COMMONWEALTH of VIRGINIA

Department of Health
Bureau of Toxic Substances
1500 East Main Street, Room 124
P. O. Box 2448
Richmond, Virginia 23218

ROBERT B. STROUBE, M.D., M.P.H.
STATE HEALTH COMMISSIONER

Phone: (804) 786-1763
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February 9, 1994

Ms. Diane Maning
NIOSH Mail Stop C-34
National Institute for Occupational
Safety & Health
4676 Columbia Parkway
Cincinnati, Ohio 45226-1998

Dear Ms. Maning:

This is in response to Dr. Niemeier's letter of January 10, 1994, regarding the Workers' Family Protection Act. Enclosed are two case reports of lead poisonings in children whose parents were occupationally exposed at their workplaces.

I trust this information will be of help to you. Should you have any further questions, please feel free to call me.

Sincerely,

Khizar Wasti, Ph.D., Director
Bureau of Toxic Substances

KW/bbr

Enclosures

SUMMARY OF INVESTIGATION OF LEAD EXPOSURE

OF THE EMPLOYEES OF THE

[redacted] DINWIDDIE COUNTY

On November 6, 1991, a 13 month old child who was brought to the Dinwiddie Health Department for the purpose of WIC certification was found to have a blood EP (erythrocyte protoporphyrin) value of 73 µg/dl (an EP reading of 21 was recorded in May 1991 during an WIC certification visit). His venous blood lead level was found to be 56 µg/dl on November 13. The mother, father, and brother were later found to have elevated blood lead levels. The house, water, and soil were not found to have high concentrations of lead. The baby and mother were subsequently treated at MCV. Since the mother and father were both employed at the [redacted] this worksite was reported to the Virginia Department of Labor and Industry for recommended inspection by [redacted]

During December 1991, two plant inspections were made by [redacted] Occupational Health Enforcement Division of the Virginia Department of Labor and Industry. [redacted]. Information verbally reported to the Crater Health District Director included the fact that a "paint" which is 80 percent lead was being used as a sealant on the valve thread areas. While the plant employs about 50

persons, only a few were felt to be working in or near this painting operation. The mother of the index 13 month old child worked in this sealant area. Her husband worked in the station where tanks are pressure tested, physically also near the end process. Employees were questioned about the nature of their work, particularly in reference to any exposure to the liquid sealant. ~~Air and~~ Surface and clothing wipe samples were taken for lead level determinations.

The Crater Health District suggested the desirability of questioning and testing all employees but [redacted] only those 7 workers believed at most risk. On December 23, 1991, [redacted] He reported that the lead containing sealant had been introduced into the plant only recently and was being discontinued. He stressed the need for worker confidentiality. On that day he was seeking the laboratory reports on the index family.

On December 30, 1991, [redacted] discussed with [redacted], Division Manager for the [redacted] Company, the need to test the at-risk employees and that this could be done at the plant. He was told each worker had the right to refuse testing and each would be given his or her own results at a later date. The events leading to the plant inspection were not discussed. On January 3, 1992, [redacted] went to the plant to draw blood samples for lead from the workers. This went without incident. The mother of the child first identified

as "leaded" was not present. She had been instructed by an MCV physician not to work during her chelation therapy.

On January 10, 1992, [redacted] discussed events with [redacted], Occupational Health Enforcement Division and assured him we were only concerned with workers' health. He was informed of the lead levels for the workers and he gave his concurrence to test children in their families. He was informed that there were two workers tested on January 3rd who had high levels and that their homes would be tested for lead. Apparently the results of the lead analyses of samples taken on plant inspection were not yet known.

On January 12, 1992, workers were informed of their lead levels [redacted] Two were recommended to obtain medical assessments and to agree to have their homes evaluated.

On January 14, 1992, [redacted] was informed that several employees had elevated lead levels and that their families and homes would now begin to be tested.

The results of worker testing and the findings from medical assessments, family testing, and home evaluations for lead presence which follow represent the efforts of the Crater Health District through March 10, 1992. No further follow-up is planned. Assurance has not yet been received from the inspecting agency that the workers at the plant are no longer at risk.

WORKER AND FAMILY TESTING

AND

MEDICAL INFORMATION

[redacted] 13 months; client in Dinwiddie Health Department. WIC Clinic 5/21/91, EP 21. 11/6/91, EP 73, venous blood drawn 11/13/91 lead 56/56 µg/dl. Child admitted to MCV 11/15/91, discharged 11/20/91. He received chelation therapy while hospitalized and again on outpatient basis 12/91. He continues to be followed by MCV. Child's home and his grandmother's home (where he stays during the day) both were negative for lead.

[redacted] 28 years (mother of [redacted].) (employee of [redacted]). On 12/4/91 venous blood drawn at Petersburg Health Department showed 67/67 µg/dl. [redacted] receive chelation therapy as outpatient from MCV 1/92. She is no longer employed at [redacted]

[redacted] (father of [redacted]) (employee of [redacted] 12/3/91 venous blood drawn at Petersburg Health Department, 21 µg/dl. No treatment recommended. [redacted] is no longer employed at [redacted]

[redacted] 9 years (brother of [redacted].) 12/10/92 venous blood drawn at the Dinwiddie Health Department, 17 µg/dl. Treated with multi-vitamins and iron. Repeat lead level done

3/10/92, results not returned from lab.

[redacted], 33 years (employee at [redacted]) 1/3/91, venous blood drawn by Health Department staff, 91/90 µg/dl. [redacted] was referred to MCV, but instead was followed by Stephen Vaughan, M.D. Dr. Vaughan reported to Dr. Edwin Brown that lead level repeated by him was 45 and Hgb 10. The home of [redacted] was evaluated for lead and found to be negative for lead. Husband of Ms. [redacted] had venous lead level of 34/34 µg/dl. He is employed as a truck driver but not at [redacted] Company. Daughter of Ms. [redacted] had venous lead level, 7 µg/dl. No treatment was recommended for either. Dr. Vaughan will treat Ms. [redacted] anemia and redetermine her lead level in 3-6 months.

[redacted], 26 years (employee of [redacted]) 1/3/92 venous blood drawn by Health Department staff, 44/44/ µg/dl. [redacted] was seen in MCV Medical Clinic 1/31/92. No treatment was recommended. The home of Mr. [redacted] was evaluated for lead and lead was found in all chipping and flaking painted wood surface of front, side and rear exterior, on window-sash of living room and den, kitchen door to exterior and second floor middle bedroom sash. Several attempts were made to have all household members tested for lead at the Petersburg Health Department without successs. The household includes 4 children under 6 years of age, 3 of which are enrolled in the WIC Program at the Petersburg Health Department. Those 3 children were found to have EP's within normal range at WIC Clinic 1/29/92. The 6 year old was not tested.

[redacted], 31 years (employee at [redacted]) 1/3/92 venous blood drawn by Health Department staff, 24/24/ µg/dl. No follow up recommended.

[redacted], 50 years (employee at [redacted]) 1/3/92 venous blood drawn by Health Department staff, 16 µg/dl. No follow up recommended.

[redacted] (employee at [redacted]) [redacted] initially refused testing; on second visit by Health Department staff [redacted] requested testing. Public Health Nurse was unable to obtain blood and appointment was made at Health Department lab. [redacted] did not keep that appointment and did not respond to letter.

In cooperation with the
State Department of Health

HENRICO COUNTY HEALTH DEPARTMENT
PARHAM AT HUNGARY SPRING ROAD
P. O. BOX 27032
RICHMOND, VIRGINIA 23273

February 19, 1986

2/20/86
Copies to
(1) TSE
(2) Dr Armstrong

Dr. Rose Goldman
Department of Medicine
Cambridge Hospital
1493 Cambridge Street
Cambridge, Massachusetts 02129

Dear Dr. Goldman:

Dr. Robert B. Stroube indicated to me that you are interested in a case of lead poisoning in a child whose father works in a radiator repair shop in Richmond, Virginia.

[redacted] an asymptomatic 2 year old child, was referred to Henrico Health Department on May 6, 1985 for routine evaluation and well child care. Rountine screening revealed an erythrocyte protoporphyrin (EP) of 115 with a blood lead level of 50 µg/dl. Repeat testing done on May 21, 1985 revealed an EP of 100 and a lead of 79.

All of the family members were tested on June 5, 1985 and the results are as follows:

		EP	Lead
Father	[redacted]	258	78
Mother	[redacted]	14	12
6 year old sib.	[redacted]	18	27
2 year old sib.	[redacted]	93	64
8 month old sib.	[redacted]	32	48

A sanitarian from the Henrico County Health Department visited the 25 year old one story, masonary house with 3 bedrooms, central heat and public utilities on June 11, 1985. Samples were taken from soil, various locations in each room and the father's van used for transportation to and from work. Significant lead levels were found in the bathroom closet (183) where dirty linen was kept, kitchen floor (284) beside the washing machine where dirty clothes were placed before laundering, as well as the floor board (7,580) and driver's seat (1,295) of the van. Dust from the father's shoes had a lead determination of 11,030. Paint samples from the house and drinking water were negative.

History revealed that the father did not change clothes or shower at his work site. He drove home in the van, hugged and played with the two youngest girls on arrival before changing clothes or showering.

It is of interest to note that the father had symptoms of constipation and bouts of abdominal pain which were attributed to lead poisoning. He has been under the care of Dr. Cecelia Rose at the Medical College of Virginia who immediately removed him from the work site and began chelation therapy. The two year old child was referred to Dr. Lorne Garretson at the Medical College of Virginia who directed chelation therapy.

Recent followup EP and Lead levels on the 2 year old revealed an EP of 39 and a Lead of 26: the 8 month old child had an EP level of 41 and Lead level of 20.

Representatives of OSHA investigated the work site and made numerous recommendations to correct significant deficiencies.

Mrs. Shirley Seal, Public Health Nurse, and Mr. Lewis Walker, Sanitarian have coordinated the care of the family with MCV officials and environmental problems with OSHA personnel.

I appreciate the opportunity to share this case with you.

Very truly yours,

Forrest W. Pitts, M.D.
District Health Director

cc: Dr. Robert Stroube
Ms. Shirley Seal, R.N.
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