

MAY 24 1971

ANNUAL MEETING OF THE MEMBERS OF THE

LEAD INDUSTRIES ASSOCIATION, INC.

Drake Hotel
Chicago, Illinois

April 5-6, 1971

The annual meeting of members of the Lead Industries Association, Inc. was held on Monday and Tuesday, April 5-6, 1971 at the Drake Hotel, Chicago, Illinois. Those in attendance are listed in Appendix "A."

(1) Business Session

The business session held on Monday afternoon, April 5, 1971 was conducted by President J. G. McCullough with David M. Borcina as secretary.

- a. The Secretary reported a quorum was present.
- b. The Secretary presented a copy of the notice of meeting and agenda which had been mailed to each member, as provided in Section 2.04 of the Corporation's By-Laws. The copy was ordered filed with the minutes as Exhibit "A." (Sent to members on March 16, 1971)
- c. The Secretary reported that the minutes of the previous meeting of April 9-10, 1970, held in St. Louis, Mo. had been circulated and that no comments were received. A motion to approve the minutes as circulated was made, seconded and unanimously approved.

(2) Treasurer's Report

The Treasurer reviewed the financial operations of the Association for the year 1970 and presented for the members' approval a copy of the audit of the accounts as of December 31, 1970, prepared by Peat, Marwick, Mitchell & Co. as per Exhibit "B" attached. (A copy of the audit is being sent only to the official representative of each member company)

(3) Report of the Nominating Committee for Directors

The Nominating Committee for Directors composed of R. A. Flake, Chairman, O. Fremd and Robert Beil recommended to the membership the election of the following slate of 19 members and placed their names in nomination:

<u>Members</u>	<u>Representing</u>
Frank P. Barton	The G. A. Avrii Co. Lead Products Div.
Cecil E. Bassett	Dixie Industries, Inc.
Thomas E. Carey	Cerro Sales Corp.
John R. Englehorn,	St. Joe Minerals Corp.
H. T. Fargey	Cominco, Ltd.
J. George Gange, Jr.	U. S. Smelting Refining & Mining Co.
Paul C. Henshaw	Homestake Mining Co.
Robert A. Kenkel	Federated Metals Div., American Smelting & Refining Co.
J. G. McCullough	Amax Lead & Zinc Div., American Metal Climax, Inc.
C. F. McGraw	The Eagle-Picher Industries, Inc.
Frank Osborn	Broken Hill Associated Smelters Proprietary Ltd.
L. J. Randall	Hecla Mining Co.
John F. Rittenhouse	C & D Batteries, Division of Eltra Corp.
T. M. Smylie	The Ethyl Corp.
Simon D. Strauss	American Smelting & Refining Co.
W. Allen Taft, Jr.	E. I. du Pont de Nemours & Co.
William J. Veenis	Anaconda Sales Co.
Henry J. Whitson	National Lead Co.
F. G. Woodruff	The Banker Hill Co.

(4) Election of Directors

There being no further nominations, it was moved, seconded and unanimously voted that nominations be closed and that the Secretary be instructed to cast one ballot for the slate presented by the Nominating Committee.

(5) Announcement of Election of Officers

It was announced at the opening of the Tuesday morning session, April 6, 1971, that the Board of Directors at its meeting the day before reelected the following officers to serve until the next annual meeting:

J. Gordon McCullough - President and
Chairman of the Board
R. A Gardiner, Jr. - Vice President
S. D. Strauss - Vice President
F. G. Woodruff - Vice President
J. L. Kimberley - Executive Vice President
D. M. Borcina - Secretary and Treasurer
Mrs. D. L. Moore - Assistant Treasurer

(6) Report of Executive Vice President and Staff

The Executive Vice President reported at the Monday morning session, April 5, 1971 on "Lead in the Environment-Report on Activities" attached as Appendix "B." (Copies of the report were sent to those requesting it at the meeting and additional copies are available upon request)

The Secretary then presented a summary report of the staff's activities during the past year as per Appendix "C" attached.

(7) Addresses at Meeting

In addition to the business meeting the following papers were presented at the annual meeting:

<u>Title</u>	<u>Author</u>
* Lead Research.....	A. R. Cook Manager, Electrochemical Research International Lead Zinc Research Organization, Inc.
* The Outlook for Lead- Acid Batteries.....	James V. Tierney Vice President-Manufacturing Globe-Union, Inc.
* Lead in the Environment- Report on Activities.....	J. L. Kimberley Executive Vice President Lead Industries Association, Inc.
* Battery Powered Electric Road Vehicles-Advantages and Limitations.....	H. J. Young Vice President & Secretary Edison Electric Institute

- * New Ideas for Terne
Metal Applications..... Thomas J. Clark
President
Basic Steel Corp.

- * Jetcord-An Explosive Filled
Lead Extrusion for Perform-
ing Precise Controlled
Tasks..... G. B. Huber
Vice President
Explosive Technology

- * Lead Acoustical Barriers in
Machinery Noise Control..... Harold R. Mull
Harold R. Mull, Bell and
Associates

- * Transparent Lead Lanthanum
Zirconate Titanate (PLZT)
Ceramics for Electro-Optic
Applications..... G. H. Haertling
Sandia Laboratories

- * Markets for Small Lead
Batteries with Gelled
Electrolyte..... Howard P. Barry, Jr.
Director of Marketing,
Nicaid Div. Gould, Inc.

- * Long-Term Trends in Life
Expectancy and Principal
Causes of Death..... Geoffrey N. Calvert
Director-Personnel
Coverages Alexander
and Alexander, Inc.

- ** Environmental Lead and
Public Health..... Dr. Vaun Newill
Director, Div. of Health
Effects Research U.S. Environ-
mental Protection Agency

- * The Economic Impact of
Proposed Anti-Pollution
Goals on the Copper
Smelting Industry..... David Swan
Chairman, Environmental Matters
Committee American Mining
Congress
- * ZALIS - YEAR II..... R. L. Stubbs
Director-General Lead
& Zinc Development Assns.

* Copies of paper available upon request.

** Paper not yet available. When available, notice to this effect will be sent to members.

(8) Future Meeting Dates

The Secretary reported that with the approval of the Board of Directors arrangements are being made to hold future annual meetings on the following dates and places:

- 1972 - April 5-7 Queen Elizabeth Hotel
Montreal, Canada
- 1973 - April 4-6 Sheraton Cadillac Hotel
Detroit, Michigan
- 1974 - April 3-5 Drake Hotel
Chicago, Ill.
- 1975 - April 1-3 Royal York Hotel
Toronto, Canada

(9) Adjournment

In the absence of other matters to come before the meeting, it thereupon duly adjourned.

Respectfully submitted,

David M. Borcina

David M. Borcina
Secretary, Treasurer

DMB:so

- Att: Appendix "A."
- Exhibit "B"
- Appendix "B."
- Appendix "C."

April 5-6, 1971

ANNUAL MEETING OF THE MEMBERS OF THE
LEAD INDUSTRIES ASSOCIATION, INC.

Members Present

Representing

Donald J. MacKenzie
Max Adler
William Mason
E. V. Frawley
John F. Heraut
J. G. McCullough
Robert J. O'Hara
J. F. Whalen
M. Norman Anderson

Allied Lead Construction Company
Allied Smelting Corporation
"

E. R. Bergin
J. C. Buck
Lary G. Cahill
Barry Davis
R. L. Henneback
H. E. Howe
R. M. McGeorge
H. L. Montague
R. D. Mushlitz
William P. Roe
Simon D. Strauss
E. A. Custer
H. L. Young
Charles F. DeArmond
Bernard L. Meredith
D. J. Rowland
G. P. Screll
William J. Veenis
J. W. Hurley
Enrique A. Serna, Jr.
Frank P. Barton
Frank Osborn
Sidney E. Sweet

Amax Lead & Zinc, Inc.
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Amax Homestake
Missouri Lead Operating Company
American Smelting & Refining Company
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Dennis Taylor
William C. Zeek
G. A. Larson
Frank G. Woodruff
John F. Rittenhouse

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"
American Zinc Sales Company
"

I. L. Barker
David A. Bancel
Rigo Cardenas
Ivor Thompson
A. Ash
A. W. Easton
E. H. Gautschi
Keith H. Spurr
J. R. Wellington

The Anaconda Company
"
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"
"
Asarco Mexicana
"
The G.A. Avril Company
The Broken Hill Association Smelters Pty. Ltd.
The Broken Hill Association Smelters Pty. Ltd.
(C. Tennant, Sons & Co., of N.Y.)
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"

The Bunker Hill Company
"

C & D Batteries Division
Eltra Corporation
Cerro Corporation
"

Cominco Ltd.
"
"
"

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Members Present

D. V. Badgley
 B. D. Gregory
 Donald A. Hibbeler
 C. E. Bassett
 R. A. Flake
 L. M. Hermes
 Donald R. Diggs
 Joseph R. Tilmont
 Raymond J. Kenny
 John R. Smyth
 E. G. Lyons
 C. E. Colvin
 Thomas M. Smylie
 W. G. Weakley
 Charles H. Zeanah
 Robert A. Kenkel

Harvey D. Ferer
 Robert A. Gardiner, Jr.
 Edward Parket
 Robert P. Restrepo
 E. E. Kavanagh
 R. G. Mason
 James V. Tierney, Jr.
 David L. Douglas
 Donald J. Priebe
 John H. Allen
 M. E. Elmore
 Leon M. Rose
 R. P. Barry
 Peter Wilke IV
 W. P. Wilke III
 Philip Lindstrom
 John A. Townsend
 Paul C. Henshaw
 Russell E. Wallace
 O. Fremd
 Art Morgan
 E. R. Boller
 Robert I. Beil
 Byron Rothpletz
 James H. Thrash
 Jack Belay
 W. L. Mann
 D. C. McDonald
 K. Pike
 Robert A. Putney
 Birke M. Luckenbill
 Louis Cassara
 Harold A. Krueger
 Otto F. Bauer
 E. J. D. Budd
 Larry Bartlett
 Leo L. Bledsoe

Representing

Delco-Remy Div., GMC
 "
 Division Lead Company
 Dixie Industries, Inc.
 Dresser Minerals
 "
 E. I. Dupont
 E. I. du Pont de Nemours & Company, Inc.
 ESB Incorporated
 "
 ESB Canada Limited
 Ethyl Corporation
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 "
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 Federated Metals Division of
 American Smelting & Refining Company
 Aaron Ferer & Sons Company
 Gardiner Metal Company
 General Battery Corporation
 "
 Globe-Union Inc.
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 Gould Inc.
 "
 Gould Inc./Bers Metals Division
 "
 "
 Gould Inc./Nicaid Division
 Hammond Lead
 "
 Hecla Mining Company
 Homestake Lead Company
 Homestake Mining Company
 "
 Houston Chemical Company
 "
 Industrial Smelting Company
 MacGregor Lead Company
 Murdock Lead Company
 "
 N L Industries, Inc.
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 "
 "
 Morris P. Kirk & Son, Inc.
 Newmont Mining Corporation
 Ozark Lead Company
 Pennaroya Intsel Corporation
 Pennaroya Intsel of Canada Ltd.
 Quemetco, Inc.

Members Present

Don J. Del Dotto
Benjamin F. McKinney
Robert N. Quenell
Howard Meyers
P. Dean Bangor
Donald H. Beilstein
Malcolm Bonyng
Francis Cameron
Salvatore Ciceolella
John R. Englehorn
Michael Harich
Charles D. Henderson
William F. Hoffmann
Richard Jordan
Carl C. Long
William F. McCullough
Philip E. Robinson
Joseph G. Sevick
J. W. Sherman
Verne W. Simkins
William Tunney
Roy Wheelock
E. R. Anderson
T. W. Anthony
E. J. Brennick

Len Cogen
V. E. Dorman
Ronald Gee
R. T. Torro
W. H. Vogelstein
J. George Gange, Jr.
Robert B. Smuda
John Garrison
R. M. Pulliam
Howard Novasel
Reuben Viener
Charles R. Willard

Representing

Quemetco, Inc.
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Revere Smelting & Refining Corporation
St. Joe Minerals Corporation
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Schuylkill Metals Corporation
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Tsumeb Corporation, Ltd.
(Ametalco, Inc)
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U. S. Smelting Refining & Mining Company
"
U. S. S. Lead Refinery
"
The Victory White Metal Company
Hyman Viener & Sons
Willard Lead Products Company

REPRESENTED BY PROXY

Henry F. Day
W. B. Loewenherz
L. L. Bott
Robert L. Oatey
R. G. Conklin

Day Mines, Inc.
K W Battery Company
Nalco Chemical Company
Oatey Company
Vuecan Lead Products Company

LEAD INDUSTRIES ASSOCIATION, INC. STAFF

J. L. Kimberley
D. M. Borcina
J. F. Smith
T. D. Agne
C. A. Baker
E. O. Martin

Executive Vice President
Secretary-Treasurer
Manager, Advertising & Technical Service
Technical Services
Service Engineer
Manager Architectural Services

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

S. F. Radtke
Jerome F. Cole
A. R. Cook
Donald R. Lynam

Executive Vice President & Director of Res.
Manager of Environmental Health
Manager Electrochemical Res.

GUESTS

Enrique C. Carreon
Geoffrey N. Calvert
James V. Stafford
P. S. I. Barry
Norm Lloyd
Nancy Iran Phillips
Thomas J. Clark
C. H. Allen
James F. Graham
Paul V. Higgins
Horacio Pantuliano
Lloyd Dunlap
Charles V. R. Edward
Jack MacLean
John C. Lemmon
Julio del Val Caturia
Theodore L. Diamond
Delight E. Breidegam
H. J. Young
Jim Plankenhorn
Peter King

John Payne
Paul Merritt
G. B. Huber
Robert W. Kreps
Jack Miske
Robert A. Rogers
Carl Thompson
Robert Wauace
John Leroy
Lindsay F. Johnson
David Rice
David Swan
R. Lewis Stubbs
Eimer A. Jones
Walther Casper
Hans E. F. Wich
David F. Cook
Robert H. Lesemann
Robert Peckham
Charles Kadlec
Patricia Walker
Kiyoshi Asanuma
Hiroshi Sakurai
Takenori Tomita
Tory Utsunomiya
Harold R. Mull
Richard A. Young

Acumulador Insuperable S A
Alexander & Alexander, Inc.
American Metal Market
The Associated Octel Co., Ltd.
Automotive News
"
Basic Steel Corporation
Battery Council International
Blh. & F., Inc.
Bishopric/Lieberman
Centro Arg. De Info. del Plomo y Del Zinc
Chemical & Engineering News
Clean Air & Water News
Cominco American Incorporated
Commerce Clearing House, Inc.
Compania Minero Metalurgica
T. L. Diamond & Company, Inc.
East Penn Mfg. Co., Inc.
Edison Electric Institute
Electrified Industry
The Electrolytic Zinc Co. of Australasia, Ltd.
(C. Tennant, Sons & Co., of N.Y.)
"
Engineering & Mining Journal
Explosives Technology Inc.
Farmland Industries
Foundry Magazine
Hill and Knowlton, Inc.
"
State of Illinois
Indussa Corporation
New Jersey Zinc Company
Inland/Lake Calumet
Kennecott Copper Corp.
Lead & Zinc Development Association
Lead & Zinc Producers Cmte.
Metallgesellschaft AG
"
Metals Week
"
Metalworking News
"
Mitsubishi International Corporation
Mitsubishi Metal Mining
Mitsui Mining & smelting
"
Harold R. Mull, Bell & Associates
Pollution Engineering

Robert A. Iezzi
Jerusalem Jacques
G. H. Haertling
Magnus Blomkvist
Count Yves Du Parc
André de Jaer
Jean L. Leenders
John W. Hall, Jr.
V. V. Bailini
Harry Meschke

Republic Steel Research Center
Royale Asturienne des Mines
Sandia Laboratories
Scandinavian Lead & Zinc Association
Ste Gle Dis Minerais, S.A.
Societe Generale des Minerais
" "
Texas Gulf Sulphur Company
Tonolli Company of Canada Ltd.
Winkel Machine Company

GOVERNMENT REPRESENTATIVES

Peter S. Field
Jack G. George
J. W. Patterson
Vaun A. Newill
Lester G. Morrell
Albert D. McMahon
John R. Babey

Harry L. Moffett

Australian Embassy
Dept. of Energy, Mines & Resources Canadian Gov.
Dept. of Ind. Trade & Commerce
Air Pollution Control Office
U.S. Bureau of Mines
"
Bureau of Domestic Commerce
U. S. Department of Commerce
Office of Minerals & Solid Fuels

Summary of Report

LEAD IN THE ENVIRONMENT

By J. L. Kimberley
Executive Vice President
Lead Industries Association, Inc.
292 Madison Avenue
New York, New York 10017

My remarks today will be brief and are intended to set the stage for tomorrow's papers about what we can expect relating to lead in the environment.

I want to review five aspects of lead in relation to the environment and where we stand at this moment.

1. Lead in Gasoline. This problem is still not resolved and is even more intense today than a year ago. However, there is wider recognition of the complexities involved in this issue, which I shall discuss later.

2. Lead in Paint. The LIA has been extremely active in attempting to combat the problem of childhood lead poisoning resulting from chewing on old leaded paint. We have supported Federal and local legislation and regulation aimed at eliminating this problem.

3. Emissions and Effluents from Industrial Plants. The Clean Air Amendments of 1970 provide machinery by which the Environmental Protection Agency will move toward strict control of industrial emissions. At the moment, the EPA is utilizing the Water Refuse Act of 1899 and the Water Quality Act of 1970 to set up a permit system to control industrial discharges into waters.

4. Lead in Ceramics. We have been cooperating in research and action programs designed to assure that lead-glazed dinnerware will not release amounts of lead in excess of determined safe levels. The U.S. Potters Association now has a dinnerware surveillance program and is cooperating with the Food and Drug Administration to test dinnerware on a regular basis and approve products found safe and acceptable for consumer use.

Presented at the 43rd Annual Meeting
of the Lead Industries Association,
Chicago, Illinois, Monday, April 5, 1971

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9. Lead in Food and Water. Some questions have been raised about lead in food and water -- other than what occurs naturally. Part of this interest stemmed from reported findings of higher-than-acceptable levels of mercury in some fish. However, a recent report of the U.S. Geological Survey of more than 720 samples taken from streams and lakes showed that lead levels in these water bodies were -- with only three exceptions -- below the acceptable level, that is, drinking water.

Of these five topics, the question of lead in gasoline has been and continues to be of most importance. Despite some local efforts to control lead content in gasoline, I believe the ultimate resolution will be at the Federal level.

The Administration's present position is that there should be both Federal legislation to encourage use of at least low-lead if not no-lead gasoline and catalytic converters. This position is based almost entirely on the assumption that the required automobile emissions -- hydrocarbons, nitrogen oxides, and carbon monoxide -- can be achieved with catalytic agents that do not function well or at all with leaded gasoline. However, at this point there appears to be no assurance that such a device has been developed that would meet the auto emissions standards for 1975 -- which are to be 90 percent below the 1970 levels. A few months ago executives were talking about devices to cost about \$60. Now they are talking about figures of \$200 to \$300 -- a considerable difference. This cost differential is in devices within the same range estimated for thermal reactor catalytic converters. It has been demonstrated to work with leaded gasolines in reducing lead emissions to lead-free levels.

Other possibilities are being explored. Such as a lead trap ahead of the catalytic converter which would trap lead and other particulates before exhausts reach a catalytic converter. My position is that an acceptable emission control system will be developed to reduce lead emissions into the atmosphere.

Just last Friday, the Commerce Department's Panel on Automotive Fuels and Air Pollution issued a report that emphasizes the engineering, economic and regulatory problems involved in this issue. For example, about particulates, which include lead, the Panel stated, "There is a paucity of data available on the amount and nature of particulate emissions from cars." It should be noted that the Panel recommended steps be taken to assure availability of unleaded gasoline in at least one grade by July 1, 1974, and of a low-lead fuel by the end of 1972. But the Panel does not recommend elimination of leaded fuels, and recognizes their function as a source of power, as economy for drivers, and as a conservator of crude oil supplies. This Panel report is one indication, along with others, that efforts to show all sides of the lead-in-gasoline issue is leading to a broader understanding of this complex environmental question.

The prophets of doom predict catastrophe in less than two decades -- and they are being listened to. My conviction is that this is far from the truth and much political and emotional hysteria overwhelm the facts. We can and will control possible hazards in the environment and are already doing so.

No one denies that too much lead can be perilous. But the lead industry has studied what is "too much" for decades and has shown that our progressing society can enjoy the benefits of lead in its many uses without being subjected to hazards, providing sensible precautions and proper control measures are taken.

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LIA

Staff Report

(Presented by David M. Borcina)

DEVELOPING LEAD MARKETS is the theme of this session. No subject is more vital to the lead industry. Change, with ever increasing rapidity, is a fact of our lives. Research, development and innovation are the inescapable indicators of that change. We at Lead Industries Association recognize these strong tides, given impetus -- in our case, by mounting attacks on lead in relation to public health and safety. We recognize these problems and take a positive posture in relation to them. The entire thrust of our staff work, our publicity, our advertising and our literature is to accentuate the positive.

Take the current issue of "Lead" magazine for example. And by the way, I might point out that "Lead" magazine now has a circulation of more than 85,000 readers most of whom have requested more information about lead. In terms of related magazine circulation, "Lead" has about 3 times more circulation than, say, "Engineering Mining Journal." And let's take a look at its positive editorial accent. Our most recent issue, for example, contains a feature article on the Mexico City Subway -- it stresses the important contribution made by lead-sheathed cable to the efficiency of this subway system.

You'll also find a strong story on how sheet lead silenced air conditioning noise at a university medical school.

Another story reports on how battery powered mini-buses were used at Expo 70. Other articles cover lead's benefits in radiation shielding, plating, vibration pads and so on.

Another part of our program is to see that positive articles of this kind regularly reach the special audiences they are designed for via the trade publications. We maintain constant pressure on this pipeline of publicity. As of this moment we have major articles in the hands of some 24 editors and publishers. The articles range all the way from: muffling machinery noise, water-proofing, painting, corrosion protection, battery power to the exotic role of lead in the space program! How we took advantage of lead's applications in space is shown by an ad we ran that describes how lead is used, in preparation for launch, on-board during flight, and as a power source for equipment left on the moon.

Our technical, highly informative advertising to architects, design engineers and other technicians goes forward. However, going into 1971, we have increased our information program to key business leaders, legislators and opinion molders by expanding our program in Business Week. Our ads focus on the theme:

"Because Lead Is There" something positive, constructive occurs in your life:

The car starts for the doctor on an emergency call...

"Because lead is there," we are able to explore the ocean's depths -- and in another ad we take a nostalgic glance at Tom Swift and use it to emphasize that more than 1,000,000 lead acid battery vehicles -- lift trucks and personnel carriers -- are working in the U.S. today -- and who knows? Soon maybe back to Tom Swift days of on-the-road vehicles.

The subjects of all these ads, stories, articles just don't fall out of the blue and land on our desks at 292 Madison. They require a great deal of missionary work and digging for the facts. And this is just a part of your staff's day-to-day activities.

There are positive results of these promotional efforts! How do we know this? Over 10,000 inquiries annually is one healthy index.

Just a few examples: From the Naval Air Research Facility-Solder. From the Picker Corp. - Dispersion Strengthened Lead. - From Bangor Punta Operations - Sound Attenuation.

The American Metal Market in its special issue on April 5, 1971 headlined its piece, "Lead -- Unseen but Indispensable." You better believe it.
