

OZARK SMELTING AND MINING COMPANY
COFFEYVILLE, KANSAS

ATMOSPHERIC LEAD SURVEY

FEBRUARY 18, 1958

LIBERTY  MUTUAL
INSURANCE COMPANY
OF AMERICA

The Company that stands by you

LOSS PREVENTION DEPARTMENT

N18331

0007-SWP-000031021

OZARK SMELTING AND MINING COMPANY
COFFEYVILLE, KANSAS

ATMOSPHERIC LEAD SURVEY

On February 18, 1958 a visit was made to your plant with Mr. J. D. Johnson of our Wichita Loss Prevention Department. The purpose of this visit was to re-check the levels of atmospheric lead in bagging operations in the calcine department and in the oxide ware room. No samples were taken at the roasting furnaces and the bag house as these operations are temporarily suspended.

In order to complete this evaluation, a total of 8 air samples were taken for atmospheric lead according to accepted sampling procedures. The results of these samples are given on the Data page of this report. Conclusions, based on the air sample results are presented for your consideration.

CONCLUSIONS

1. The levels of all air samples taken for atmospheric lead with the exception of Samples #5 and #7, are in excess of the maximum allowable concentration for continuous 8 hour exposure, and thought should be given to permanent controls.
2. The levels of atmospheric lead at the general area in the packing department and the south part of the ware room were less than the maximum allowable concentration for continuous 8 hour exposure.
3. It was noted that smoking is allowed near the coal stove in the calcine department. This practice should be discontinued for obvious reasons.

RECOMMENDATIONS

1. Provide a system of local exhaust for all packing stations in the packing department. The exhaust system should be designed so that it will exhaust air from the operator's position across the top of the bag being packed and to the outside atmosphere. The system should be capable of a hood face velocity of 200 lineal feet per minute.
2. Eliminate the smoking currently allowed in the calcine department to reduce the chance of excessive lead intake by ingestion.

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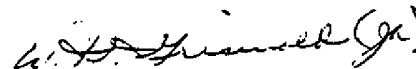
STANDARD:

The maximum allowable concentration of lead in air, as agreed to by leading governmental and industrial hygienists, is 0.20 milligrams of lead per cubic meter of air for continuous 8 hour exposure. If continued exposure to levels in excess of this value are permitted, lead intoxication and finally lead poisoning may develop in exposed personnel.

DISCUSSION

The results reported on the Data page of this report are, in general, about the same as the samples taken during our June, 1956 survey. Most of the atmospheric lead level is due to the unexhausted packing units and the floor dump at the re-pack packer. The lead levels are presently well controlled by the mandatory respirator protection. It is felt that packer exhaust would be more satisfactory. This has been recommended even though your plant can't consider it until late 1958. We hope exhaust will be installed when plant conditions permit.

The only other recommendation pertains to the current practice of employees smoking in the calcine department. Handling of cigarettes with lead contaminated hands is contrary to all accepted lead safety programs and should be discontinued, as this practice allows lead intake by ingestion. Employees should also be instructed not to carry cigarettes, etc., into a lead area.



W. H. Griswold
Industrial Hygienist
Loss Prevention Department

WHG/jh

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DATA

Air Samples: Taken with filter paper and cone.

Sampling Rate: 0.72 cubic feet of air per minute.

Analysis: Dithizone method, results read on a Beckman Spectrophotometer.

Results: Expressed as milligrams of lead per cubic meter of air, (mg Pb/m³).

<u>SAMPLE</u>	<u>LOCATION</u>	<u>TIME</u>	<u>mg Pb/m³</u>
1.	Operator's breathing zone, (OBE) at mill packer, line #1, packing 50¢ bags of GILG 12/88.	15 Min.	0.68
2.	General room atmosphere, (GRA) five feet from Sample #1.	13 Min.	0.71
3.	OBE, at bag dump to floor grate at 4¢ re-pack operation, with fume on open mouth packer.	8 Min.	0.38
4.	OBE, at open mouth packer, packing 4¢ re-pack.	15 Min.	0.50
5.	GRA, center of packing area, calcine department.	15 Min.	0.07
6.	OBE, at #3 line valve packer, packing 12/88.	15 Min.	0.35
7.	GRA, at north half of ware room, some truck operation.	15 Min.	0.14
8.	GRA, at south half of ware room, some truck operation.	15 Min.	0.32

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BEACON BUILDING, WICHITA 2, KANSAS * AMHERST 1-4653

March 17, 1958

Ozark Smelting and Mining Company
Coffeyville, Kansas

Attention: G. F. Wyman, Plant Superintendent

Gentlemen:

Attached are the results of Mr. Griswold's atmospheric lead survey taken at your plant on February 18, 1958.

If there are any questions in regard to this survey I shall be glad to discuss them with you on my visit to your plant in the early part of April.

Very truly yours,

J. D. Johnson
J. D. Johnson
Safety Engineer
Loss Prevention Dept.

JDJ:nb
cc: W. O. Howard
(2) J. J. Snabl

N18331.02

0007-SWP-000031025

OZARK SMELTING AND MINING COMPANY
COFFEYVILLE, KANSAS

ATMOSPHERIC LEAD SURVEY

On November 2, 1955, a visit was made to your plant with Mr. W. C. Galvin of our Wichita Loss Prevention Department. The purpose of this visit was to determine, by sampling, the levels of atmospheric lead at various operations in your plant. The locations sampled were the baghouse B, packing department, and the oxide warehouse.

CONCLUSIONS

A. Baghouse B.

1. With the exception of the fan room adjacent to the baghouse all air samples showed concentrations of lead in air in excess of the maximum allowable concentration. The highest concentrations of lead in air were found on the catwalk during the bag shaking operations, making controls necessary.

B. Packing Department

1. Levels of lead in air at all bagging operations sampled were in excess of the maximum allowable concentration and should be controlled. Local exhaust ventilation is recommended to control the exposure.
2. Levels of lead in air at the blending operation of leaded zinc oxide and litharge were above the maximum allowable concentration and should be controlled. Local exhaust ventilation is recommended to control the exposure.

C. Oxide Warehouse

1. Levels of lead in air in the oxide warehouse were above the maximum allowable concentration and are in need of control.

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RECOMMENDATIONS

1. Baghouse B: It is recommended that the present sponge type respiratory protection be replaced with respirators approved for the exposure. Several types of respirators approved for the exposure are discussed in the discussion section of this report.
2. Packing Department: Provide a system of local exhaust for all packing stations in the packing department. The exhaust system should be designed so that it will exhaust air from the operators position across the top of the bag being packed and to the outside of the plant. The system should be capable of an inward velocity at the hood face of 200 feet per minute average.
3. Packing Department: Provide a system of local exhaust for the dumping point of leaded zinc oxide and litharge for the 18 M blending operation similar to recommendation #2 above.
4. Oxide Warehouse:
 - A. The most efficient way to lower the atmospheric lead levels in the warehouse is to provide general area ventilation by roof fans. It is recommended that these fans be installed.
 - B. In addition to A above a systematic vacuuming of the warehouse on a periodic basis will also help to reduce the atmospheric lead levels.

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STANDARDS

The maximum allowable concentrations for lead in air is 1.5 milligrams per 10 cubic meters of air for continuous 8 hour per day exposure. Intermittent exposures to concentrations greater than 1.5 milligrams may be permitted provided the average of 1.5 is not exceeded. Continuous exposure to more than the maximum allowable concentration may cause lead in toxication.

DISCUSSION

1. Baghouse B.

The present respiratory protection used in the baghouse operations are not approved for lead in air and sulfur dioxide. As I gathered from Mr. Keith's conversation, other respirators have been tried but have not been comfortable. In investigating proper type respirators I learned of two types that are of the same basic construction as the ones in use but will protect against the toxic substances in air at the operation.

Type 1

Willson Series 800, double cartridge respirator using a #41 and #R415 cartridge together.

Type 2

M-S-A gas fume respirator.

Both of the above respirators can be purchased thru the local supplier of safety equipment in your area.

2. Packing Room

It is possible that in addition to the dust generated by the packing operation there are a few system leaks allowing dust to be dispersed into the atmosphere. When the ventilation system is installed, these leaks if any, should be eliminated. Attached to this report are several sketches outlining the type of exhaust hood recommended.

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3. Packing Department Blender:

A sketch is also appended to illustrate the exhaust hood proposed. As an alternate method the mixing bin could be exhausted.

4. Oxide Warehouse:

The high concentration of dust in this area probably was generated by the power truck operations and the windy conditions outside at the time of the survey. Suggested general area ventilation will eliminate the dust levels.

5. Medical Control:

This was discussed at the time of our fall visit but should be highlighted here. The program is adequately checking for lead levels in all exposed personnel and will maintain a medical check on the existing engineering controls for lead dust.

Very truly yours,

William H. Griswold

William H. Griswold
Industrial Hygienist

WHS:as

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DATA

Air Samples: Taken with filter paper and cone.

Sampling Rate: 1.0 cubic feet of air per minute.

Analysis: Dithizone method, results read on a Beckman spectrophotometer.

Results: Expressed as milligrams of lead per 10 cubic meters of air (mg Pb/10 cu. m.).

Standard: The MAC of lead in air is 1.5 mg/10 cu. m.

Sample	Location	Time	Mg Pb/10 cu. m.
1	General room atmosphere (GRA) Baghouse B, center of floor while shaking down bags and sweeping.	s. 9:26 A.M. 20 min.	3.46
2	GRA same as #1	s. 9:46 A.M. 20 min.	4.31
3	GRA on catwalk above floor, employee shaking down bags, Baghouse B.	s. 10:06 A.M. 20 min.	4.34
4	GRA in fan room adjacent to Bagroom B.	s. 10:30 A.M. 20 min.	0.91
5	Operators breathing zone (OBZ) at 12/88 packer. Bagging 8% leaded zinc oxide.	s. 11:10 A.M. 20 min.	3.46
6	OBZ at 18 M valve packer - Bagging 14% leaded zinc oxide	s. 11:32 A.M. 20 min.	24.66
7	GRA 20 feet from 12/88 packer	s. 12:46 P.M. 22 min.	2.32
8	OBZ at the dump point, (floor grate) dumping leaded zinc oxide and litharge into 18 M blender	s. 1:22 P.M. 22 min.	23.31
9	GRA center of oxide Bag Warehouse. Power truck working on car loading.	s. 1:47 P.M. 20 min.	5.0

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WATER
PUMP

500

TO
COLLECTOR

500

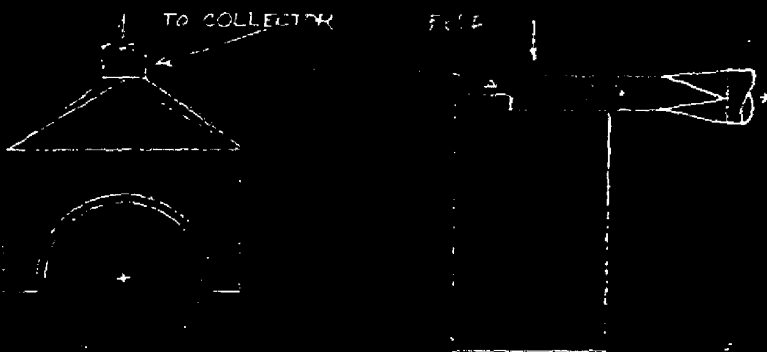
Liberty Mutual Insurance Companies
Loss Prevention Department

CLARK SMELTING
COASTVILLE, KANSAS

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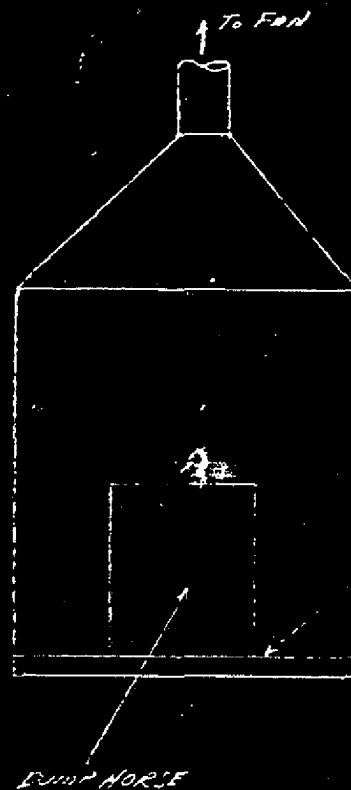


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CHARTER LIMEWORK
COATESVILLE, KANSAS

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BOOTH TYPE ENCLOSURE FOR 18-M. ISLANDER

Liberty Mutual Insurance Companies
Loss Prevention Department

CLARK SMITHING
CAFFRILL, KANSAS

12-22-55

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