



Lead Industries Association, Inc.

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August 9, 1971

SUBJECT: BULLETIN NO. 14 - LEAD IN GASOLINE

TO: ALL MEMBERS OF LEAD INDUSTRIES ASSOCIATION

Gentlemen:

While pressure has continued on lead in the environment, not too much has transpired in the way of specific developments.

Attached, hereto, is a copy of a speech I made before the Idaho Mining Association on July 31, 1971, which is intended to update and summarize the situation as it stands today.

Further, and of major interest is an extract from a New York Times, page 66, article of Thursday, August 5, 1971, by-lined Mr. Jerry M. Flint, Detroit Bureau Chief of the New York Times which has the following to say concerning Ford's Mark IV Continental and all 1972 model cars in general -

"Ford would not announce the horsepower figures on the new model (Mark IV Continental) which uses the same 460-cubic-inch displacement engine as the 1971, but performance, top speed, acceleration and gasoline economy have probably worsened with the added weight and engine modifications needed to reduce emissions.

POOR PERFORMANCE

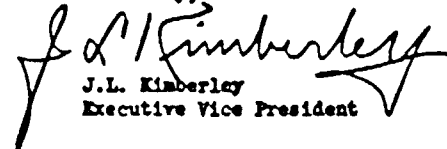
"The emission modifications are leading to the poorest engine performance in years on Detroit's cars. The engines sputter; diesel, or keep running after they are turned off; are harder to start; use more fuel, and lack the acceleration of past models".

The loss of quality is now seemingly confirmed and is what we have predicted for well over a year.

We continue glad to have your questions or comments.

JLK/gt
Enc.

Sincerely,


J.L. Kimberley
Executive Vice President

REMARKS TO THE IDAHO MINING ASSOCIATION MEETING
SATURDAY, JULY 31, CONFER d'ALENE, IDAHO

J.L. Kimberley, Executive Vice President
Lead Industries Association

SUBJECT: LEAD POLLUTION - FACT AND FICTION

Mr. Chairman, Ladies and Gentlemen:

It is a privilege and pleasure to speak with you today on this subject of vital importance to us all - Idaho being the second largest producer of lead in the country. Idaho with Utah and Colorado mine more than 20% of the U.S. total new lead.

Perhaps the assigned subject of these remarks "Lead Pollution - Fact and Fiction" is a bit too broad. I will be talking primarily about lead in gasoline which now requires about 20% of all lead consumed in the U.S., taking 275,000 tons in 1970. This is about 50% of new lead. The market is unique because little secondary lead is used and none comes back to the industry as scrap.

The overall subject of lead in gasoline is extremely complex in a technical sense and today involves much more in emotion approaching hysteria, and I think politics, than logic. Certainly no complete review of the technical aspects is possible. I hope to be brief enough that there will be time for questions.

I should like to review some of the circumstances surrounding general attitudes on lead in the environment, emphasizing certain aspects to show the areas in which we continue strong, some of the negative features and to express an opinion as to what we must do and where our future hopes lie.

Today we are subject to massive propaganda from the Government, from some scientists and from environmental groups. This no doubt has had large influence on the public's attitude.

Without question there are negative influences but we have not seen specific

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data to justify the threat of doom which so many of the environmentalists put forward. It is not easy to say "no" concerning atmospheric pollution. One of the corniest but aptest phrases that we can use is the old one "you can't be against motherhood". We can't say we are for pollution. But the subject has been treated by some in Government and by environmental groups in such fashion that even with allowance for their "whys", "maybes", and "perhapses", the situation remains difficult.

California, particularly the Los Angeles area, is geographically unique. They have a smog problem. As a result, California has been acting on atmospheric pollution since the early 1950's and has been a leader. They have done many things of which I will speak a bit later, but actually not much has been accomplished as concerns cars, though California, with a Washington waiver, yet may be the first state to go into action against the use of lead in gasoline. The Clean Air Amendments of 1970 preempt political subdivisions (California excepted) from action. Nevertheless, Buffalo has an ordinance, N.Y.C. has assigned a 1¢ tax on leaded gasoline and has a 1974 phaseout scheduled, Maryland has passed another schedule calling for phaseout. Though the Federal Government has passed the Clean Air Amendments of 1970 it has not yet said specifically how these will affect lead and has not been made public. Existing state and city actions may be overridden.

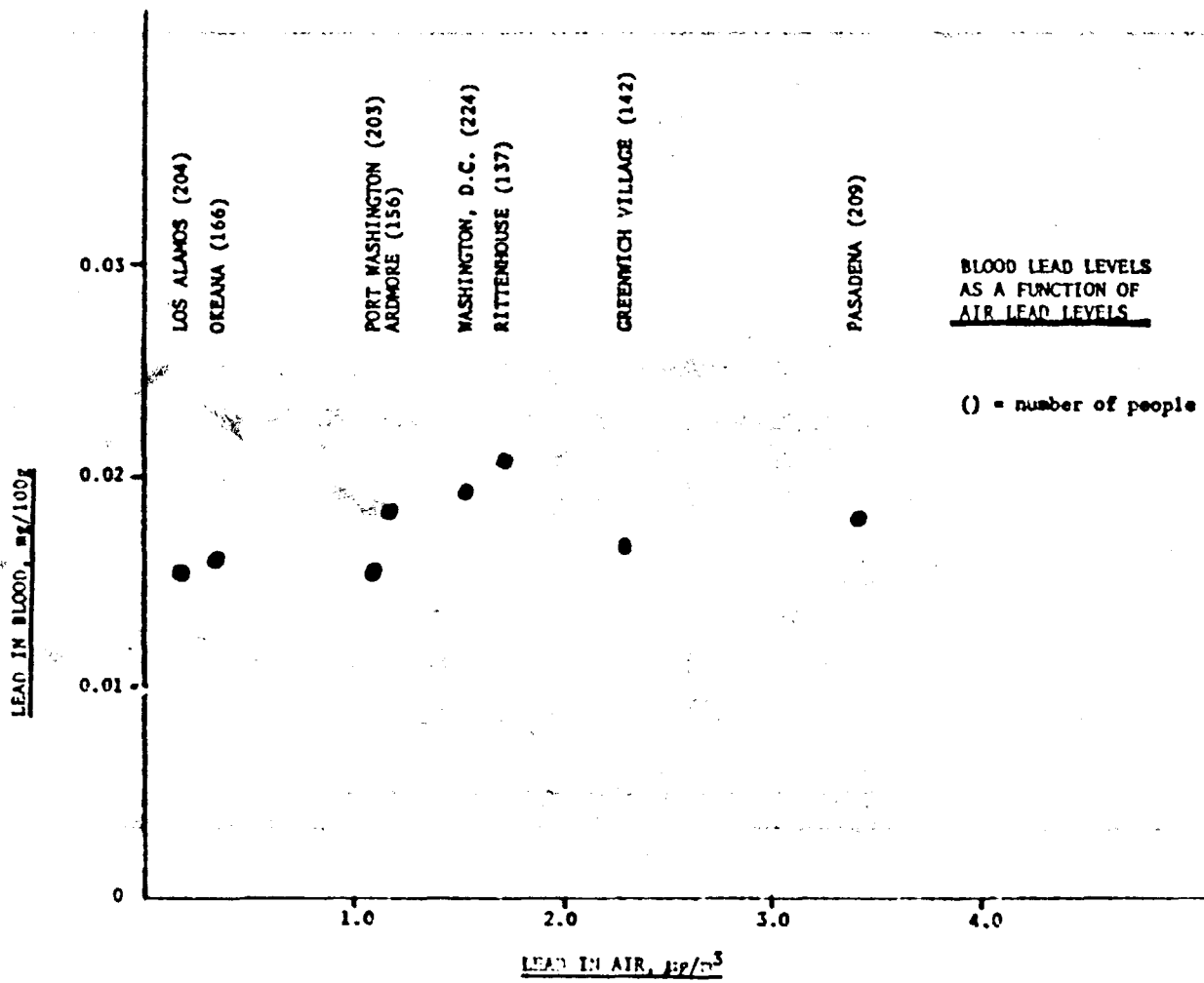
The position of the U.S. has been developed along the line that carbon monoxide, unburned hydrocarbons and nitrogen oxide are the major pollutants from automobiles and that these cannot be well controlled if lead is used. That the lead itself presents a threat is to date more the cry of the environmentalists than that of the Government. Foreign attitudes are somewhat different. In Germany and in Japan only the lead has been under attack. In other parts of the world where the environment has become an issue, Sweden and to a lesser extent other countries in Western Europe, only the lead has been discussed substantially. The pot is stirring in England and Australia but no specific actions have been taken or threatened for the predictable future.

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While it is true that the environmental groups of the U.S. and to a lesser extent the congresses have spoken against lead - the official position of this Government inspiring the positions of the automobile and refining industries has been against the gaseous emissions, with lead of secondary interest. Further, on this point the automobile industry has said and persists that they cannot control the gaseous emissions if lead is in the gas because it fouls those catalytic reactor systems which they believe hold the greatest promise for the control of gaseous emissions.

I believe this is enough of an introduction. I should like now to review some of the specific factors pro and con which bear on the problem. Let me start with a brief review of those factors which we believe favor the retention of lead -

1. Atmospheric lead is not now a general threat - average city levels remain below 4 micrograms per cubic meter.
2. In spite of apparent increasing levels of atmospheric lead in large cities, there is not any sound demonstration that this has been paralleled with blood lead increases in the population. I have two slides to illustrate this point. They are extracted from a year's study ending December, 1969 covering Los Angeles, Philadelphia, Cincinnati, Washington, New York, Houston and Chicago. The lead contents are average for a year. The blood readings, involving a larger number of people than any other study previously conducted, are taken substantially from women living in the specific areas. It is of extreme importance that 209 people in Pasadena had lower blood leads than 137 women in Rittenhouse Square, Philadelphia, though the Rittenhouse Square area people were exposed to only 1/2 of the atmospheric lead. This fact has been difficult for extremists to get around.
3. In Urban areas of presently high lead levels there is much reason to expect that the atmospheric lead will not further increase because traffic densities have



peaked or are very close to peaking.

4. The cheap catalytic converter system envisioned by the automobile industry as the best approach to a solution and very reliably estimated at a cost of \$60.00 per car in early 1970 has not materialized. Almost weekly the estimates of control systems costs goes up. In May of 1971 it was as high as \$500 - some authorities in the automobile industry estimate even higher.

5. Auto emission control systems, as by DuPont and Ethyl - involving thermal reactors for carbon monoxide and hydrocarbons, recirculation to control nitrogen oxide and trapping for particulates including lead -, seem clearly to be more advanced toward control than any others of which I have knowledge. There are DuPont and Ethyl equipped cars under test in California. Twelve '70 or '71 Chevrolet's - by DuPont - six with full control systems and six unequipped are being compared under trying conditions by the California Air Resources Board. They are doing better than original '75 standards and are approaching the objectives set for 1980.

Note: One of the complexities of the situation which contributes substantially to confusion, uncertainty and lack of progress is the frequent changing of standards and test methods by the Federal Government. As I have already said, the DuPont cars are doing better than any other system equipped cars of which we know, but they are not good enough to meet the latest standards as established by the Clean Air Amendments of 1970. More confusion!

6. The automobile industry of the world is unanimously opposed to the Clean Air Amendments of '70 and the restrictions which it imposes - namely, 90% reduction of CO and HC's by 1975 and 90% reduction of NO_x by 1976, all related to emissions of 1970 models. At hearings in Washington held by the Environmental Protection Agency in early May - the automobile industry said in effect - we will continue to seek improvement but we fear will not meet such standards. This auto industry opinion was unanimous - U.S. and foreign. Their remarks also served notice of probable losses in mileage - 10%

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to control CO and HC, another 20% to control NO_x.

7. The press is not pushing as hard though this may be temporary, and there is beginning to be dissent within the Government. Secretary Stans of Commerce has officially recommended caution. Extremely good authority has stated that Secretary Morton of the Interior is similarly disturbed. Stans has already been pilloried by the New York Times for daring to suggest that cost might make a difference and should be considered.

8. It seems clear that at worst, from our point of view, phaseout times of up to seven years, whether by legislative action or by regulation will permit further appraisal, test, development, research and possible reversals of whatever may first appear.

9. In the field of research and development - new emission control systems and devices and catalysts compatible with lead are constantly being announced. Since many of these have massive commercial potential, details are commonly unavailable until development is well along. To illustrate a few: The Carborundum Company proposes higher valent chromium oxides on an aluminum substrate with exceptional resistance to poisoning by lead additives. A commercial organization in Germany, Degussa, has announced a catalyst, not adversely affected by lead in gasoline with carbon monoxide and nitrogen reduced to very low levels. The Atomics International division of North American Rockwell has a low melting eutectic-salt gas scrubber, unique in that it would be located ahead of any catalytic device. It is said to remove lead effectively. Should it prove to function as claimed it could constitute the best answer yet. This is being examined very closely by a TEL manufacturer and is said to be under test by Ford. The Texas Company announced a lead trap in 1970 which did not stir much U.S. enthusiasm but is said to be under extensive testing in Europe. DuPont, Ethyl and Houston Chemical are continuing to refine their systems which include lead trapping. Some of the oil companies have not "rolled over". The possibility for the use of ceramic coated steel

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in thermal reactors is drawing large attention. This is of importance in thermal reactor emission control devices for it could permit the use of much cheaper materials of construction. A Swedish manufacturer claims to have a ceramic reactor.

10. Though the automobile industry has no doubt made substantial progress in the development of catalysts which will only work with "no" or "low-lead" gasoline - none has yet stated they can meet the '75 target of 50,000 miles guaranteed before change.

11. There is a growing acceptance that "no-leaded"gasolines can lead to early valve recession and massive increases in exhausted gases. I think there is little, if anything, to be done on this for the cars on the road (of which there are over 85,000,000). For new production the automobile industry can overcome valve recession by hardened seats and inserts but this will add cost.

12. The oil industry has been consistent, though not unanimous, in its opinion that in order to keep today's cars going a higher percentage of aromatics will be used. Aromatics contribute to smog formation and there is large reason to believe that their emissions could aggravate the formation of compounds tending to produce cancer. This is an important plus for lead's case.

13. Technical papers from GM have within the last 2 months announced a fear that the catalytic systems involved in the control of nitrogen oxide might result in a parallel increase in the emission of ammonia.

14. The newest argument on behalf of lead's retention is to be found in a DuPont report, out about a month, covering an experiment in an abandoned tunnel in Pennsylvania. Visability was reduced to almost 50% and soiling increased more than 50% when non-leaded gasoline was used. The tunnel was about one mile long and a fleet of cars used.

I have dwelt at some length on those points which speak strongly for the retention of lead in gasoline. In the absence of any demonstrated adverse health effects it is a little difficult to see how an adverse judgment could be made but it is necessary

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to consider unfavorable aspects of the situation as well. Let me talk for a while about these.

1. First, and without question the most important, is the Government's attitude. There has been no sign of official softening in the posture of the Executive Branch since late 1969. It is expected that the EPA will within the next several months issue three documents related to lead covering "Sources of Environmental Lead", "Criteria for Lead in the Atmosphere" and "Environmental Lead and Public Health". The preparation of these documents has involved Committees with representatives of the Lead and TEL industries, but final forms have not been generally reviewed by industry men and can be expected to be tough. Actions on paint and water as well as those debated on the atmosphere demonstrate clearly their intention to press for lead's restriction or elimination broadly, and particularly where there may be public support. There is much of politics in this. The Government is using its massive propaganda machine to lead's detriment. Dr. Newill of the EPA made a presentation at LIA's April Annual meeting in Chicago suggesting that auto emission "fall out" complicates lead paint poisoning of ghetto children may very well indicate a new line of attack - "Let us protect the children!" We can expect more attacks on lead in food.

2. The automobile industry has not retreated from its early 1970 statement that the best way to control emissions is with catalytic converters and the catalytic converter is rendered quickly ineffective if lead is present. This is a massive threat.

3. There is continued threat of a tax on lead used for the manufacture of additives. The announced objective of the tax, as proposed in 1970, was to drive lead from gasoline although it would be a revenue producer in the meantime. As proposed in 1970 the tax calculated to yield \$1,600,000,000 in its first twelve months of operation, or over 19 times the market value of the lead consumed in that period for the purpose. It would

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have amounted to about 2.3¢ per gallon to the consumer at the pump. The proposal was defeated in 1970. It may well come up again. I do not know what will happen the next time.

4. It is factually true that atmospheric lead did increase between 1962 and 1968, '69. The Seven-Cities Study to which I have made reference involves three of the cities which had been studied in 1962 and a comparison was possible. At one atmospheric site in Los Angeles/levels were up 67%. Lesser increases were noted in Philadelphia and Cincinnati. It remains to be seen whether such general increases will continue or whether saturation traffic has been reached. Regardless, this fact will be used substantially by the proponents of lead's removal.

5. The situation in California remains difficult. California has been active in atmospheric pollution control since the early 1950's. They have made demands on the automobile industry far more stringent than any other state. In 1970 the California Air Resources Board adopted an Air Quality Standard of 1-1/2 micrograms per cubic meter although it was acknowledged that it would take 15 years to achieve. On July 12 of this year the California State Senate voted down a phaseout bill, but typically has already reopened the subject through the introduction of another bill which would grant authority to control lead additives to the state's Air Resources Board.

6. Pressure on lead is world wide as I have already commented. In Japan use of lead has been halved and a new TEL plant scheduled to start producing in late '70 has been abandoned. Russia permits no lead. Sweden is believed to have a schedule of limitations and phaseout. Germany has acted and has a further schedule of reduction. Sniping continues in the common market, England and Australia. The U.S. Government is taking and making - frequent opportunities to press its point abroad.

Finally in this connection it must be realized that about 400,000 tons of lead

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per year are presently consumed for gasoline additives throughout the world and that about 3/4 of this is being exhausted into the atmosphere. This is strong ammunition for those who favor its removal. In fact I believe that our salvation lies in trapping and that this is practical.

I think it worth a comment that should trapping be developed and adopted, the lead industry (whether involving the primary or the secondary producers, or both) is going to have a new problem in recycling a massive new amount of very messy scrap.

Up to now I have reviewed various aspects of general attitudes, and have listed basic pro's and con's concerning the situation. Let me close with two additional points.

So far as the Government is concerned, its present official position now revolves around the enforcement of the Clean Air Amendments of 1970. Mr. William Buckelshaus is the Administrator of the Environmental Protection Agency. I should like to read extracts of his opening remarks on the occasion of EPA hearings in Washington on May 6 and 7, 1971:

"My first point, then, is to emphasize that the law itself does not permit traditional conceptions of satisfactory vehicle driving performance to stand in the way of whatever changes in vehicle design and power system are needed to control emissions. The same is true with regard to vehicle cost. This hearing is part of a continuing effort by the Environmental Protection Agency to find out just what sacrifices might be needed, in cost, in fuel economy, in power, in acceleration, and in other historic yardsticks of vehicle performance, to produce an automobile that we can live with as a people.

"The low-emission car of the future may be a more expensive car. It may not equal today's car in road performance. But this is a price that may be necessary if we are to have and preserve a healthy environment for ourselves and our families.

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"As a consequence, we cannot and will not accept anything less than a wide open research and development effort to meet the Act's requirements. We will not, for example, find acceptable a manufacturer's decision not to explore innovative designs or power systems on the ground that a vehicle so designed or so powered would be more costly or would not meet traditional performance criteria. We must develop and apply whatever technology is needed to achieve the degree of emission control required by the Act, and we must be willing to accept any necessary sacrifices in other areas of vehicle performance.

"My second point is related to the first and has to do with the specific power conferred upon me by the Clean Air Act to suspend the effective date of an emission standard for one year. Exercise of this power is carefully circumscribed by law. I am required to make a determination relating to good faith, and two separate determinations concerning the technology feasibility of meeting the statutory standards.

"I have given serious consideration to the proper construction of the statutory provision for suspension. It is my present judgment that the required determinations relating to technological feasibility do not permit me to suspend an emission standard in favor of a single applicant or group of applicants, if technical knowledge exists, in the industry or elsewhere, which would enable any member of the industry to mass produce a light duty motor vehicle in compliance with the Act.

"It is important that all of the implications of this construction of the law be well understood at the earliest possible time. It means that if any member of the industry could meet the Act's deadlines for compliance, all applications for a suspension will be denied.

"Any other construction of the suspension provision would be incompatible with

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the clear intent of the law to require whatever changes in design or power systems are needed to control emissions. Where some manufacturers meet the statutory deadlines by making major changes which substantially increase the cost of their vehicles or which require major sacrifices in vehicle performance, I do not believe that Congress intended to subject such manufacturers to competition from cars produced by other manufacturers who are required to meet a less stringent standard.

"As I read the law, the separate determination concerning good faith becomes applicable where it is not technologically feasible for any member of the industry to comply with the Act's requirements. In that event, suspensions for one year would be granted only to applicants who can establish that they made a good faith effort to meet the statutory deadlines for compliance. Here on the separate issue of good faith, the special problems which may face a particular manufacturer appear to be pertinent."

On this and the overall situation, I can offer you only my own reaction - If the Clean Air Amendments of 1970 are literally interpreted and enforced as Mr. Ruckelshaus proposes, if the auto industry of the U.S. is acting and speaking in "Good Faith," - and barring a miracle - the auto industry will essentially shut down in 1976. This is so preposterous that I believe the "CAA of 1970" will be amended more sensibly.

Assuming such future amendment to be a probability, we (the lead industry) should continue to press our case based on logic as we see it.

I believe we are deeply involved in a political chess game. Success at the polls in 1972 is the stake. Logic and technical fact might well be returned to influence in 1973-1974.

Let me close with a word of caution for the environmentalists and others rushing ahead at full speed as concerns the environment. A case I should like to describe has nothing to do with lead but should be food for thought in the minds of those seeing disaster

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closely ahead and precipitous action demanded. In 1966 there were 2,800,000 deaths from malaria on the island of Ceylon. In 1967 and 1968 the island was liberally and expensively sprayed with DDT. In '68 there were 128 deaths from malaria on Ceylon. In '69 and '70, for whatever reason, they did not spray. In 1970 there were 2,500,000 deaths from malaria. The authority for this horror story was John W. Campbell, editor of the Conde Nast publication "Analog". It appeared editorially in July, 1971. Mr. Campbell died on July 12 and was eulogized with great respect for his technical competence and with personal admiration in The New York Times on July 13.

This is a somber note on which to close, but certainly should be thought provoking. We should not rush ahead until we know more than we do, for we can readily worsen rather than improve situations. We have cited some of the possibilities of environmental degradation as involved with our own problem.

Perhaps the most trying aspect of this campaign has been that the findings and claims of industry, regardless of how solidly based or scientifically determined, are discounted because our interest includes consideration of profit. We should not overlook any opportunity to improve that image.

Thank you. I would welcome any questions.

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