

September 26, 1955

MEDICAL RECORD - [REDACTED]

White, Italian descent, age 55 years

Home Address: 50 Linwood Avenue, Williamstown, New Jersey
Telephone Number: NA 9-6135

Employed by E. I. duPont de Nemours and Company, Chambers Works,
Deepwater, New Jersey

Trade - Millwright

INDUSTRIAL HISTORY

Employed by duPont since July 1940, spending 15 years at the Chambers Works. Initial employment July 17, 1940. Work had to do with maintenance activities in the TEL Area (breaking in lines, repairing, replacing lines and equipment; employed in manufacturing and transporting tetraethyl lead). Wears shirt, trousers, work shoes, treated leather gloves, cap, undershorts and shirt. A mask of the hose line, blower type is used whenever tetraethyl lead Fluid or vapors are encountered in repair or replacement work. Need for the mask might arise once or twice a week, and the duration of such exposure continue from one-half to four hours a day.

At times, usually about every six months or so, when the tetraethyl lead plant was shut down, it was necessary to wear the mask eight hours daily for three or four consecutive days. Gloves were changed when the odor of tetraethyl lead became noticeable. Clothes were usually changed two or three times a week, but in case of unusual contamination, they were changed following the cleanup work.

After about 18 months in the TEL Area, subject was transferred out of the area following medical checkup by Dr. Savage. This

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change occurred about the latter part of 1941 or early 1942, when he complained of bad dreams, nightmares in which snakes and fires played a large part, fatigue, loss of appetite, nervousness and apprehension. He continued to work without loss of time for the ensuing two or three months, carrying on general maintenance and construction work outside of the TEL Area. At the end of this time he returned to the TEL Area, and stayed there until May 1942. He was then transferred out of the area again with the same complaints as noted above, and carried on general maintenance work in the plant. During the latter part of 1942 and early in 1943, he engaged on work necessary for changing the original, obsolete TEL building to a synthetic rubber manufacturing plant. Sixteen TEL stills were torn down, all of the parts and equipment were decontaminated, and then reassembled. Sludge deposits and TEL vapors were noticed at this time. This project required about two months or longer, and on completion, 25 or 30 workmen were placed on an observation list because of undue lead absorption.

Subject was transferred out of the lead area in 1943 and carried on general maintenance work throughout the plant. He spent about 18 to 24 months in the East Area, known as the Blue Product (Atomic Energy) project. Early in 1945 he was taken out of this area because he suffered from recurring, severe headaches of pounding type, and frequent sore throats. He then returned to general maintenance work in the Dye Works Plant, and engaged in some minor construction during the years of 1945 through 1950. He was then transferred to the TEL experimental building in September of 1950 and had been in this area for some

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months when he began to experience bad dreams, nervousness and insomnia. Medical checkup at the time apparently showed no evidence of undue absorption of TEL, and he thought that it was implied by the physician, that he may have been faking his symptoms. He was kept at work in the area. Tetraethyl lead odors were strong throughout the building as a consequence of carelessness in caring for the equipment and lines. There was apparently little supervisory control at this time, and the hose connected to the blower type mask was contaminated frequently. Masks were worn at various times for periods of 2 to 3 hours daily. On May 22, 1951, subject was badly contaminated with water containing TEL Fluid and sludge. This contamination occurred when a Lewis pump was disconnected, removed and disassembled. This work required about three hours. It was found that approximately one gallon of TEL Fluid had been trapped in the pump, and it spilled over the floor. The floor was decontaminated with potassium permanganate solution, and a clean Lewis pump was installed. The following night the pump jammed again, and it was necessary to remove, clean and reinstall it. A smaller spill of TEL Fluid occurred at this time. This job required about 3 hours for its completion. Later it was then necessary to attempt to clear the plugged lines leading from a reactor kettle (100 gallons). The reactor kettle extended through the floor of the building for a distance of about three feet below the ceiling of the floor below. When the six-inch line leading from the reactor kettle became plugged, it was necessary to climb onto a platform situated below the reactor pipes to remove the plug cock

and stool piece so that the sludge pack could be discharged from the kettle. This pack then fell into a large pan placed on the platform. In this instance the pan was too small, and the fluid sludge spilled over the platform. Work on the kettle and lines was suspended and an assistant was told to clean up the spill and decontaminate the platform. Apparently he did not use permanganate solution, but simply hosed the platform as well as the adjacent walls and pipelines. Subject then resumed work using a hose mask and thus being unaware of the fact that the platform had not been properly cleaned. He worked on this job from 8:00 until 11:20 p.m. When he came off shift and removed his mask, he noticed that his clothes, gloves and shoes had a strong odor of TEL. He reported this observation at the change house, and said that he would require fresh clothes, shoes and gloves for the following day. He returned the next afternoon and was sent to the hospital for a medical check, at which time blood and urine samples were taken. He then returned to his work, and removed a Lewis pump on this shift. He worked the following night, and on the third night after the platform spill he was taken out of the area. He states that within 18 hours after working on the platform he began to feel bad, complaining of nausea, headache, bad dreams, extreme fatigue and nervousness. Upon being removed from the area he was told to stay in the night office and he did so for three successive nights doing very little work of any type. He then went on the day shift the following Monday. He was then told that it would be advisable

for him to go to the hospital for observation. He entered the Delaware Hospital at Wilmington on Thursday, May 29, 1951, and remained in the hospital for four days. He then returned to his home and was advised to report to duPont Medical for daily checkup. These checkups continued through June, July, August, September and October. He remained in the general plant area doing minor odd jobs, and continued to report to the medical office two or three times weekly through November and December. During December he decided to work hard and attempt "to sweat it out," and did so without medical advice. He now began to have trouble with his back and complained of aching pains in his body, arms, shoulders, and legs.

In January 1955, he was confined to the Delaware Hospital for four weeks for treatment with Versene. (Versene was given twice daily in intravenously administered doses for a period of five days, and then given once the following day, after which the injections were discontinued.) Subject was confined to the Delaware Hospital for four weeks for followup observation studies. He then returned to the plant in February 1955, but he continued to complain of severe pain in the shoulders, particularly in the right shoulder joint. He was given light work out of the TEL Area, but continued to complain of aches and pains in his arms and legs. He was nervous and did not sleep well. He continued to work until April 20, when because of severe pain in the right shoulder, he decided to seek outside medical advice and consulted Dr. Theodore Livingston (D.O. - M.D.), 124 Northeast Avenue, Vineland, New Jersey. Dr. Livingston made arrangements for him to enter

Lankenau Hospital, Philadelphia, on the service of Dr. Edward Bortz, Chief of Medical Service B. He remained in the hospital for a period of six weeks for complete diagnostic study. He was seen by Dr. George Piersol of Philadelphia in consultation. He was given an intravenous dose of Calcium Disodium Versenate. (Blood levels before administration of Versenate, 0.057 mg. per 100 g. blood; excretion levels for lead in urine not known to patient.) A diagnosis of chronic subdeltoid bursitis with calcification was made, and treatment consisted of hydrocortone injections, heat therapy, whirlpool baths and passive motion exercises of the shoulder girdle, together with other physiotherapeutic measures. It was the opinion of Dr. Piersol that there could be a residual peripheral neuritis secondary to previous lead poisoning. Following discharge from the Lankenau Hospital, subject was advised to return to his personal physician, Dr. Livingston, who would carry out further medical care.

REVIEW OF PREVIOUS OCCUPATIONS

Soldier in World War I, 1917-1919; wounded in action in France 1918, recovered and continued in active service. Following separation in 1919, worked for about six months as mechanic in a shipyard, then as a mechanic in the machine shop of Congolium Company for about 18 months. 1920 to 1923: did some work constructing scale models for architects' use and from 1923 to 1928 worked regularly in an architect's office constructing scale models from plaster-of-Paris for architectural

exhibits. 1928 to 1933: employed in the building trades, manufacturing cast stone for buildings. Has had some minor exposure to the following lead hazards, although the dates and duration of exposure in each instance are not recalled: plumbing, odd jobs 1930 to 1933; did not use lead paste. Did some work in service garage, including changing storage batteries. Did considerable hunting, trap shooting and target practice prior to 1949. Employed as mechanic in service garage during the period from 1933 to 1940. General automotive repair work, some body work. In this latter connection used a filler paste, but was not sure whether it contained lead. Has owned an automobile for years. Uses all types of gasoline and does own repair work. The following dust, fume and vapor exposures have been encountered in some degree in doing maintenance work in duPont plants: zinc, copper, brass, mercury, benzol, gasoline, nitrobenzene, aniline, tar, chemical fumes of many types, although exact nature not known, carbon monoxide.

PAST MEDICAL HISTORY

Childhood Diseases: Mumps - no other childhood diseases recalled.

Other Diseases: Occasional attack of tonsillitis; no history of other illness; was gassed in service (phosgene), June 1918; hospitalized for 30 days as the result of shrapnel wounds and phosgene gas poisoning.

Operations: Pilonidal cyst, 1923; cauterization of hemorrhoids, 1934.

Review of Systems

State of health good. Best Weight 172 (1951-1952); Usual Weight 160; Present Weight 162. Weight declined to 151 in 1951.

Eyes: Vision normal; has worn glasses for reading since 1951.

Ears: Hearing normal.

Nose: Sense of smell normal.

Mouth: Noted soreness for a short time 1945-1946. Throat and pharynx normal except for an occasional attack of tonsillitis.

Cardiorespiratory: Essentially normal; occasional dyspnea on exertion; no angina.

Gastroenteric: Normal. Bowels regular, moving twice daily; no food idiosyncrasies or allergies. Has noted occasional colicky cramps for the past 3 or 4 years (1951-1955).

Genitourinary: Normal.

Neuropsychiatric: Some anxiety about state of health. Memory loss at times for recent events. Occasional headache, usually occipital. Dreams occasionally; has trouble sleeping; insomnia for past 3-4 years; wakens easily, usually sleeps 4 or 5 hours nightly. Does not take pills to induce sleep.

Skeletal: Complains of aches and pains in the muscles, and cramps in the legs upon exercise. Notes some weakness on exertion; no limitation of joint movements; pains most prominent in elbows, shoulders, knees and hips. May come on at any time during the day or night and seem to be increased upon exercise; has noted cramp-like spasms in fingers and hands when grasping

objects for any length of time.

Personal History

Married for 30 years; wife deceased September 1954. Her health had always been good and she died suddenly, presumably of a heart attack. Two children, one boy, 27, one girl, 29, both living and well. No miscarriages.

Place of Birth and Residence: Born in Italy (Moio); immigrated to United States when 11 years of age. Has lived most of his lifetime in New York and New Jersey.

Schools and Education: Completed fifth grade. Continued outside study when opportunity presented and studied for some time in trade and vocational schools.

Addictions: Drinks one or two cups of coffee daily; no tea or alcohol; drugs or unprescribed medicines; no tobacco.

Social Interests: Reads considerably, usually magazines and newspapers. Interested in sports; likes to tinker on mechanical equipment and work with mechanical parts. Goes to the movies about twice a month; listens to the radio; seldom watches television; has an annual vacation of three weeks; likes to travel by automobile.

Family History

No history of "nervous breakdown," familial or hereditary disease. Father deceased 1941, age 69, cardiorespiratory disorder; mother, living, fairly well, age 87. Has been troubled with gall bladder pains; has diabetes. Siblings six; one brother, age 53, living and well, three sisters living and well; one sister, age 30, died from pleurisy and complications following miscarriage.

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PRESENT COMPLAINTS

Present and recently past complaints and symptoms relate chiefly to industrial incident in 1951, when exposure occurred to tetraethyl lead. The following complaints and symptoms have been present intermittently up to the present time: dreams, with nightmares. The frightful nature of the dreams has diminished recently. Frequent dull headache, more or less constant muscle aches and pains; some loss of appetite, less now than formerly; continuing weakness and insomnia, feeling of depression, memory loss at times, frequent emotional upsets.

Date: September 27, 1955

PHYSICAL EXAMINATIONGeneral Appearance

Short, well developed, well nourished, does not appear to be ill. Height 64.5 inches, Weight 160 pounds (stripped), Temperature 98.6°, Respirations 20, Pulse 80, Blood Pressure (Reclining, right arm) 120/80, left arm 118/80.

Skin: No unusual pallor or pigmentation; no eruption.

Lymph Nodes: Superficial groups not palpable.

Head: Hair black and sparse. Eyes - pupils moderate size, equal, round and regular, react normally to light and on accommodation. No exophthalmos, no muscle disorder; vision not tested. Wears glasses for reading. Ophthalmoscopic - fundi, discs and vessels well seen; no exudate or scar; slight increase in light reflex of arterioles; no venous nicking. Ears - hearing normal; drums appear normal. Nose - mucous membrane normal, some serous

secretion. Mouth - oral hygiene good, teeth in good repair, gums appear to be healthy with only slight recession about right lower molar; numerous fillings; no lead line. Throat - pharynx negative, tonsils small, retracted, no exudate, no postnasal discharge. Neck - thyroid gland not palpable; trachea in midline, no unusual vascular change.

Chest: Average with tendency toward barrel shape. Lungs - clear on percussion and auscultation.

Heart: RSD 5.5, RCD 4 x 9; sounds clear, regular, no murmurs.

Abdomen: Moderate panniculus, no masses, no tenderness, no hernia, no organs palpable.

Genitalia - Normal.

Annus and rectum normal; prostate gland slightly enlarged, soft, symmetrical, some tenderness on palpation.

Extremities: Normal form and function. Slight tenderness on deep palpation of muscles.

Spine: No limitation of motion, no tenderness at this time.

Neurological Examination: Cranial nerves normal; sensory function normal on cursory tests (tactile, pain, temperature, vibratory).

Reflexes: Some exaggeration of abdominal and cremasteric reflexes; no abnormal reflexes; biceps, triceps, radial and patellar reflexes equal and active; motor function - muscle strength good, muscle tone normal, gait normal, no extensor weakness, position sense good, no astereognosis.

Mental Status: Friendly, intelligent, cooperates well, exhibits

good insight and judgment. May be somewhat neurotic and hypochondriacal. Seems somewhat rigid in attitude and resentful, particularly in relation to his medical supervision and care at duPont. Thinks that he is being pushed around a bit and is not given a fair break. Has slight memory defect. No other signs of disturbed consciousness.

Laboratory Examinations

Blood Chemistry - Blood Urea Nitrogen 13 mg. per 100 c.c.
Blood Glucose 105 mg. per 100 c.c.

Urinalysis - Color yellow, clear, specific gravity 1.015,
pH 5.0, albumin negative, blood negative,
sugar negative.
Microscopic - negative

Hematology - Hb 15.7 g.
Erythrocytes 5,200,000
Leucocytes 5,700

Hematocrit - 42

Differential

PMN Leucocytes	64%
Lymphocytes	25%
Monocytes	8%
Eosinophiles	2%

Serologic Test - Non-reactive

X-ray Chest - Lung fields clear, heart and hilar shadows within normal limits.

Electrocardiogram - Tracing within normal limits.

SUMMARY

No significant findings elicited on physical examination.

All clinical laboratory findings within range of normal.

X-ray Chest and electrocardiographic tracing within normal limits.

DISCUSSION

The essential features of the disability of Joseph Agresta are of hypochondriacal and psychogenic nature, and should not be directly related to an occurrence of tetraethyl lead poisoning, such as could well have followed exposures of the magnitude described in the foregoing Industrial History. The interval of time that has elapsed since such exposure and presumed subsequent illness, makes it unlikely that any present complaints could be related to that incident.

It is granted, however, that tetraethyl lead poisoning could and probably did exist following the exposure described in the Industrial History. This assumption is based on the symptoms and clinical findings at the time, and would be affirmed by the presence of analytical data compatible with the existence of tetraethyl lead poisoning.

In any event, the primary consideration now has to do with rehabilitation in respect to his job.

His primary motivation recently has been to demonstrate that he has suffered from tetraethyl lead intoxication, and that his present ailments are sequelae which should be recognized as such. In his striving for such recognition, he has come in sharp conflict with the physicians at duPont, and this disagreement has given rise to some unconscious aggravation or exaggeration of symptoms and impaired physical status.

This attitude may be readily resolved at this time by restoring him to his former job (assuming that the levels of lead in the excreta and blood are now within normal limits),

and thus affording him the recognition, security and other job advantages that have accrued to him after years of work. If such a plan should be followed, any residual ailments would be expected to respond readily to simple therapeutic procedures.

K. V. Kitzmiller, M.D.