these mineral fields.

Let me add parenthetically this means when the U.S. Geological Survey gives an examination in order to obtain new experts, new staff people, there are highly qualified people taking the examination. The U.S. Bureau of Mines is not in a comparable position to get qualified people.

Mineral resources education and research should be taken seriously, as Congress has done with agricultural resources, as Senator Allott earlier commented on this. In each of our important mineral producing States there ought to be a mineral resources institute or experiment station at a State educational institution, like the agricultural experiment station in each State. This would give the backup that the U.S. Bureau of Mines needs—trained people in the mineral engineering and conservation fields, and basic research being carried out.

In connection with our mineral resource problems, I have testified on S. 719, having to do with establishment of a national mining and minerals policy, on S. 2 (1963) having to do with water resources, and on S. 2005 having to do with a national materials policy. I have also worked to establish, and am the first chairman of a Special Committee on Mineral Resources of the National Association of State Universities and Land Grant Colleges. I hope that this association of great universities will throw its weight behind mineral resources education and conservation as it has behind agricultural resources education and conservation.

The mission of the U.S. Bureau of Mines as stated in the 1910 act of Congress is clear. The responsibility of this Bureau is great. The potential of its studies and actions for the future of the United States and the world is vast.

It is this potential for great accomplishment to the benefit of the people of the United States that attracts me to this job. I am not trying to escape from university life because it has become difficult, to take a soft job in Washington. Quite the contrary, my evaluation of the job of Director of the Bureau of Mines is that it is one of the most difficult and controversial in Government. I am confident, however, that I can do the job, and look forward to the challenge.

Improved health and safety is an especially important goal for the Bureau at this time. Full enforcement of the law in regard to health and safety must be carried out.

May I again say parenthetically, that one of the first tasks of the Bureau after 1910 was in the field of safety. The Bureau organized the great rescue teams for the explosions first in the underground coal mines in Kansas and in the East and since then has been very active, of course, in this field. But it is time we did a better job than we are now doing. Improvement and acceleration of the health and safety program of the Bureau can be done with improved administration. My objective is to provide this needed, more effective administration. At the same time we must develop the needed training and research programs so urgently required in this critical field.

In the position as Director of the Bureau of Mines, I will expect to work closely with Congress to keep the legislative branch informed of developments, and will bend every effort to carry out the expressed wishes of Congress.

Thank you.

The CHAIRMAN. Thank you very much, Dr. Osborn.

Senator Allott has a markup in the Appropriations Committee so I shall turn to him right now for some questions. Then I shall turn the meeting over to Senator Metcalf who will chair it. He has spent a lot of time in the mining areas and mining problems and safety aspects of it and I will ask him to chair the meeting for the balance of the session today.

Senator ALLOTT. Thank you, Mr. Chairman.

Thank you, Senator Metcalf, because I have an amendment pending before the Appropriations Committee at this time and I have to be there.

Dr. Osborn, I recall your very fine statement before this committee on July 9, 1969, in support of my bill S. 719, to establish a national mining and minerals policy. As you may know, the House of Representatives has made certain amendments to that bill, and one amendment in particular is of interest to me. This amendment broadens the scope of the mining and minerals policy to be established by my bill, to include the energy minerals; that is, coal oil, gas, oil shale, and uranium. It was my view that while there certainly are many common aspects of the minerals industry as it applies to both energy and non-energy minerals, nevertheless, the energy minerals are subject to certain other outside forces that are not present in the mineral field generally.

As an example of this, both the electric industry, which is the largest user of coal and in which uranium is becoming a factor, and the natural gas industry, are regulated by the Federal Power Commission, or by State regulatory agencies. Such questions as "service area integrity," public versus private power, rate structuring, import quotas, certification of public necessity and convenience, power

pooling agreements, and so forth, common to the energy field are simply not present in the general mineral field.

On the other hand, as the House report on S. 719 points out, about 65 percent of the total value of all domestically produced minerals are of the energy group. As author of S. 719, let me state that my concern over the inclusion of the energy minerals was due to the fact that because the problems are more complex and foreign to the general minerals industry, and also due to the fact that the energy minerals industry constitutes nearly two-thirds of the mineral output in terms of dollars and cents, that the hardrock or general mineral industry would find itself being frequently ignored and that its problems would not be afforded the attention which I believe they deserve, and which in fact, impelled me in the first instance to introduce S. 719.

Consequently, my question to you, Dr. Osborn, is that if you should be confirmed as Director of the Bureau of Mines, and if S. 719 should become law as passed by the House of Representatives, would it be your intention to administer the programs of the Bureau of Mines and to propose new programs under authority of S. 719 which would place equal emphasis upon the general mineral industry as on the energy mineral industry?

Dr. OSBORN. My answer is yes; I concur. We cannot let the fuel problems swamp the hardrock mineral problems.

Senator ALLOTT. Well, I thought that would be your answer. Your testimony a year ago, last summer, in July, was very vivid in my mind upon the bill at that time. The points you have made in your own statement today regarding the breaking down of the minerals engineering part of our higher education leads me to believe that we have many, many steps to take forward in this area.

Mr. Chairman, if you will excuse me now I will turn the questions over to others and then I will come back, if necessary.

(Whereupon, Senator Metcalf assumed the chair.)

Senator METCALF (presiding). Thank you very much, Senator Allott. I agree with my colleagues that we are delighted to have someone to be head of the Bureau after a long delay. Your qualifications as a scholar and research specialist are impeccable.

I would like to ask you a couple of questions about that however.

A few years ago when I was a Member of the House of Representatives I was on a committee which was chaired by Congressman Edmondson of Oklahoma which was to establish an Office of Coal Research, and that was the beginning of that office. Ever since I have felt that we have had inadequate research in coal. We have found out that you can make all sorts of dyes and so forth out of a few pounds of coal but we haven't had the adequate research to use the vast quantities of coal we have. I hope that when you take your position as head of the Bureau of Mines, Dr. Osborn, and Director of the U.S. Bureau of Mines, you will augment on the basis of your past experience the need for further and continued research in coal.

I would like your comment.

Dr. OSBORN. Yes, Senator Metcalf, there is no question but that coal has just been left out as far as research goes.

Very few universities are doing anything on coal. We have a good program at Penn State University, one of the largest university research programs on coal, but it is far too small for the job to be done. For reasons which you, I am sure, know better than I, the

Office of Coal Research was not put in the Bureau of Mines, but the Bureau of Mines should have great responsibility for coal research, and should be strongly engaged in really large-scale work on methods of mining and gasification of coal and so on.

Now, there has been some fine research, as you know, on this, let's say this problem of producing gas from coal. Here is a means of producing a fluid, a gas from which the sulfur can be separated quite readily to produce a clean fuel and pipe the coal as gas, obviating this problem of not having enough freight cars, and we have the sulfur problem under control. This provides another domestic source of sulfur instead of importing it. These programs ought to be scaled up to the point that we can determine the economics and see if this isn't the way to do it. I am sure that if this involved atomic energy there would be \$500 million to do the job. That is an exaggeration but if it is a type of energy other than atomic, if it is coal, there never is the money.

On the matter of taking coal out of the ground, we are still doing it about the same way we did when you and I were kids. Now, not from the standpoint of machinery but certainly from the standpoint of health and safety and how you move materials.

It would be very interesting if the Bureau would have the funds and the ideas to see, for example, whether or not you could mine coal under water, bring the coal down and float it out and have the miners outside of the mine instead of in. Let the methane bubble up and collect it and save it and use it, for example.

But, with the measly funds available in the past for coal research, all we have been able to do is work a little bit on how to make dyes as you say, and stimulate a little research outside.

Senator METCALF. Out in Bismarck, N. Dak., a cooperative has put together a lignite generating plant which investor-owned utilities said couldn't possibly work. And in North Dakota, Wyoming, Montana, we have the greatest energy resources in America. We not only as Senators and Representatives from that area, but as Americans, are concerned about the development of the tremendous source of energy.

For instance, this committee has held hearings and Senator Mansfield and I and others are concerned with MHD as a new source of power rather than some of the traditional sources, and I would hope that we would have your cooperation.

Dr. OSBORN. You certainly will.

Senator METCALF. Well, now, I am not so concerned about your qualifications as a scholar and academician. As I say, they are rather formidable, but over the years I have been concerned with mine safety and the Coal Mine Safety Act, and I have worked along with Senator Randolph and others in the early days of this.

I don't see anything in your experience, Dr. Osborn, that meets the statutory qualifications that you should be thoroughly equipped for the duties of the office by technical education and experience as far as enforcement of such laws are concerned.

I want some assurance here today, some facts, that you feel yourself that you can take care of that other part of a dual capacity of enforcing the Mine Safety Act.

Dr. OSBORN. Well, I think enforcement depends first of all on good administration, Senator, and this is what I would expect would be my principal contribution, not expertise in mining safety.

Senator METCALF. Dr. Osborn, it is difficult to be a scholar and a policeman and you demonstrated your ability as a scholar. I think that that is unquestionable.

Senator BELLMON. You are not referring to the present condition on campuses?

Senator METCALF. No, I am not. That is difficult, too. It is difficult to go to school when your laboratory is blown up by the Weathermen around you.

Senator BELLMON. I think the professor would be well qualified on enforcement.

Senator METCALF. I don't know whether his background has been in some universities that have been captured by some of the Students for a Democratic Society.

Have you had to undergo some of those ordeals?

Dr. OSBORN. Well, we have controlled them.

Senator METCALF. Even with the admonition of the Senator from Oklahoma, the two areas are different, and your experience has been as a research specialist, a scholar, a scholar-technician. This committee is impressed; this Senator is impressed by your qualifications there. But out in Montana, for example, where we have a revival of the coal industry, we have strong resistance against enforcement of the Mine Safety Act as people begin to reopen mines that have been closed for many years and it is going to take someone that is tough, aggressive, vigorous.

As you look into your background, do you think you can handle that job, too?

Dr. OSBORN. I know it is very difficult, Senator. I agree with you; it is difficult to be a dean, too, which I was.

Senator METCALF. I imagine that much of the work that you will do as far as safety would have to be delegated?

Dr. OSBORN. Yes, sir.

Senator METCALF. That is purely an administrative job. Would you give us some background on your administrative activities in Pennsylvania?

Dr. OSBORN. Well, I came to Penn State as a department head in charge of all the earth sciences in 1946. In 1953 I became dean of the college of mineral industries, which includes all of the earth sciences plus all of the mineral engineering field. After 6 years as dean the president asked me to come into the central administration to be vice president, which means central administration of the research in all areas, including: agriculture, chemistry, physics, engineering, and so on, as well as the mineral industries, and we have developed at Penn State extensive intercollege programs now which are directly administered by the vice president for research.

So, my administration of research is quite extensive, the experience, that is. This does not have very much to do with health and safety.

Senator METCALF. How much of a budget did you have there?

Dr. OSBORN. Our research budget now is about \$40 million a year.

Senator METCALF. \$40 million?

Dr. OSBORN. Yes, sir.

Senator METCALF. \$40 million or \$400 million?

Dr. OSBORN. About \$40 million a year.

Senator METCALF. Now, the appropriation for health and safety next year is about \$55 million. How many people were you in charge of? How many were on your staff; how many men did you superintend?

Dr. OSBORN. Well, on the research payroll there would be of the order of a thousand faculty and, of course, 4,000 or 5,000 graduate students.

Senator METCALF. A research payroll is quite a bit different from the kind of administrative position you would have to exercise.

Dr. OSBORN. That is right.

Senator METCALF. In supervising a safety program.

Dr. OSBORN. That is right.

Senator METCALF. How many people have you supervised in a program analogous to a health and safety program?

Dr. OSBORN. I don't quite understand your question. What is "analogous to a health and safety program?"

Senator METCALF. Well, I was trying to differentiate between the research program where you probably pass on the research project and then the person goes ahead largely on his own and does it with some guidance from you. But a safety program would take the day-to-day administration and day-to-day supervision and you would have to have reports and send direction down and it is a law enforcement program rather than letting scholars go their own way.

Now, how much of that actual administration of jobs that are not research, have you done?

Dr. OSBORN. Well, I am not trying to sell you on the idea that I am an expert administrator of health and safety, Senator.

Senator METCALF. I am not asking you to do so. But I am hopeful that you can become an expert.

Dr. OSBORN. I think I can, and to try to answer your question, we have, too, in the university, safety measures also which head up in my office. It is a different type of safety. The type of safety referred to by the Senator from Oklahoma is not headed up in my office, fortunately, but we spend an awful lot of time talking about it. And so the daily activities are not analogous to the ones you are referring to.

But in the Bureau of Mines there is a structure, there is a Deputy Director for Health and Safety, a very capable man, and if his staff can't do the job we will get the people in there who can.

Senator METCALF. The whole problem is that it is not the Deputy Director, it is not his staff. President Truman said the buck stops with you. You are the man that is going to have to make the ultimate administrative decisions. You are the man who is going to have to decide whether or not there is going to be a tough, aggressive enforcement of the law, or whether you are going to give permissive opportunities and this might result in the death of someone at a mine that you said we will go along for a while.

We are very much concerned about the enforcement of the act and that is why I want you to direct your attention as you tell the committee today as to why you think you can carry out, in view of this scholastic background, carry out the very important administrative decisions in the health and safety part. Do you think you can?

Dr. OSBORN. I think I can. I know I can.

Senator METCALF. I like that better, "I know I can."

Senator Jordan.

Senator JORDAN. Thank you. I have no questions. I have talked a good bit with Dr. Osborn and he has convinced me he is well qualified for this job. He comes well-recommended. I am ready to vote.

Senator METCALF. Senator Hatfield.

Senator HATFIELD. Mr. Chairman, Dr. Osborn, I am very impressed by all of your testimony, but most especially by the comments that you make in reference to research both from the standpoint of your own background of having the university's overall research program grow from \$9 million per year in 1959 to the present approximately \$40 million per year; and then on page 3 where you talk about mineral resources education research should be taken seriously. I agree most heartily with you and your recognition for tying together the education and the research as one basic package and your suggestion for a mineral resource institute.

We have in the State of Oregon, as you know, a bureau of mines field office which has been very helpful, not only in focusing upon the various problems relating to mineral development, but through the research it has been primarily a stimulant for spinning off and spawning industries and companies which devote themselves in our particular case to the exotic methods with reference to minerals.

I am hopeful from these comments of yours today we may interpret them to mean you would be giving stimulus and support to the continuation of such installations as the one in Albany, Oreg., not as I approach it as you might think, from a parochial viewpoint, but from the standpoint of it becoming a prototype, perhaps, or others like it, for the development of these institutes or these centers which you refer to on page 3.

Am I correct in interpreting your comments along that line?

Second, I want to commend you not only for your academic qualifications, but as one who comes out of an academic profession myself I am totally aware if you have succeeded in becoming a successful vice president and dean and so forth in the academic world, that your administrative background certainly qualifies you to deal with the politicians in Government because I learned very quickly that all of the politics in the world are not found in political centers of capitals, but probably the real gut politics of all are in the education field.

If you have survived the politics of education, I think you are well qualified to deal with the politics here.

Dr. OSBORN. Thank you, Senator.

Senator METCALF. The jumble of Washington is something I am sure, with your fine educational background you will find may be interesting if not a little bit trying and challenging.

Senator Bellmon.

Senator BELLMON. Thank you, Mr. Chairman.

I regret that I was out of the country when Dr. Osborn came to pay a courtesy call and this is my first opportunity to make his acquaintance. But I was greatly impressed by the statement that Dr. Osborn made, especially the comment he made regarding the present low state of mineral science and technology in the United States.

Dr. Osborn, could you comment a little further about your understanding as to how we got into this condition and what might be done to get us out of it?

Dr. OSBORN. I would be glad to make a few remarks on that, Senator.

We have slid into this condition partly certainly because of the way the mineral engineering and science fields have been treated in the universities.

As I touched on in my statement, the agricultural resources for reasons which I think we all understand, but nevertheless, the agricultural resources since the 1887 Hatch Act, have been taken very seriously by Congress. So that we have, for example, at my university, Penn State University, a very large group covering the whole field of agricultural resources who work years ahead on problems, and furthermore are available for a crash program if some serious agricultural problems come up, or to provide men for the U.S. Department of Agriculture and other services where they are needed.

Senator BELLMON. Are you critical of this arrangement for agriculture?

Dr. OSBORN. This is wonderful. Mineral resources are just as important as the agricultural resources, maybe more so, because they aren't so readily replaceable. But the mineral resources have tended to be treated at universities as we would treat liberal arts, as we treat psychology or classical languages. If the curriculum has a lot of students, the university puts money into it. If the mineral engineering field does not attract a lot of students, the administration says you don't have enough students to support the program, therefore, we will get rid of it. So, a third of our mining engineering departments disappeared between the years 1962 to 1967.

Senator BELLMON. How many is that?

Dr. OSBORN. A third of our mining engineering departments. There were 26 in 1962; there were 17 left in 1967. And there have been at least two disappear since then: the University of Washington and the University of Minnesota.

My contention is that we have not treated this logically or soundly. Mineral resources ought to have had the same type of program that agriculture has had.

We should have a program of Federal appropriations plus matching State funds to support the mineral resources field. Every State may not have coal, may not have petroleum, but every State does have sand, gravel, limestone, and various other mineral resources, and these cause problems which are very serious. A mineral resources education and research program similar to the agricultural programs in our universities is overdue.

But, of course, it is never too late for Congress to get behind a modern Hatch Act for the mineral resources, then we would have the people. Where will the Bureau of Mines go to get people?

I will presumably, if I am Director of the Bureau of Mines, find out fast what is going on. But I understand there are plans to establish an academy to train mine inspectors so, presumably within a few years we will have enough of this type of trained person. This still is not giving us the mineral engineers that we need for the other part of the Bureau of Mines job which his mineral sciences and technology, and the stations such as Senator Hatfield mentioned at Albany, Oreg., where you must have first-class people that the universities are not turning out.

¶ So, one of the principal reasons why mineral science and technology is not a patch-on-agricultural resource science and technology is that it has been overlooked in the universities.

Senator BELLMON. Well, in my State of Oklahoma the Bureau of Mines operates a petroleum research station at Bartlesville.

Dr. OSBORN. I just know of it.

Senator BELLMON. It is my information, after having visited the station many times and having talked with some of the administrators and the staff people there, that they are having a real serious problem in keeping the staff up because there has been, over the past several months, and years an effort to reduce the operation of this station and perhaps eventually or perhaps rather shortly, close it. And the result is that the staff that is there feels that their tenure is not secure and, therefore, they are continually looking for opportunities to go elsewhere.

Do you have in mind any course of action that could help give some feeling of permanence to these?

Dr. OSBORN. Let me say that this possibility of closing the mineral research station by the Bureau of Mines is the same sort of disaster that is happening in the universities, closing the mining departments. This just couldn't happen. There are too many problems that should be attacked at these regional stations, no question about it. And with respect to security, of course, there has to be the funds and I hope that Congress, the Senate and House, would be willing and glad to listen to the needs of the Bureau with respect to providing the funds that are needed to do this research.

Senator BELLMON. One of the problems seems to be that there has been a feeling in the Bureau that research as related to the petroleum industry, as it relates to the petroleum energy field, ought to be done by private enterprise, and there hasn't been any general agreement that there are areas where general indepth research needs to take place.

Do you have any feeling?

Dr. OSBORN. Well, I think the Bureau of Mines is a very appropriate place to do much of the basic research on the underground domain, the whole matter of fluid movement and such that is involved with petroleum and natural gas. We not only have production problems, but we have storage problems. More and more and more we are using the underground reservoir for storage. The Bureau of Mines should be right on top of these programs and it has been doing the best it could but I am sure that there is a good deal more it could do.

Senator BELLMON. The Bureau pioneered the research that made secondary recovery possible and this has added millions of barrels and trillions of gallons to the gas reserve.

Senator Allott asked you about your feeling in connection with the relative importance of hardrock minerals and fuel minerals and you replied that you couldn't let the fuel problems swamp our hardrock mineral problems, and I certainly don't want to quarrel with that statement, but it caused me to wonder if you would comment on your own feelings about the maintenance of a strong domestic fuel industry as opposed to this Nation becoming dependent upon foreign sources for fuel.

Dr. OSBORN. I think in both cases, whether it is meant as a building stone, on the one hand, or an industrial mineral or whether it is fuel,

the country must maintain a strong domestic program. It has to do this. We can only do it if we continue to advance in technology. For example, whether the imports of iron and steel, steel particularly, increase depends, let's say partly on whether the technology has increased fast enough.

I am getting off your question a little bit but I will get back to it. So, in the case of steel technology, for example, the U.S. Bureau of Mines was doing an excellent job in its Pittsburgh Forbes Street Station several years ago on short shaft furnaces as pilots for blast furnace work which was helpful to all of the steel industry. That has been stopped. They ran out of money; the Bureau of Mines ran out of money. I am sure this was helping to keep our steel industry to the point where we weren't delivering steel pipe from Japan in Bethlehem. They can sell it in Bethlehem, Pa., cheaper than the Bethlehem Steel Co. can deliver it in Bethlehem, Pa.

So, similarly, in our fuels we must keep the technology up so we are not undersold by some foreign country, and if necessary, to maintain this we do have the huge fuel reserves in the oil shales, for example, so we aren't about to run out of our fossil fuels by any means, but we have to maintain the technology.

Senator BELLMON. I have no further questions. I certainly wish to express my support for Dr. Osborn. I think he will do an outstanding job in this position.

Senator METCALF. Thank you.

Senator STEVENS.

Senator STEVENS. Thank you. I, too, enjoyed my visit with Dr. Osborn.

Dr. Osborn, I am sure you know that my State is one-fifth of the States of the United States and considered to be a very vast storehouse of mineral resources. We have been trying to advocate a commonsense approach to conservation which would require knowledge of these mineral resources in order that, as we set aside portions of Alaska for preservation we would do so with the full knowledge of what resources would be in these areas.

I noticed you mentioned relationship both to agriculture and to mining, the problem of conservation. Your approach is in regard to inventorying the mineral resources of the country.

Dr. OSBORN. I think this is extremely important, Senator Stevens. One of the long-range programs that I think would be extremely helpful would be the drilling of holes on the continental United States, 10,000 or 15,000 feet deep, just for scientific and exploratory purposes. Now we are drilling holes in the ocean floor, as you know, not very deep ones, but we are developing a technology so we can go deeper and learn more about the origin of the oceans. This is fine. I am very interested in the origin of the oceans and you are, too, because you certainly have a lot of them around Alaska.

We are not doing exploratory drilling on the continent to learn what we have got at depth and for future mineral resources. We should be doing this not for just mineral resources, but also to learn more about the whole problem of the underground with respect to its properties, its storage capacity, and so on. Tremendous information could be obtained on a program such as this, systematic drilling in the United States. This is only part of it, though.

You are referring, I am sure, also to a good tabulation and evaluation of what is now known from scratching the surface.

Senator STEVENS. I don't think that has been done.

Dr. OSBORN. That has to be done, too, and the Bureau of Mines should be doing it.

Senator STEVENS. I won't belabor the hearing, Mr. Chairman. I want you to know that Dr. Osborn is a close personal friend of the dean of our School of Mines of the University of Alaska. Dr. Osborn's reputation has preceded him to our State and we are most happy that he has agreed to take this job. From our point of view we are glad you waited until you would agree to accept the position.

We don't happen to have the coal interests any longer in the State of Alaska to any great degree and the coal mine safety program that has attracted a great deal of attention of the Senator from Montana, and is not foremost in our minds. Foremost in our minds today is to try and get help to know what we have in Alaska so that as we move ahead with these conservation objectives and with the total objectives of development of oil and gas resources, we utilize to the greatest extent possible the hard-rock minerals of Alaska. I know that we will welcome your help in that regard and I am happy to have been here with you today.

Senator METCALF. Thank you, Senator. I think that Dr. Osborn brought out the most important point: the need for research and discovery as to just exactly where our resources are. And this is not only the coal resources and petroleum resources and fossil fuel but all of the other metals that we have. And if you could pioneer in that area and try to get drilling records of the various oil companies put together so that we could get some knowledge of what is under the ground, and so that we would know as much about some of the subterranean area as we know about the moon, it would be a great boon to all of mankind.

Senator Jackson.

(Whereupon, Senator Jackson, chairman of the committee, assumed the chair.)

The CHAIRMAN. Thank you, Senator Metcalf. I am satisfied by the questions that have been put to Dr. Osborn that he will faithfully enforce the law that pertains to mine safety. I think this is the only question that needed to be raised here because your professional qualifications are, as I indicated earlier, outstanding. I have no doubt about your intentions as far as enforcement of the safety provisions of the law.

Do you know of any reason why you cannot carry out that very important requirement as provided by the last act of the Congress which, I think, on mine safety, was 1969, last year?

Dr. OSBORN. No; I do not, Senator. May I repeat that certainly the top priority now in the Bureau of Mines is this health and safety. There is no question about it.

The CHAIRMAN. And it is the spirit of the law; it just isn't a matter of carrying out in a perfunctory way, but a vigorous enforcement of the law indeed saves lives.

There are some terrible alternatives that one has to face up to. Some of these smaller companies are going to find it difficult, presumably, to survive competitively, but I do think that Congress has spoken in unequivocal language on the part of both political parties and it is important that that assurance be nailed down, and I think we have that this afternoon and I just want to compliment you on your forthright responses to these questions.

Dr. OSBORN. Thank you.

The CHAIRMAN. Might I say that Senator Yarborough and Senator Williams and the minority members were invited to attend today from the Labor and Education Committee and they were unable to do so due to the press of business near the end of this current part of the session.

That is all.

(At this point Senator Metcalf assumed the chair.)

Senator METCALF. I don't want this hearing to close, Dr. Osborn, without adding my admonition to that of Senator Allott that we are very much concerned about the sources of energy, but we are also concerned with the nonferrous area, the hardrock mines, and all through the Rocky Mountain area, particularly where I have had experience, but wherever we have the other type of mining other than coal mining, we are concerned about better ways of recovering the minerals, more and cheaper methods, and we would like to carry out the heavy metals program which has been instituted to discover new sources of gold, platinum and silver, and I have concentrated today on the safety act for coal mines. But more than anything else I was responsible for the passage of the safety act in the nonferrous mines and that, too, was important and significant and would save lives if vigorously and aggressively enforced.

I urge you when you become head of the Bureau of Mines to look at both of these phases.

Any other questions?

(No response)

Thank you. Would you stand by and we will meet with you in executive session?

Dr. OSBORN. I will be glad to.

Senator METCALF. The next witness is Mr. Joseph A. Yablonski, representing the Miners for Democracy.

We are happy to have you before the committee.

STATEMENT OF JOSEPH A. YABLONSKI, REPRESENTING MINERS FOR DEMOCRACY

Mr. YABLONSKI. Unfortunately I do not have a prepared statement. It is very short. My name is Joseph A. Yablonski, and I am an attorney and I am counsel for Miners for Democracy, a reform group within the United Mine Workers of America. I have a brief statement. Unfortunately it hasn't been printed.

The position of the Director of the Bureau of Mines is to the working coal miners of America the most important position in the Federal Government. In passing the 1969 Federal Coal Mine Health and Safety Act, Congress strengthened the role of the Director and made it a position of real meaning and authority for that act constituted the most comprehensive occupational health and safety bill ever enacted in this country.

In defiance of Congress that act is not being enforced. The hearing held by the Senate Labor Subcommittee amply demonstrates this. They demonstrate that the Bureau and Department of Interior have seriously undermined congressional will.

Ralph Nader has appropriately characterized the Bureau's activities since March 28, 1970, the date the act became effective, as "institutional mutiny."

I appear here today on behalf of working coal miners. I would not be here but for the fact that the United Mine Workers of America has again defaulted in its obligation to the men it purportedly represents.

In the 9 months since the law has been enacted, and in the 6 months since it has been in effect, safety procedures in coal mines have not improved. Fatalities have increased and in this respect, Senator Metcalf, I just recently learned that since the new act has been in effect we have had 112 men killed. That is since the 1st of April in the coal mining industry, as compared with 99 under the old law in the same period last year.

We believe that the coal operators have openly flouted the new law. Lack of enforcement can no doubt be attributed to the lack of a Director of the Bureau of Mines.

But, the problems run deeper than that. The reorganization of the Bureau, the installation of unqualified persons to positions of responsibility within the Bureau, and the domination of the Bureau by political appointees who lack a commitment to enforce this act, seriously jeopardize the autonomous functioning of the Director's office. Important policymaking decisions are not made decisively or quickly. The hiring of hundreds of new mine inspectors has proceeded slowly and the production oriented bias of the Bureau continues. Indeed, we believe it has increased, all to the detriment of the coal miner.

Closed door meetings between Bureau officials, representatives of the coal industry and the United Mine Workers of America have continued unabated. Only recently the Bureau has indicated as a result of such a closed-door session that it intends to relieve operators from penalties which Congress prescribed in the 1969 act. It agreed to the adoption of a "no fault concept" whereby employers who accidentally or inadvertently permit a violation of the act to occur are relieved of civil liability.

We believe it is essential to the full enforcement of the act that a Director be installed, but it is also extremely important that this committee indicate to the Bureau and to the Department of Interior in its report that the Director be free of the kind of political pressure and considerations which so far seriously hamper enforcement of the act.

I have been fortunate in having had the opportunity to meet with Dr. Osborn and to explain to him both our fears and our expectations. I believe he is a man of sincerity who, given the opportunity to do so, will enforce the act.

Senator METCALF. That is a fine statement, Mr. Yablonski, and let me tell you that this committee is not going to tolerate, once we have a Director of the Bureau of Mines, a bureaucratic defiance of a law that has been passed by the Congress of the United States. And the condition that you have described is just intolerable.

It will be up to Dr. Osborn, who has heard your testimony, to see that this situation is completely changed once he has an opportunity to take over the job of supervision. And I think a good deal of the problems is the fact that we haven't had a Director; we haven't had an aggressive administration; we haven't had the kind of law enforcement that is necessary to take care of this situation.

You have done a great service to the committee and I compliment you on bringing that statement to us.

Senator Jackson.

The CHAIRMAN. I just want to concur in your statement. I think Mr. Yablonski's statement here is an excellent one and I am glad that you share our high regard for Dr. Osborn.

I am relying on his good faith which I believe in, and I am sure that he will enforce the law.

I will say further that this committee does have oversight responsibility and we will be following with interest the work of the Bureau. We want to help Dr. Osborn in every way and any time you have complaints that are valid and substantial we would like to know about it because this matter has been kicked around long enough and I think the time has come when we should see to it that all aspects of this problem are dealt with fairly, objectively and impartially in the enforcement of all of the statutes that pertain to it.

It is not a matter of conforming with the letter of the law, but the spirit of it, and I think Congress has made clear its intent. We want to avoid disasters in the future by seeing to it that these laws are obeyed, and I want to compliment you on a fine statement.

Mr. YABLONSKI. Unfortunately, we as a nation that seems to be guided by the media, focused on events like Farmington, where 78 men killed, and it is only a small news clipping which never makes it into the Washington, D.C. newspapers when one or two men are burned or killed or electrocuted or killed by roof falls and things of this nature, and when you look at the data that is available from the Bureau, I just think that as an American I am shocked that in one 6-month period in an industry that employs less than 140,000 men we can have 112 killed. I think this is what moved Congress, this is what outraged Congress into doing something, and I pray to God that you will continue to look over the Bureau's shoulders.

I know the Senate Labor Subcommittee will do so to make certain this law is enforced because we don't believe it is being enforced. We don't believe that the operators have really come to realize that there are certain criteria, certain essential things that just have to be done and production is going to have to be set aside for the moment so we can protect lives.

The CHAIRMAN. I can assure you as chairman of the full committee that we will follow this matter very closely and we have great faith in Dr. Osborn and I know with his cooperation and with your concern for the miners that something can and will be done about it. We are interested in preventing accidents. This is the whole purpose of the legislation, and not to amend the law after there has been another great disaster.

We think there is certainly adequate authority on the books now to deal with the preventive opportunities in this area. This is what we want to concentrate on.

Mr. YABLONSKI. Thank you.

Senator METCALF. Thank you, Senator Jackson.

Senator Jordan.

Senator JORDAN. I want to thank Mr. Yablonski for a very fine statement. I hope that you will be able to come to us a year from now, Mr. Yablonski, should the occasion arise, and tell us that this thing is well under control, we are headed down the proper road.

Mr. YABLONSKI. We also are playing the role of policeman because we are trying to also police the act to make certain that it is enforced.

Senator JORDAN. Thank you.

Senator METCALF. Senator Hatfield.

Senator HATFIELD. Thank you, Mr. Chairman.

Do we have on file other testimony which has not been presented here at all today?

The CHAIRMAN. There has been no request or testimony or statements received other than our side witnesses, other than Mr. Yablonski, to my knowledge.

Senator HATFIELD. I presume that due public notice has been given as to this hearing?

The CHAIRMAN. This is correct. We placed in the record the date the nomination came out and there was a press release. In addition, we invited the Labor and Education Committee chairman and subcommittee chairmen that have important areas of jurisdiction here, both the majority and minority members.

Senator HATFIELD. Then I understand correctly that Mr. Yablonski is the only person here representing either the worker or any associations or organizations that would represent such?

The CHAIRMAN. The staff informs me that he is the only one who requested to testify other than the Senators and Dr. Osborn and the Congressman.

Senator HATFIELD. Not only was I impressed with the content and substance of your testimony, Mr. Yablonski, but I want to commend you for demonstrating this interest on behalf of those who labor and work in the various mines, to be the only representative of all of those. I think this certainly speaks well of your own interest and perhaps again eloquent testimony of the sacrifice that you and your family have made for the cause of these men.

Mr. YABLONSKI. Thank you, Senator.

Senator METCALF. Senator Bellmon?

Senator BELLMON. Mr. Chairman, as the other members of the committee, I was impressed by the statement Mr. Yablonski has made. But, bad as the figures he has given us are, so far as fatalities in the coal mines are concerned, an even more serious problem is the problem of the so-called black lung disease, which doesn't cause immediate death of miners, but which causes the lung to atrophy and over a period of years death comes to a large percentage of the miners. This was the principal thrust of the Coal Mine Safety Act to cut down on dust in the mines and to reduce the incidence of black lung disease in our coal mines.

So, we are going to need to be alert to this problem.

Mr. YABLONSKI. We have been in contact and we have had several discussions with the people in the Public Health Service at HEW. The act requires as an initial step that X-ray examinations be given every miner in the country, given an opportunity to have an X-ray, and Congress also specified such other supplementary tests as are necessary.

We are disappointed that the Public Health Service is not conducting pulmonary function tests which we believe are essential to determine just to what extent the lungs have been impaired, but are proceeding only along the line of taking X-rays, but we do think it is a step in the right direction and Congress is certainly to be applauded for including those measures in the act.

Senator METCALF. Senator Stevens.

Senator STEVENS. I think you could do the committee a service if you would provide us a list of these accidents which led to these deaths. I would personally like to examine such a list.

Having spent 4 years plus down at the Interior Department I don't share you feelings about the administration of the law that has been passed, and let me ask you this: Have you discussed the matter with Secretary Hickel?

Mr. YABLONSKI. No; but we have discussed the matter with several people in the Bureau on occasion.

Senator STEVENS. Well, I have discussed the matter with Secretary Hickel and I think he is very much interested in the Coal Mine Safety Act and implementing it and I would like to examine this list and I would like to ask when it is provided—could you provide such a list?

Mr. YABLONSKI. I think it would be best if you asked the Bureau to provide it.

Senator METCALF. I don't see why this committee can't ask the Bureau. It is their responsibility.

Senator STEVENS. The figure was cited by the witness.

Mr. YABLONSKI. I am using Bureau figures.

Senator STEVENS. I would like to examine this and assist in the background I have in trying to find out whether these are in any way related to a failure of administration under the new law.

As I understand it they are trying to train very rapidly people to administer the new law and I for one want to reserve judgment as to whether these deaths are related to failure to administer that law, whether the capability is there yet to administer the law, which is one of the most sweeping laws we have ever passed, and I commend you for your interest in the people you represent and share the feelings of the Senator from Oregon about the dedication of your family and yourself. But at the same time I think that is a rather sweeping statement which indicates that these deaths are a result of failure to administer that law.

I would like to examine this list and urge you to do the same thing.

Mr. YABLONSKI. I know the statement made sounds a little rash, but unfortunately I am not a one-man army; I don't have the opportunity to go through 113 safety reports.

I can point out for you, Senator Stevens, that in some of them where I specifically addressed myself in going through the reports, I am shocked at the way that the law is being administered.

Only a week ago a boy 22 years of age went into the mines on his first day and after 5 hours on the job he was killed in a massive roof fall. Now, somebody is laying down on the job. It may not be the Bureau in this instance, but it certainly is the operator that permits a young man to go into a position that is so terribly dangerous.

Senator STEVENS. Well, I would suggest—I remember when I was Legislative Counsel for the Interior Department we tried to get the Congress to enact a law back in the fifties which was almost as sweeping as this law and we were unable to do so, and the conditions which probably led to the deaths have been conditions persisting for years, that even the most stringent enforcement of this new law, if we were capable of doing it the first day it passed, could not have eliminated all of those conditions by this time.

Again I think there is an implied political indictment in what you are saying and I happen to be very close to the Secretary of Interior

and from the same State and one who believes he is trying to do the best job that is possible and I want to have an opportunity to examine this and to assist you to eliminate the conditions. But, I must register my own personal reservations as to the connection between those deaths and the administration that has been given to the law that has been passed by Congress finally, and we all supported it, and I think it is a good law, and I am sure the Secretary thinks it is a good law. But the implication here of your statement that I take reservation from is the implication that those deaths resulted from the failure to administer that law. I think those deaths in all probability resulted from conditions which have persisted through many administrations and through a period of time in which we have had very lax enforcement under several administrations by both parties.

I, for one, do not subscribe to the implication that is in your statement.

Mr. YABLONSKI. I would agree that coal mine health and safety laws have never really been enforced regardless of what administration. I was not referring particularly to Secretary Hickel, although I think in some measure he must bear some of the responsibility.

I think in a massive agency or massive department such as the Interior Department, that the Secretary's concerns with the myriad of responsibilities that he has, he just can't involve himself that directly with coal mine health and safety. He has environmental problems and a whole host of other considerations that he has to deal with on a day-to-day basis.

I am much more concerned with those people who fall into the lesser esteemed ranks than the Secretary, who I believe must share some of the responsibility for those deaths. I am not saying all of them are, but I think when Congress passed the law they indicated that it should stop or it should be substantially curtailed, and we don't see any evidence that that is happening.

Senator METCALF. I say to the Senator from Alaska that the chief concern of this hearing, despite Mr. Yablonski's testimony, is what we are going to do in the future.

Dr. Osborn has been here and he has heard the admonitions that many of us have directed at him and I am sure that he has assured us that he can do the job.

As for the information that you sought, Senator Stevens, Dr. Earl Hays, who has been the Acting Director, is in the audience.

Could you provide Senator Stevens with that, Dr. Hays?

Dr. HAYS. We would be glad to.

Senator METCALF. Dr. Hays will provide you with that information so that you can study it and I am sure that was the basis of Mr. Yablonski's testimony.

Senator STEVENS. Thank you.

(The information requested by Senator Stevens follows.)

LIST OF ACCIDENTS WHICH LED TO DEATHS

[Supplied by the Bureau of Mines]

COAL MINE FATALITIES IN APRIL 1970

Company	Mine	State	Date	Deceased	Cause
Barnes and Tucker Co.	Lancashire No. 20	Pennsylvania	Apr. 4, 1970	Stanley J. Benosky	Roof fall
Clinchfield Coal Co.	Compass No. 2	West Virginia	Apr. 2, 1970	Baxter C. Ellison	Gas explosion
Valley Camp Coal Co.	No. 12	do	Apr. 6, 1970	Vertel E. Moore	Roof fall
Winding Gulf Coals Inc.	Ecles No. 5	do	Apr. 3, 1970	John R. Wall	Fall of coal
Kentucky Carbon Corp.	Kencar No. 1	Kentucky	Apr. 7, 1970	Robert Jackson Sanders	Machinery
Harmar Coal Co.	Harmar	Pennsylvania	Apr. 3, 1970	John Bozich	Haulage
Bethlehem Mines Corp.	No. 51	do	Apr. 8, 1970	Joseph Standish	Roof fall
The Helen Mining Co.	Homer City	do	Apr. 10, 1970	Thomas Burkley	Explosion
The North American Coal Corp.	Kenilworth	Utah	Apr. 14, 1970	Sam Vigil	Coal outburst
Island Creek Coal Co., Holden Div.	Gund No. 2	Kentucky	Apr. 2, 1970	Corver C. Evans	Machinery
Bethlehem Mines Corp.	Cabria Slope Mine 33	Pennsylvania	Apr. 15, 1970	Victor I. Tranquillo	Roof fall
Pyro Mining Co. Inc.	Pyro Mine No. 2	Kentucky	Apr. 13, 1970	James Lee Young	Haulage
Semet-Solvay Division, Allied Chemical Corp.	Shannon Branch	West Virginia	Apr. 22, 1970	Thomas C. Bromfield	Explosives
Pocahontas Fuel Co., (Division of Consolidation Coal Co.)	Kepler	do	Apr. 24, 1970	Frank A. Taylor, Jr.	Machinery
Oiga Coal Co.	Oiga	do	do	Clarence Coleman	Inhalation cable smoke
Oglebay Norton Co.	Saginaw No. 1	Ohio	Apr. 27, 1970	August Mozden	Electrical
U.S. Fuel Co.	King	Utah	do	Toral Christianson	Haulage
U.S. Steel Corp., Coal Operations, Brick Dist.	Maple Creek	Pennsylvania	Apr. 30, 1970	Mike Gaydos	Do
Peabody Coal Co.	Eagle Mine No. 1	Illinois	Apr. 28, 1970	Harry K. Borum	Electrocution

COAL MINE FATALITIES IN MAY 1970

Company	Mine	State	Date	Deceased	Cause
Imperial Colliery Co.	No. 8	West Virginia	May 7, 1970	Freeman C. Adkins	Roof fall
J. O. Mining Co.	do	do	May 4, 1970	Cebart B. Hinkle	Machinery
Ted Mesmer & Sons, Inc.	George (Strip)	Ohio	May 10, 1970	Francis Buxton	Do
Peabody Coal Co.	Homestead	Kentucky	May 23, 1970	Delaney Fowler Crowe	Miscellaneous surface
Do	Ken Mine No. 4	do	May 14, 1970	Veachel Eaves	Electrical
Do	Paradise	do	May 8, 1970	William H. Dycus	Machinery
P & M Mining Co.	Sugar Camp	Pennsylvania	May 21, 1970	Paul H. Ragbuck	Do
Doverspike Bros. Coal Co.	Razorblade Strip	Kentucky	May 12, 1970	Alvis Thacker	Falling tree
Tackett and Manning Coal Corp.	Virginia Pocahontas No. 2	Virginia	May 6, 1970	James Logan	Machinery
Shackelford Coal Co., Inc.	Glenbrook	Kentucky	May 15, 1970	Bill Lefevre	Haulage
Daquesne Light Co.	Warwick No. 2	Pennsylvania	May 27, 1970	William Janoe	Roof fall
Lehigh Valley Anthracite Inc.	Baltimore Stripping	Pennsylvania (Anth.)	May 27, 1970	Albert J. Jenkins	Electrocution
Beatrice Pocahontas Co.	Beatrice	Virginia	May 31, 1970	Herold Hagg	Roof fall
Island Creek Coal Co.	Buckingham	Kentucky	May 26, 1970	J. B. Johnson	Haulage

LIST OF ACCIDENTS WHICH LED TO DEATHS—Continued

(Supplied by the Bureau of Mines)

COAL MINE FATALITIES IN AUGUST 1970

Company	Mine	State	Date	Deceased	Cause
Scotia Coal Co.	Scotia Mine	do	Aug. 4, 1970	Billy Whitaker	Electrical.
Galloway Land Co.	Dawson	West Virginia	Aug. 7, 1970	Larry Mano	Do.
Greys Knob Coal Co.	Mill Creek No. 1	Kentucky	do	Ernest Bowman	Roof fall.
Ronester & Pittsburgh Coal Co.	Ernest Loading Facilities	Pennsylvania	Aug. 10, 1970	Nick Kalanavick	Haulage.
Republic Steel Corp.	Banning No. 4	do	do	Thomas Kmetz	Electrical.
B. R. Campbell & Son, Inc.	Justus Mine	Kentucky	Aug. 12, 1970	Elmer Morrow	Roof fall.
U.S. Pipe & Foundry Co.	Flat Top Mine	Alabama	Aug. 14, 1970	Louis Welch	Haulage.
Tauk-Traer Coal Co.	Norris Strip Mine	Illinois	do	William L. Ferneti	Do.
Williams Coal Co.	No. 9 Mine	West Virginia	do	Robert Haley	Roof fall.
Rainco Coal Co.	No. 7 Mine	do	do	Tony Mudd	Do.
Westmoreland Coal Co.	Pine Branch Collieries	Virginia	Aug. 15, 1970	Clayton R. Slidham	Haulage.
Peabody Coal Co.	Warrior Strip Mine	Alabama	Aug. 17, 1970	James Humphrey	Do.
Jewell Ridge Coal Corp.	Big Creek Jewel	Virginia	do	Lowell Thomas Altizer	Roof fall.
Little Hackney Creek Coal Co.	No. 21 Mine	Kentucky	do	Leamon Ramey	Electrical.
Armco Steel Corp.	No. 7 Mine	West Virginia	Aug. 18, 1970	Curtis Jarrell	Haulage.
Ayrshire Coal Co.	Chinook Strip	Indiana	Aug. 20, 1970	Don C. Kyle	Machinery.
Anhersh Coal Co.	Paragon Mine	West Virginia	do	Delbert Clime, Jr.	Do.
Island Creek Coal Co.	Hamilton Mine	Kentucky	Aug. 24, 1970	Bill Waggener	Flying object.
Harrisburg Coal Co., Inc.	No. 1 Mine	Illinois	Aug. 27, 1970	Ronald Everts	Roof fall.
Winding Gulf Coals, Inc.	Winding Gulf No. 4	West Virginia	Aug. 28, 1970	George Barbour	Haulage.
Island Creek Coal Co.	East Diamond Mine	Kentucky	Aug. 30, 1970	Arthur Tucker	Do.

COAL MINE FATALITIES IN SEPTEMBER 1970

Company	Mine	State	Date	Deceased	Cause
Kat Coal Corporation	No. 1	Virginia	Sept. 2, 1970	R. J. Ward	Machinery.
Christopher Coal Co.	Arkwright No. 1	West Virginia	Sept. 9, 1970	T. Provenson	Roof fall.
Ligon Preparation Co.	No. 126 Mine	Kentucky	Sept. 7, 1970	Asa Tackett	Haulage.
Island Creek Coal Co., West Kentucky Division	Crescent	do	Sept. 5, 1970	G. Lyle	Roof fall.
Peabody Coal Co.	Camp No. 2	do	Sept. 3, 1970	C. Hester	Do.
Do.	do	do	do	R. Crommons	Do.
Pittsburgh Coal Co.	Montour No. 4	Pennsylvania	Sept. 21, 1970	Not available	Do.
The Carbon Fuel Co.	No. 5 Mine	West Virginia	Sept. 14, 1970	C. Tincher	Haulage.
Sterling Coal Co.	No. 3	Kentucky	Sept. 11, 1970	S. Mullins	Roof fall.
Irmann Coal Co.	Irmann No. 1	W. Va	Sept. 7, 1970	J. L. Williams	Do.
Wade Mining Co.	No. 1	do	Sept. 23, 1970	G. Adkins	Fall of highwall.
Do.	do	do	do	J. Manko	Do.
R. and W. Coal Co., Inc.	No. 7	Va	Sept. 16, 1970	E. Ashby	Roof fall.
Rushion Mining Co.	Rushion	Pa	Sept. 21, 1970	T. Josephson	Do.

Douglas Eagle Coal Co., Inc.	No. 1	W. Va.	Sept. 23, 1970	R. Frame	Electrical.
Dixie Coal Co.	do.	W. Va.	do.	J. Thornsbury	Roof fall.
Superior Island Creek Coal Co.	do.	W. Va.	Sept. 24, 1970	F. Rither	Do.
Cimarron Coal Crp.	Volunteer	Ky.	Sept. 22, 1970	J. Russell	Slide of highwall.

COAL MINE FATALITIES IN OCTOBER 1970

Pocahontas Fuel Co. (Division of Consolidation Coal)	Buckeye Colliery	West Virginia	Oct. 1, 1970	David Huffman	Roof fall.
Olga Coal Co.	Olga	do.	Oct. 2, 1970	Roger Christian	Fall of material.
Enterprise Mining Co.	No. 1	Virginia	Oct. 5, 1970	Not available	Haulage.
Pocahontas Fuel Co. (Division of Consolidation Coal)	Herrshaw No. 1	West Virginia	Oct. 12, 1970	do.	Do.
Do.	Mallard	do.	Oct. 9, 1970	do.	Machinery.
U.S. Pipe & Foundry Co.	Bessie	Alabama	Oct. 5, 1970	do.	Haulage.
Island Creek Coal Co.	North Branch	West Virginia	Oct. 17, 1970	Everett Boyer	Do.

Senator METCALF. Is there anything else? If not, without objection we will recess subject to the call of the Chair.
(Whereupon, at 3:45 p.m., the hearing was adjourned.)





