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Spring 2004

## Mercury: The Deadly Little Monster

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**Creator**

El Rio Arriba Environmental Health Association, Alex Smith, Alfonso Trujillo, Daniel Valerio, Phil Schofield, and Ken Silver

# Mercury

*The Deadly Little Monster*

**Project on Worker Safety**

*"Prisoners of the Cold War"*

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*By Alex Smith,*

*Alfonso Trujillo, Daniel Valerio,  
Phil Schofield and Ken Silver*

# **MERCURY CONTAMINATION**



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**1948 Mercury  
Poisoning  
in K Stock Room**



# MERCURY HAZARDS IN STOCKROOM

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**K STOCK *MERCURY***  
**DISTILLATION**  
**APPARATUS**

# ***HISTORICAL MEMOS***

***APRIL 29, 1948***

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Prompted by Mr. Smith's testimony in March 2000, *EL RAEHA* located these historical memos describing the 1948 ***mercury poisoning*** episode.

***These memos were found on the Department of Energy's Opennet data base. [www.osti.gov/opennet/](http://www.osti.gov/opennet/)***

# Health Monitor Carl Buckland Remembers

(April 2001)

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*"...I will vouch for the validity of the correspondence..."*

*"Since a mercury vapor detector was available within the Health Group of Q-Building, I was asked to see if I could detect the presence of **mercury vapor**..."*

*"The key words expressed by Dr. Hardy are **'amount of Mercury in the air as a result of the operation that you do daily is probably in excess of the maximum allowable concentration.'**"*

*"important point was made by Dr. Hardy concerning **skin absorption of mercury**. An industrial hygienist needs to express his or her opinion from the current thinking of the matter."*

# LANL Health Monitor Remembers

Mr. Carl Buckland, a retired LANL Health Monitor, wrote some of the 1948 memos.

With his memory jogged by historical documents, here he provides Mr. Smith with personal recollections of the 1948 *mercury poisoning* incident.

5. specific  
You need to expand your <sup>5. specific</sup> suffering since your earliest exposure starting in 1947. Perhaps only you can do that.

W. Dall to Smith 3/30/2001  
Be sure to follow up with Rep. W. Dall's request for the documentation you have including this letter with my phone # etc. plus the O. B. Blease of Information form.

Best of luck to you Alex.

Sincerely  
Carl W. Buckland Jr.



A Blue Line on the gums  
is a classic medical sign of  
*Mercury Poisoning.*



Here, Alex Smith of Cochiti Lake, NM testifies in front of Senator Bingaman, Congressman Udall and Assistant Energy Secretary David Michaels on March 18, 2000 at Northern New Mexico Community College.

*He recalls Dr. Hardy diagnosing him and three co workers with mercury poisoning in 1948, based in part on the Blue line in their gums.*

# Chapter 6 is entitled *"A Year at Los Alamos"* (1948)



Dr. Hardy retired from M.I.T. and Harvard Medical School in the late 1970's. She died 1994 of CLL, a slow form of leukemia common in old age and *not known to be associated with radiation*. Her textbook, *Hamilton and Hardy's Industrial Toxicology*, is now in its fifth edition.

# Research Community

Alerted to the **Dangers of**

***Mercury***

In November 1949, Dr. Hardy alerted the physics research community to the dangers of mercury with this article in ***Physics Today***, published the year after she left Los Alamos.

*The article does does not mention the incident at K Stock Room.*

# Dr. Hardy's autobiography, published in 1983, tells the story of *mercury poisoning* in K stock room.

## Challenging Man-Made Disease

THE MEMOIRS OF  
HARRIET L. HARDY, M.D.

with the editorial assistance of  
Emily W. Rabe

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to old and new nonradioactive hazard material in use at Los Alamos. An example will make this clear. Very soon after I began active duty, a worker came to the nurse of H<sub>2</sub>, complaining of bleeding gums and a skin rash. In taking his job history I found that he and three other men were engaged in cleaning dirty mercury, an element widely used. Next I visited the job site, and even though I have no engineering skill, I knew from my Massachusetts Department of Occupational Hygiene experience that the mercury hazard was great in this dirty, shedlike building. The three other men who had worked there also showed various signs of mercury poisoning. To protect these men and others, I ordered the work stopped and the shed closed while it was being cleaned. Loud complaints from those using mercury reached Dr. Bradbury, the director. His reply was that I was the expert in this field, hired at great expense, and my orders were to be obeyed. There is a great lesson to be learned from Dr. Bradbury's behavior, which occurred at the beginning of my job, that had been visualized by Professor Drinker of Harvard and outlined by him in his report to the Atomic Energy Commission in Washington. The point I have made and will make again is that unless there is definite commitment of executive authority, government agency, industry, or academic institution, occupational medicine and hazard control cannot thrive. When I entered this field, Dr. Aub said to me, "Harriet, if you work for industry, make certain before you start that you report to the president and that he intends to back your proposals."

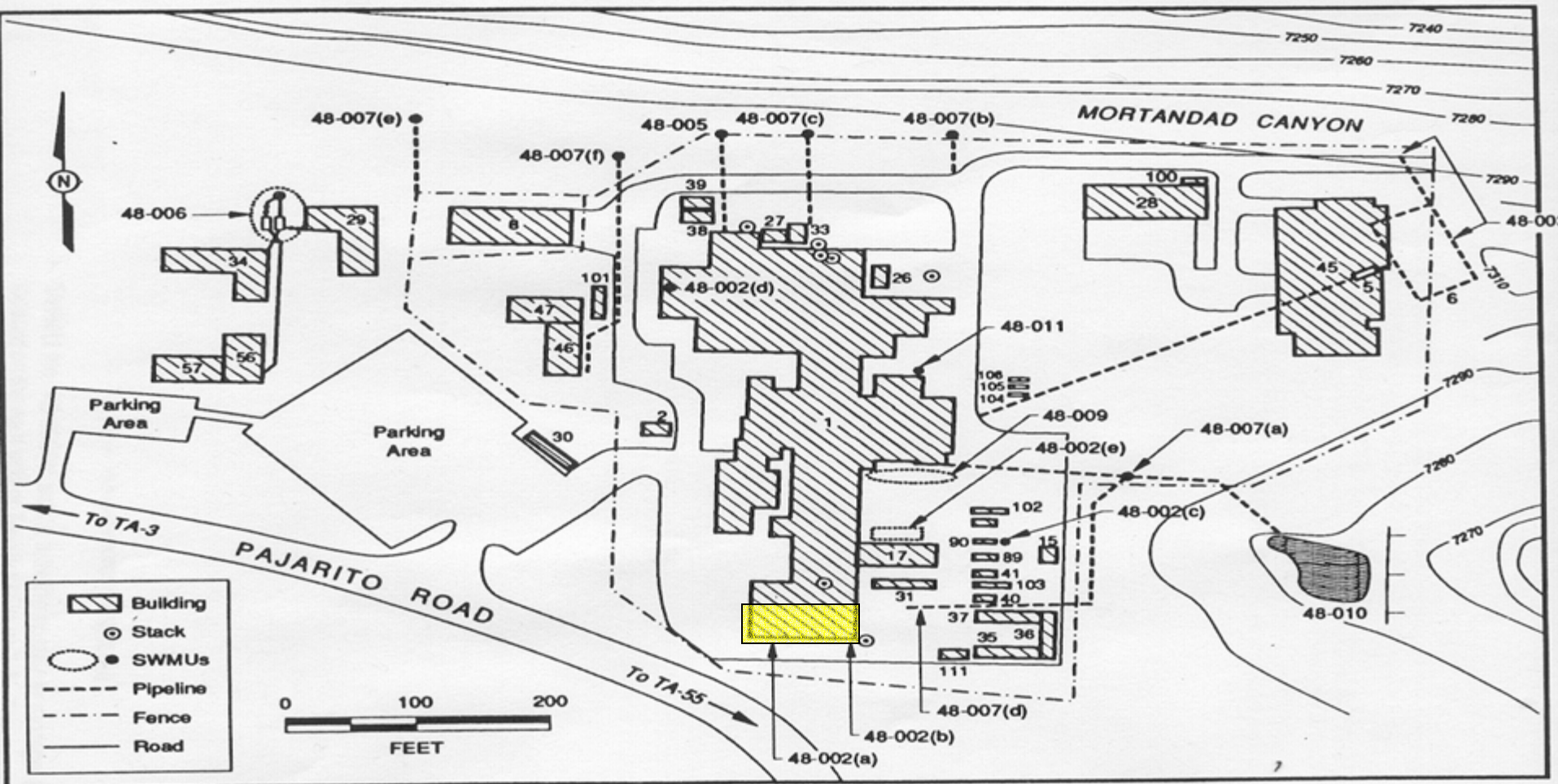
Dr. Bradbury's backing made my path at Los Alamos smooth. I visited all the laboratories, the hospital outside the guarded wire wall, the physicians caring for all staff, workers, and their families as well as our Santa Fe consultants. I came to depend on

11256  
A30  
1983



# Lessons Learned?

TA-48





**“200 Rusty Flasks in  
Decayed and Broken  
Wooden-Frame Holders”  
Were found at *Technical  
Area 48 (Radiochemistry)* in 1986**

---

Each flask contained **76 pounds** of *high-purity mercury*. A triple distillation process to remove radio-nuclides is believed to have been carried out at TA-50. These **15,000 pounds** of *mercury* were removed from TA-48 in about 1989.

*(RFI Work Plan for OU1129, May 1992)*

# *May 1992 3-96*

## *RFI Work Plan for OU 1129*

*Operable Unit Description*

*Chapter 3*

- SWMU No. 48-002(a) was a container storage area located on the south end of TA-48-1 (Figure 3-8). An initial field observation report (Perkins 1986, 04-0169) mentioned the presence of about 200 rusty flasks in decayed and broken wooden-frame holders. A follow-up memorandum (Garvey 1986, 04-0087) confirmed the presence of these flasks. Each flask was estimated to hold about 2 quarts (76 lb) of high-purity mercury, which is thought to have been recycled at TA-50-1 by a triple distillation process to remove radionuclides. The flasks were estimated to have been there from between 1976 to 1981 until approximately 1989, at which time the mercury was eventually removed (LANL 1990, 0145). The available documentation contains no indication of any spills or leaks associated with this storage area. The area is no longer used for storage (Roberson 1991, 04-0175).



# “Minamata Disease”

*Minamata, Japan*



A young woman deformed by **mercury** pollution

*W..Eugene Smith, 1971*

The deformed and contorted body of 16-year old Tomoke Uemura was the result of **mercury pollution** that also left her blind and mute.

More than nine tons of **mercury** was utilized in *weapons research* at *Los Alamos Scientific Laboratory* between 1947/1971 in K Building.

The **mercury** was subsequently reused by means of **distillation** of **Radionuclides** from the element. *Where did it end up?*



# *Mad as a Hatter*

“...the term ‘Mad Hatters’ derived from the early hat makers who used *Mercury nitrate* in the process of making hats.

*“They went insane”*

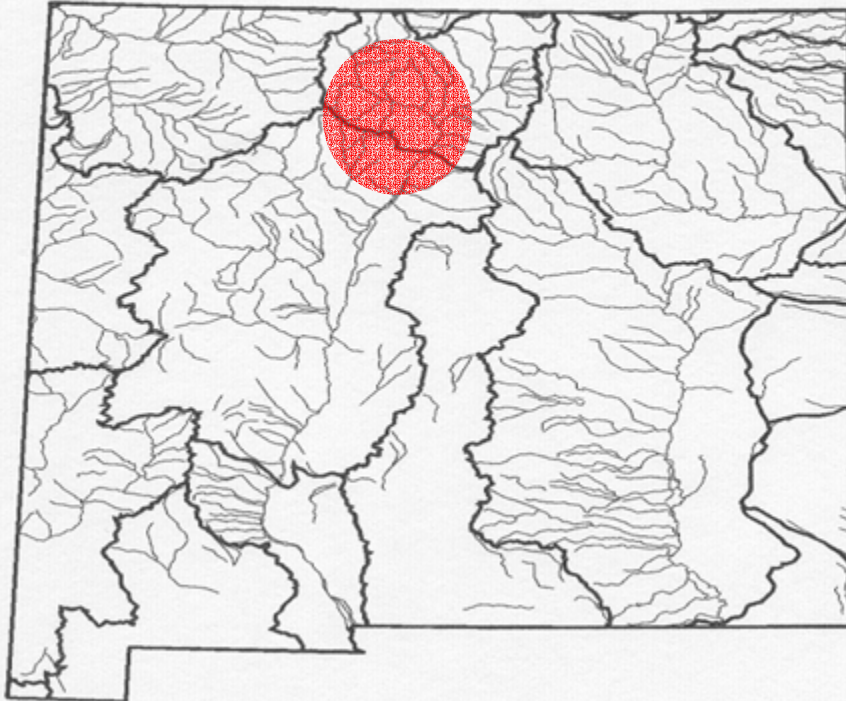
This photo was taken in Danbury, Connecticut, a center of the hat manufacturing industry. *Mercury poisoning* was called the “Danbury shakes” Connecticut outlawed this use of *mercury* in 1941. (Greenwald,1990)

*Note the effects on the central nervous system, gums and teeth and skin pallor- all recognized effects of mercury.*



# *Mercury* Contamination in New Mexico's Lakes

## New Mexico



— Basin Boundaries  
(USGS 6-Digit Hydrologic Unit)

of the degraded waters (54 stream miles).

Agriculture and recreational activities are the primary sources of nutrients, siltation, reduced shoreline vegetation, and bank destabilization that impairs aquatic life use in 89% of New Mexico's surveyed lake acres. Mercury contamination from unknown sources appears in fish caught at 22 reservoirs. However, water and sediment samples from surveyed lakes and reservoirs have not detected high concentrations of mercury. Fish may contain high concentrations of mercury in waters with minute quantities of mercury because the process of biomagnification concentrates mercury in fish tissue.

### Ground Water Quality

About 88% of the population of New Mexico depends on ground water for drinking water. The Envi-

# Congressman Tom Udall Gives His Support to DOE Workers Claims

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Congress of the United States  
House of Representatives  
Washington, DC 20515-3103

February 4, 2003

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FORESTS AND FOREST HEALTH  
SUBCOMMITTEE ON  
NATIONAL PARKS, RECREATION AND  
PUBLIC LANDS

Mr. Alex Smith  
6420 Vooscane Avenue  
Cochiti Lake, New Mexico 87083

Dear Mr. Smith:

I wanted to take this opportunity to update you on the progress we are making on your case. I am happy to be of assistance.

The enclosed letter was sent to the Department of Energy that details your concerns and provides them with the necessary documentation for your case. Mr. Robert Vasquez in my Santa Fe office will notify you as soon as the agency responds to our inquiry.

Alex, please let us know if you have any additional information or if there have been any changes in your case. Should you have any questions or concerns, please contact Robert at 505-984-8950.

Very truly yours,

Tom Udall  
Member of Congress

TU/RV  
Enclosure(s): 1

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***Funded by a grant from the***

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Assessment Fund (MTA)***

***to El Rio Arriba Environmental Health  
Association (EL RAEHA)***

***with Southwest Learning Center (SWLC)  
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