

Lead Industries Association, Inc.

292 Madison Avenue

New York, N. Y. 10017

Telephone: (212) 679-6020

for lead file

- ① ~~DRB~~ *mainly Pb file*
- ② ~~Jim Stopps~~ - *Hoske's Lab.*
- ③ *RCB - For file.*

July 27, 1970

Mr. Robert C. Butler
Mgr. Environmental Affairs
E.I. DuPont de Nemours & Co.
7451 Nemours Bldg.
Wilmington, Delaware 19898

Dear Mr. Butler:

Attached are copies of recent reports and correspondence - all from Hill & Knowlton concerning the situation in Japan.

I trust that there is not too much duplication with information you already have and that these will be of interest.

The same letter is going to a number of people at the Ethyl Corporation and DuPont, as well as representative individuals at Houston Chemical and Nalco.

Sincerely,

J.L. Kimberley
J.L. Kimberley
Executive Vice President

JLK/gt
Enc.

RECEIVED

AUG 17 1970

HASKELL LABORATORY

N36909

Received from Hill & Knowlton, Inc., 150 East 42nd Street, N.Y., N.Y. 10017
July 17, 1970, following material:

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

Dear Jack:

Attached is what we have done with the report from Tokyo of the Health
Bureaus survey of residents in the congested traffic area.

The summary is identical to that which you saw earlier from Wattel.

We have gone through the sixteen tables and summarized the basic informa-
tion in them.

If anyone should need copies of the full tables, we find that they can be
photostated with not too much loss of detail, but as you know they are very
difficult to work with.

I think you will probably want to get this into the hands of some other
people, including those at Ethyl, perhaps other members of the Health and Safety
Committee, Jerry Cole, or even offer it in your next bulletin on the lead and
gas situation.

Sincerely,

CT:bt
Attachment

(signed) Carl Thompson

cc: D.M. Borcina
J.C. Roumas

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HILL AND KNOWLTON, INC.

(Unofficial Translation and Analysis)

REPORT ON LEAD POLLUTION EXAMINATION FOR THE RESIDENTS AROUND YANAGICHO, SHINJUKU

A Report by the Tokyo Metropolitan Government Health Bureau

Attached is an English translation of the Summary, given in full, followed by an analysis and brief description of each of sixteen pages of tables. The original copy of the tables, which constituted the bulk of the report, is in Japanese with English titles pencilled in. The tables are difficult to read and to duplicate and contain much irrelevant data.

REPORT ON LEAD POLLUTION EXAMINATION FOR THE RESIDENTS AROUND YANAGICHO, SHINJUKU

A Report by the Tokyo Metropolitan Government Health Bureau

SUMMARY

We are now conducting physical examinations on lead pollution. This is an Interim Report of the results of the examinations conducted during June 1-9.

The examinees included 116 people from Yanagicho, 62 from Haramachi 1-chome and 30 from Yakuoji, totalling 208 people.

The examination included 7 items such as measurement of lead in blood and urine. It was conducted by the Tokyo Metropolitan Health Laboratory and besides, a part of the examination was also conducted by the Labor Health Service Center for more accuracy.

As for the detailed result, please see the attached materials. A summary of it follows:

- 1) Among 207 people who were examined for basophilic stippling of erythrocytes, nobody had more than 6 red blood cells per 10,000 that had basophilic stippling of erythrocytes. (Normal figure is within 30.)
- 2) Among 208 people who were examined for coproporphyrin, there were 8 who showed over 120 micrograms per one liter of urine. The maximum figure was 393 micrograms. (Normal is under 120 micrograms.)
- 3) Among 189 examinees whose urine was examined, there was no one whose urine showed over 150 micrograms of lead per one liter of urine and the maximum was 81 micrograms. (Normal figure is under 150 micrograms.)
- 4) Among 203 people whose blood was examined, there was no one whose blood showed over 60 micrograms per 100 grams of blood, but maximum was 36 micrograms. (Over 60 micrograms needs close examination.)

To sum up the above results, we found no one needed immediate medical treatment. However, as for some who showed considerable coproporphyrin urine, we will examine them more closely.

It was very fortunate that nobody needed immediate medical treatment, however, we do not think that countermeasures for lead in exhaust gas are not necessary.

We, the Health Bureau would like to continue the examination to protect residents' health and will take the necessary countermeasures as soon as possible.

DISCUSSION OF TABLES ONE-SIXTEEN

Table 1 -- Situation of Residence and Subjective Symptoms

203 persons reported subjective symptoms to the investigators. The list of 32 symptoms includes almost everything which might be indicative of lead poisoning, e.g., loss of appetite, constipation, abdominal pain, nervousness, drowsiness, dizziness, jaundice, etc. Situation of residence refers to the physical location of the respondents' houses -- 166 respondents lived facing the street, 35 lived within 50 meters of the street and 2 lived more than 50 meters from the street. Obviously there were too few persons in the last group to provide meaningful data. Comparison of the other two groups reveals little difference in the prevalence of subjective symptoms, with one exception. There were 12 cases of "jaundice" among the 166 facing the street and no cases among the 37 persons in the other two groups.

Table II -- Situation of Residence and Subjective Symptoms

Although this table carries the same title as the preceding one, the data concern daily duration of exposure to the area. 179 respondents stay home all day long, 21 stay home half a day and there were 3 "others." There was no significant difference in the prevalence of symptoms among "all day" and "half day" groups, again with one exception. Among the "all day" group, 41 complained of "severe stomach ache" while there were none who claimed this symptom among the remaining 24 persons.

Table III -- Subjective Symptoms and Lead in the Blood

	blood lead levels (micrograms/100 grams)			
	0 to 10	11 to 20	21 to 30	higher than 31
70 persons from group reporting many subjective symptoms	41 (58.8%)	27 (38.8%)	2 (1.8%)	0
40 controls -- persons reporting no subjective	20 (50%)	18 (45%)	1 (2.5%)	1 (2.5%)

Data from Table III demonstrate the complete lack of correlation between subjective symptoms (supposedly suggestive of lead poisoning) and blood lead levels. In fact, the symptom-free control group exhibited slightly higher blood lead levels.

Tables IV (A & B) -- Data on Basophilic Stippling of Erythrocytes and Urine Coproporphyrin Levels

IV (A) -- Among 207 persons examined for basophilic stippling of erythrocytes, none showed more than 6/10,000 red blood cells. (Normal is below 30.)

IV (B) -- Among 208 persons examined for urine coproporphyrin only eight exceeded the normal maximum level of 120 micrograms/liter of urine. The average level was 41.7/liter. ✓

Table V -- Urine Lead Concentrations by Age Groups

Among 189 persons examined for urine lead, none exhibited higher concentrations than 81 micrograms/liter of urine. (Normal is below 150.) In these subjects urine lead seemed to increase in age groups 40 and over. However, there was no clear pattern.

Table VI -- Urine Lead Concentrations by Condition of Residence Duration of Exposure

There was no correlation among the 189 subjects between urine lead and either condition of residence nor duration of exposure. (Condition of residence is given as "Haramchi 1-chome, Yakuoji and Yanagicho.")

Table VII -- Urine Lead Concentrations by Condition and Situation of Residence

There was no correlation between these two factors and urine lead. (Situation of residence is defined in Table I as "facing the street, lived within 50 meters, lived more than 50 meters.")

Table VIII -- Blood Lead Concentrations by Age Groups

Among 203 persons examined for blood lead, none exhibited higher concentrations than 36 micrograms/100 grams of blood. (Normal is below 60.) There was no clearly significant pattern of increase in blood lead with age.

Table IX -- Blood Lead Concentrations by Condition of Residence and Duration of Exposure

There was no correlation among the 203 subjects between blood lead and either condition of residence or duration of exposure.

Table X -- Blood Lead Concentrations by Condition and Situation of Residence

There was no correlation between these two factors and blood lead.

Tables XI (A & B) -- Proximity to Factory as Related to Urine and Blood Lead Levels

XI (A) -- The proximity ("nearby, no factory nearby, unknown") had no correlation to urine lead concentrations among 189 subjects.

XI (B) -- Factory proximity was unrelated to blood lead concentrations among 203 subjects.

Tables XII (A & B) -- Occupations as Related to Urine and Blood Lead Levels

XII (A) -- Five occupations are listed: "Printing, Repair of Cars, Other Businessmen, Housewives, Fish Shop." Out of the 189 subjects tested for urine lead levels, the largest category comprises the 151 miscellaneous "Other Businessmen." As indicated in the preceding tables, no individual approached the area of 150 micrograms of lead/liter of urine. The "Other Businessmen" category included the two individuals with the highest reading, between 61 and 81 micrograms. There were only two men engaged in the "Repair of Cars," one with a level of 21, the other with 20. The average for two men in this "group" is thus about twice as high as any of the other groups. It is interesting that the two readings should be so close.

XII (B) -- The same five occupations comprised the 203 subjects tested for blood lead levels. Again, no individual approached the danger level and apparently the same individuals exhibited highest blood levels. However, the average for all groups was in the same range, below 14 micrograms of lead/100 grams of blood. The average for the two auto mechanics was 13, only slightly higher than the other categories.

Tables XIII (A & B) -- Sources of Data on Urine and Blood Levels

These two tables seem of no significance. They indicate that two different agencies conducted the tests; the agencies identified as "Health Laboratory" and "Service Center."

Health Laboratory conducted 151 urine tests and 163 blood tests.

Service Center conducted 38 urine tests and 40 blood tests.

Table XIV -- Comparison with the Survey Done in 1965 Near Ohara Intersection

This table repeats some of the data concerning subjective symptoms given in Table I. Some of the important symptoms suggesting possible lead

poisoning do not appear to be directly comparable in the 1965 survey and the significance of a final column headed "inquiry" is not clear. However, the available data suggest a slightly higher prevalence of subjective symptoms in the later report.

Here are data for six symptoms out of 31 listed:

SUBJECTIVE SYMPTOM	PRESENT SURVEY %		PREVIOUS SURVEY %	
	Facing Street	Within 50 meters	District A	District B
Loss of appetite	24.1	17.1	18.9	17.6
Constipation	25.3	28.6	--- --	--- --
Abdominal Pain	20.5	17.1	--- --	--- --
Feel Exhausted	44.0	48.6	35.8	37.3
Often Dizzy	34.3	40.0	27.4	23.5
Nervousness	54.2	65.7	45.3	41.2

Pages XV & XVI -- These seem to be footnotes and bibliography, without much interest.

HILL AND KNOWLTON, INC.

MEMORANDUM TO: J.L. Kimberley
Lead Industries Association, Inc.

July 20, 1970

SUBJECT: Update on Japanese Lead Poisoning Situation

From the attached dispatch from Jerry Wattel in Tokyo, you will see that the lead in the air and lead and health situation in Japan continues to become much less serious than original statements warranted.

However, it is interesting to note that the Japanese Welfare Ministry has set a provisional standard for lead in the air at 5 micrograms per cubic meter of air. This is much less than the American Industrial Hygiene standard of 10 micrograms per cubic meter averaged over 30 days.

(signed) Bob Rogers

/mc
Attachment

cc: D. Borcina
J. Roumas
C. Thompson

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RCASF 708 0030
HILLNOL 223200

HILLNOL TOKYO JULY 20, 1970

TO: BOB ROGERS

FROM: JEROME WATTEL

SUBJECT: LEAD POLLUTION IN JAPAN

TOKYO METROPOLITAN PUBLIC HAZARD AUTHORITIES INVESTIGATING LEAD CONTENT IN THE ATMOSPHERE AT TOKYO'S BUSIEST INTERSECTIONS, REPORTED THAT THERE WERE AT LEAST SEVEN AREAS WHERE POLLUTION WAS COMPARABLE OR WORSE THAN AT THE USHIGOME-YANAGICHO INTERSECTION OF SHINJUKU-KU.

HEALTH EXPERTS, HOWEVER, REPORTED THAT NONE OF THE RESIDENTS IN THESE POLLUTED AREAS WERE FOUND TO BE SUFFERING FROM LEAD POISONING.

THE REPORTS WERE MADE AT THE 20TH TOKYO PUBLIC HAZARD COUNTERMEASURES DELIBERATION COUNCIL MEETING HELD AT HIRAKAWACHO, CHIYODA-KU, FRIDAY.

TWENTY-FOUR HOUR SURVEYS CONDUCTED BETWEEN JUNE 8 AND JULY 15 AT 27 INTERSECTIONS IN TOKYO REVEALED THAT THERE WERE AT LEAST SEVEN WHICH CLOSELY APPROXIMATED THE DEGREE OF LEAD POLLUTION IN THE ATMOSPHERE AT THE USHIGOME-YANAGICHO INTERSECTION.

THESE AREAS INCLUDED THE UBAGABASHI INTERSECTION IN KITA-KU, WHERE THE MAXIMUM ATMOSPHERIC LEAD CONTENT REGISTERED 8.9 MICROGRAMS PER CUBIC METER; MIYAJI ROTARY IN ARAKAWA-KU, WHICH REGISTERED 7.4 AND IRIYA RAMP, TAITO-KU, WHICH SHOWED FIVE MICROGRAMS OF LEAD IN ONE CUBIC METER OF AIR.

IN COMPARISON, THE CONDITION AT THE YANAGICHO INTERSECTION, SURVEYED OVER A NINE-DAY PERIOD FROM MAY 26, WAS 4.1 MICROGRAMS FOR A DAILY AVERAGE; 5.5 FOR A MAXIMUM AND 8.9 FOR A 10-HOUR PERIOD BEFORE SUNDOWN.

PRELIMINARY SURVEYS SHOW THAT LEAD POLLUTION AT UBAGABASHI, MIYAJI AND IRIYA ARE COMPARABLE OR WORSE THAN THAT OF YANAGICHO, THE REPORT SAID.

AUTHORITIES, HOWEVER, ADDED THAT COMPARING THE FIGURES AT THE THREE AREAS WITH THAT OF YANAGICHO WOULD BE MISLEADING AT THIS TIME BECAUSE THE RECENT SURVEYS AT THE 27 INTERSECTIONS WERE ONLY ONE-DAY INVESTIGATIONS COMPARED TO NINE DAYS FOR YANAGICHO.

OTHER INTERSECTIONS WHICH REGISTERED MORE THAN FIVE MICROGRAMS WERE ASAKU-SABASHI, CHUO-KU; KAMIUMA, SETAGAYA-KU; NAMIKIBASHI, SHIBUYA-KU AND KUMANOJINJAMAE, ITABASHI-KU.

THE WELFARE MINISTRY HAS SET A "PROVISIONAL STANDARD" FOR LEAD POLLUTION AT FIVE MICROGRAMS PER ONE CUBIC METER OF AIR -- THAT IS, THE MINISTRY CONSIDERS IT HARMFUL TO HEALTH IF THE LEAD CONTENT IN AIR GOES ABOVE FIVE MICROGRAMS.

AUTHORITIES SAY THEY ARE PLANNING TO GET MORE ACCURATE DATA THAT CAN BE COMPARED WITH THAT OF YANAGICHO BY CONDUCTING SURVEYS FOR MORE THAN A WEEK AT EACH INTERSECTION.

MEANWHILE, HEALTH AUTHORITIES WHO HAD PERFORMED MEDICAL TESTS ON 302 PERSONS IN YANAGICHO, KASHIWAGI 4-CHOME AND YOTSUYA 3-CHOME IN SHINJUKU-KU, SAID THAT NONE OF THE PEOPLE TESTED WERE AFFECTED BY LEAD POISONING.

ONLY ONE PERSON, AUTHORITIES SAID, CAME CLOSE TO BEING CATEGORIZED AS A VICTIM OF LEAD POISONING.

UNDER LABOR HYGIENE STANDARDS, A PERSON WITH 60 MICROGRAMS OF LEAD IN 100 CC OF BLOOD AND 150 MICROGRAMS IN A LITER OF URINE IS CONSIDERED AFFECTED BY LEAD POISONING.

THOSE WITH 30 MICROGRAMS OF LEAD IN THE BLOOD ARE WARNED TO TAKE PRECAUTION.

OF THE 302 PEOPLE TESTED, ONE REGISTERED LEAD CONTENT OF ALMOST 60 MICROGRAMS IN HIS BLOOD, WHILE 11 OTHERS REGISTERED SOMEWHERE BETWEEN 21 AND 27 MICROGRAMS.

MORE THAN HALF OF THOSE WHO HAD THEIR BLOOD AND URINE TESTED SHOWED THAT THEY HAD LESS THAN 10 MICROGRAMS OF LEAD IN THEIR BLOOD AND URINE, ACCORDING TO AUTHORITIES.

SIMILAR TESTS ARE STILL BEING CONDUCTED AT SEVEN OTHER INTERSECTIONS.

WATTEL

PLEASE READ 6TH PARAGRAPH SECOND LINE AS FOLLOWS:

SURVEYED OVER A NINE-DAY PERIOD FROM MAY 26, WAS 4.1 MICROGRAMS

HILL & KNOWLTON, INC.

MEMORANDUM TO: J.L. Kimberley
Lead Industries Association, Inc.

July 22, 1970

SUBJECT: New Japanese Curbs on Auto Emissions

Attached is a report on Japanese curbs on auto emissions filed by Jerry Wattel of our Tokyo office this morning.

The restriction would limit lead content of exhaust gases to .06 grams per kilometer by 1975. Since a kilometer is equivalent to 0.62 miles, the comparable restriction is 0.1 gram of lead per mile. This compares with proposed U.S. federal goals of 0.1 grams per mile of particulates by 1975 and 0.03 grams per mile of particulates by 1980.

After our meeting with DuPont last March, I assume DuPont's lead trap could restrict lead particulates to 0.1 of a gram per mile. Their problem was that U.S. restrictions were simply for particulates with no definition of what they were.

I hope you find this information useful.

(signed) Robert A. Rogers

RAR:mc
Attachment

cc: Dave Borcina

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HILLKNOL TOKYO JULY 22, 1970

TO: BOB ROGERS

FROM: JEROME WATTEL

SUBJECT: LEAD POLLUTION IN JAPAN

CURBS AS TOUGH---OR TOUGHER--THAN THOSE IN THE U.S. ARE OUTLINED IN A REPORT DRAWN UP BY THE MOTOR VEHICLE SUBCOMMITTEE OF THE TRANSPORTATION TECHNICAL COUNCIL, AN ADVISORY ORGAN TO THE TRANSPORTATION MINISTER.

THEY INCLUDE NOT ONLY CARBON MONOXIDE, BUT LEAD, HYDROCARBONS, NITROGEN OXIDES AND DIESEL SOOT PUMPED INTO THE AIR BY JAPAN'S 11,000,000 VEHICLES.

THE CONCENTRATIONS OF CARBON MONOXIDE AND LEAD IN EXHAUST GAS ARE BEING RESTRICTED ALREADY, BUT THE SUBCOMMITTEE'S PLAN CALLS FOR STRICTER CURBS ON THESE AND OTHER NEW REGULATIONS, ALL TO BE ENFORCED IN TWO PHASES IN 1973 AND 1975 WITH INCREASING SEVERITY.

THE GOVERNMENT, FACED BY A MOUNTING PUBLIC OUTCRY ABOUT POLLUTION, IS EXPECTED TO ENFORCE THESE REGULATIONS, EVEN IF SOME OF THE DETAILS ARE ALTERED.

THE PLAN IS PINPOINTED AT TOKYO IN AN EFFORT TO BRING BACK CLEAN AIR TO THE NATION'S MOST CONTAMINATED CITY.

THE AIM IS THE ATMOSPHERIC CONDITIONS OF 1961-63, OR BEFORE THE PRIVATE CAR BOOM REACHED ITS PEAK.

THE PLAN, TO BE SUBMITTED SHORTLY TO TRANSPORTATION MINISTER TOMISABURO HASIMOTO, CHANGES THE BASIS ON WHICH RESTRICTIONS ARE MADE.

AT PRESENT CARBON MONOXIDE IS LIMITED IN EXHAUST GAS AND THE LEAD CONTENT OF GASOLINE IS FIXED.

THE NEW METHOD WILL BE TO RESTRICT THE AMOUNT OF HARMFUL ENGINE EMISSION TO LEVELS BASED ON KILOMETERS TRAVELED PER 1,600 CC ENGINE CAPACITY.

AFTER RECEIVING THE PLAN, THE TRANSPORTATION MINISTRY WILL WORK OUT A STRATEGY OF WAR ON AIR POLLUTION WITH OTHER GOVERNMENT MINISTRIES CONCERNED.

THE AUTOMOBILE MANUFACTURERS' ASSOCIATION ISSUED A STATEMENT ON THE REPORT ON MONDAY.

IN THE NAME OF THE PRESIDENT, KATSUJI KAWAMATA, WHO IS ALSO PRESIDENT OF NISSAN, JAPAN'S SECOND LARGEST MOTOR MANUFACTURER, THE ASSOCIATION SAID EVERY EFFORT WOULD BE MADE TO DEVELOP ENGINES TO MEET THE NEW REQUIREMENTS.

THIS WAS ECHOED BY EIJI TOYODA, PRESIDENT OF JAPAN'S TOP VEHICLE PRODUCER, THE TOYOTA MOTOR COMPANY.

HERE ARE THE DETAILS OF THE PLANNED RESTRICTIONS, BASED ON A 1,600 CC ENGINE:

- THE AMOUNT OF CARBON MONOXIDE EMISSION WILL BE RESTRICTED BY APRIL 1973 TO 11 GRAMS PER KILOMETER TRAVELED, AND TO SEVEN GRAMS PER KILOMETER BY APRIL 1975.

- HYDROCARBONS WILL BE LIMITED TO SIX GRAMS A DAY FOR VAPORIZED GASOLINE LEAKAGES, AND 1.7 GRAMS PER KILOMETER FOR EXHAUST PIPE EMISSIONS BY APRIL 1973.

IN THE SECOND STAGE, TO BE ATTAINED IN APRIL 1975, THE AMOUNT OF HYDROCARBONS WILL BE LIMITED TO .3 GRAM PER KILOMETER FOR EXHAUSTS BUT THE LIMIT ON LEAKAGES WILL REMAIN UNCHANGED.

- NITROGEN OXIDE EMISSIONS WILL BE RESTRICTED TO THREE GRAMS PER KILOMETER IN THE FIRST STAGE AND TO .6 GRAM PER KILOMETER IN THE SECOND.

- THE LEAD CONTENT OF EXHAUST GASES WILL BE LIMITED TO .06 GRAM PER KILOMETER BY APRIL 1975.

(THE MOTOR VEHICLE INDUSTRY IS REQUIRED TO START PRODUCTION OF ENGINES USING LEAD-FREE GASOLINE DURING FISCAL 1971)

- RESTRICTIONS ON DIESEL SOOT ARE NOT GIVEN IN NUMERICAL TERMS.

THE PLAN CALLS FOR DEVELOPMENT OF A PRACTICAL METHOD TO MEASURE THE AMOUNT OF DIESEL SOOT IN EXHAUST GASES.

THE CARBON MONOXIDE RESTRICTIONS ARE MORE SEVERE THAN THOSE NOW IN FORCE IN THE U.S., AND OTHER RESTRICTIONS ARE AS EQUALLY SEVERE AS THE U.S.

THE MOTOR VEHICLE SUBCOMMITTEE ORIGINALLY PLANNED TO ENFORCE THE NEW CURBS IN THREE STEPS -- IN 1973, 1975 AND 1977.

BUT IT HAS MOVED THE TARGET YEAR FORWARD BY TWO YEARS TO PREVENT DENTING MOTOR VEHICLE EXPORTS TO THE U.S.

WATTEL