

Box 22811, University Station
San Juan, Puerto Rico 00931
May 1, 1987

Mr. Christopher Daggert
Administrator, Region II
U. S. Environmental Protection Agency
26 Federal Plaza
New York, NY 10278

Dear Mr. Daggert:

I was contacted on April 29, 1987 by Mark Rucker of the Corps of Engineers, who indicated that in the following week, the Corps will have people at Ramey base in order to start studies on hazardous wastes there. He mentioned my letter to you as being responsible for getting the Corps' attention and nothing about any request from the Environmental Quality Board here. Consequently, I am enclosing considerable material about the Cuidad Cristiana-Frontera Creek mess, which has been completely mishandled by the local government without E.P.A. realizing what is really serious there as contaminants. Action on your part may prevent a real tragedy there, although I suspect serious health problems may already be occurring.

The basic point as stated in my letter to the San Juan Star is that serious contamination in the area is due to high levels and unknown sources of lead and hexachloroethane, the analyses of which E.P.A. was chiefly responsible for according to the NUS report. I have enclosed copies of the several tables stating the results, which local officials, who were sent copies of a more detailed letter with the tables, apparently choose to ignore, although they have not said anything more about the mercury there. Having seen some of the lead data on Technicon earlier, I went to the E.P.A. office here on Sept. 18, 1986 and got directly from Mr. Gelabert the tables on analyses in 1979. I pointed out the very high levels to him, but a few days later at a Senate meeting on Cuidad Cristiana, he mentioned something about mercury in fish being a possible problem, and did not call attention to the lead and hexachloroethane.

I have to wonder what is going on and call upon you to make a statement and perhaps to get some quick action to find what the present status of contamination is for these two pollutants in the area. I also ask if you can alert the C.D.C. to check for possible health effects from them in residents of the area. In this way E.P.A. will be seen as being alert to the facts and concerned about the health of the people there, who may be affected by these two but not by mercury.

Sincerely,

James A. Singmaster, III, Ph.D.
Ph (809)767-9705 Work

Enclosures
cc/Gov. R. Hernández Colon
Dr. L. Isquierdo Mora
Eng. Santos Rohena
Sen. G. Rivera Ortiz
Eng. P. Gelabert

FRO 001 2475 F



EQB workers taking soil samples from Frontera Creek in March, 1985.

Getting the lead out

While the mercury contamination levels at Ciudad Cristiana so far have been too low to be of much concern, the recent EPA report indicates such serious past contamination by lead and hexachloroethane in the Frontera area that the action to get the residents out may have been justified.

According to the report, EPA had sediment samples from the creek analyzed in 1979, and found one sample with 290 ppm of hexachloroethane and several others in the 15-56 ppm range. No lindane, a similar compound found in other analyses at 0.04 ppm at most, was detected. Lead was also present at levels above those of mercury in some of these samples. In 1981 a sludge from several settling tanks at Technicon was analyzed to show 0.24% (2,400 ppm) of lead, a level 850 times greater than the level of mercury present.

No sources for lead or hexachloroethane are cited in the report, and unfortunately, no concern for further studies on these two developed, leaving their sources, amounts and fates in the area unknown. Some clues on the past contamination by these two in the area may be obtainable by analyses of the cows of the farmer who had a number of his herd die from something other than mercury or lindane, or from wild goats, if any live in the area. These two contaminants demand immediate action by all agencies involved to find if the chemicals have affected the health of area residents, who may require special treatments.

Lead compounds in general and hexachloroethane are listed by EPA as hazardous wastes, and certain aspects of their respective natures may be

causing serious health risks still. The upper level of the "normal" range for lead in humans has been pushed up over twofold during the past thirty years because of much direct lead exposure via vehicle exhausts, paint and solders in food containers. Some health people are claiming the recently accepted upper level is toxic, causing symptoms of mental impairment in humans. So an extra burden of lead in the Frontera area is cause for great concern, especially since little is known about bioconversion to organic lead compounds and bioconcentration of lead compounds.

Hexachloroethane, a low-use chemical with little known about its toxicity, is a very strange chemical to be there at such high levels. Being very fat soluble and therefore, bioconcentrated very readily, it may be found to have caused its first cases of serious chronic human poisoning in some residents of the Frontera area.

On Sept. 24, I sent Sen. G. Rivera-Ortiz, Health Secretary L. Izquierdo Mora and EQB director S. Robena a more detailed statement of the situation, but no action or shift in concern for these two contaminants has developed as yet. Concern over mercury and lindane is obviously misplaced and may be leading to improper corrective steps that cause increased risks to lead and hexachloroethane. The high levels and unknown sources of these two make them the major concerns in the Frontera area, requiring immediate action for protection of the environment and especially evaluation and treatment of any human health effects.

James A. Singmaster III, Ph. D.

Deterioro ambiental

Un grave riesgo de salud es posible para los que vivían en Ciudad Cristiana así como para quienes vivan o trabajen en el área de Frontera. ¿Por qué no se presta atención a contaminantes más serios en el lugar, como son los compuestos de plomo y hexacloretano?

Datos de muestras recogidas por la EPA en 1979 y 1981 de la quebrada Frontera forman parte

del informe presentado recientemente por la EPA en el que se indica que había niveles de plomo cien veces más altos que los niveles de mercurio y de hexacloretano mil veces más altos que los de lindano.

Medidas llevadas a la práctica para corregir problemas con el mercurio posiblemente aumentaron los riesgos de plomo y hexacloretano. Si se desconoce el origen de estos dos contaminantes, hay posibilidades de que la contaminación continúe tanto en el área de Frontera como en otros sitios de Puerto Rico también.

Esta situación exige que la ciudadanía llame la atención de las autoridades para que entren en acción antes de que las consecuencias sean más graves con respecto a la degradación del ambiente y especialmente con respecto a la salud de centenares de seres humanos.

James A. Singmaster, Ph.D.
San Juan

More than mercury

The Feb. 3 STAR report on no danger from mercury at Ciudad Cristiana avoids mention again of the EPA data from 1980-81 that indicated possibly dangerous levels there of two hazardous wastes, lead and hexachloroethane.

Lead levels were higher than mercury's at most sites including locations upstream from industrial park in 1979 EPA samples, and water in Technicon settling tanks left sediment with 2,300 ppm of lead in 1981 data reported by EPA.

Hexachloroethane was found to be at 290 ppm in the sediment below the bridge over Frontera Creek next to Cristiana.

Consequently, serious hazardous waste problems at Cristiana existed then for hexachloroethane, probably at much lower levels now due to volatilization, and still exist now for lead throughout the Frontera Creek area.

The question arises as to why EPA and local environmental officials did and still do not recognize the possibly hazardous levels of these two pollutants to take action on them, but did take action on mercury to make a mess for themselves.

Investigation appears needed on the problem of lead risks at least to persons living and working throughout the Frontera area and on the government's lack of a proper program with several well-trained scientists in environmental analysis and health.

This lack may have resulted in Frontera residents actually having long term chronic toxicity from lead and possibly hexachloroethane and may in the future result in other more dramatic health problems including deaths from chemical wastes, spills and misuses.

James A. Stigmaster III
San Juan

EDITOR'S NOTE: The story said federal investigation is continuing to check for other contaminants, and a health assessment of former Ciudad Cristiana residents is under consideration.

Why is the lindane and mercury still being noted by EPA instead of lead and hexachloroethane

Cleanup of 9 toxic waste sites here due in 1990s

By HARRY TURNER
Scripps Howard News Service

WASHINGTON — The federal drive to clean up the nine worst toxic waste sites in Puerto Rico is moving slowly ahead, although it will still take several more

years and perhaps \$100 million to complete.

Experts are studying each site to determine the best way to eliminate its hazardous wastes. Once this is decided, the cleanup itself can begin. In a couple of cases it already has.

But the procedure, which includes lengthy negotiations between the Environmental Protection Agency and private companies over who will do the studies and then pay for the cleanup, is complicated and time-consuming.

Steve Lustig, head of the Superfund program at EPA's regional headquarters in New York, said the overall effort in Puerto Rico is on schedule but won't be finished until sometime in the 1990s.

EPA says the Puerto Rico toxic waste dumps present no health hazard, although there has been public concern over the threat from at least two of them.

Lustig, in a telephone interview, noted that it costs as much as \$15 million to clean up a hazardous waste site.

EPA gave these details about the nine sites:

Frontera Creek

The Humacao site is probably the most publicized of the nine, largely because it was the source of fears that caused the Ciudad Cristiana scare. The creek was contaminated by mercury and a pesticide called lindane disposed of by a Revlon Corp. factory and several smaller firms.

The companies, with EPA oversight, are expected to finish the study in little over a year, when the cleanup can begin.

Juncos landfill

This municipal dump contains hundreds of thousands of mercury-filled thermometers, determined to be defective when produced and then disposed of by the Becton-Dickinson Corp. A study is expected to be completed in six months.

Barceloneta landfill

Several industries threw hazardous trash in karst sinkholes that abound in the area. The waste was absorbed into the water table. The study will take another two years to finish.

Upjohn site

This site at the Upjohn pharmaceutical plant in Barceloneta was caused by a carbon tetrachloride leak that contaminated ground water.

Some area wells were taken out of service. Alternate sources of water are being sought. Meanwhile, experts are trying to pump the contaminants out of the water.

RCA Del Caribe plant

The third hazardous site in Barceloneta was caused when the firm disposed of defective TV picture-tubes containing ferrous chloride into man-made lagoons on its 20-acre property. The lagoons collapsed, allowing the ferrous chloride to pass into the water table. At least two more years of studies and sampling are needed.

Vega Alta

This hazard was caused by several companies, including Motorola and General Electric, dumping volatile organic chemicals on their property, with the chemicals ultimately contaminating several wells. Experts are pumping out the water supply in order to take out the contaminants. The treated water will be released into streams, while other potable water will be piped in for the populace.

GE wiring devices plant

The Juana Díaz factory dumped defective mercury light-switches onto a half-acre site, with the mercury gradually seeping into the soil. Feasibility studies will be finished in a few months on the best way to deal with the soil contamination. One proposed method would be to encase the half-acre in concrete.

Guayama

Solvents released by Phillips Petroleum, Chevron and American Home Products contaminated the ground water. A study on the best way to eliminate the hazard is due in eight or nine months.

Sabana Seca

This site, proposed for the national priorities list, is part of the U. S. Navy's communications base and was contaminated by pesticides used to control vegetation. The method to deal with the pesticides has not yet been chosen.

**POR LOS PROXIMOS 10 DIAS...
¡¡ESPECTACULAR VENTA
DE ALMACEN!
CIENTOS DE ARTICULOS
AL COSTO O A 1/2 DE PRECIO**



Cientos de muebles discontinuados o con leves desperfectos al costo o con enormes descuentos. Precio reg. desde \$50. hasta \$1500. Hasta marzo 20, 1989.
• Unidades de pared. • Juegos de Habitación • Mesas • Sillas. Etc., etc.

ZICZAC

PRIME TIME STORES • 10 AM - 5 PM
PRIME TIME STORES • 10 AM - 5:30 PM

679 001 2479

Shhh. Let's try to keep this secret!

Officials agree mercury at Cristiana posed no threat

By DEBORAH RAMIREZ
Of The STAR Staff

After completing part of a yearlong study on Ciudad Cristiana, the federal and Commonwealth governments agreed Thursday that mercury contamination was not found at the evacuated Humacao urbanization.

The Commonwealth Environmental Quality Board and Health Department signed a statement supporting the results of the "Remedial Investigation and Feasibility Study," initiated by the federal Environmental Protection Agency in January 1988.

The joint statement is significant because it marks a change in the Commonwealth position that mercury contamination did threaten the health of former Ciudad Cristiana residents. Gov. Hernández Colón, based on the recommendation of then-Health Secretary Luis Izquierdo Mora and EQB director Santos Robena, ordered the evacuation of about 350 Ciudad Cristiana families in March of 1985.

Calls to Robena's office Thursday were not returned, nor could officials at the Health Department be reached for comment.

The study found the levels of mercury in soil and groundwater samples within a normal "background" estimate range. Mercury is an element that is found naturally in the environment.

The maximum mercury concentration found in surface soil samples was .8 parts per million and .9 parts per million in subsurface soil. The average concentration in all soil samples was .3 parts per million. This is lower than the average mercury concentration for the eastern United States, which is .12 parts per million.

Groundwater samples at Ciudad Cristiana also showed a lower average than the federal standards for drinking water, which allow a maximum contaminant level for mercury of 2 parts per billion. At Ciudad Cristiana, the maximum amount of mercury found in groundwater was .5 parts per billion.

The study consisted of 535 surface and subsurface soil samples and 35 groundwater samples that were independently tested by EPA and EQB.

Revlon Inc. signed a consent order to do the remedial investigation at Ciudad Cristiana under EPA's supervision.

The study will continue to check for other contaminants at Ciudad Cristiana, EPA officials said. The agency also is evaluating a Revlon proposal for a pilot health assessment of former Ciudad Cristiana residents.

Revlon formerly owned Technicon Electronics Corp., which discharged mercury into the Frontera Creek in Humacao until 1978. EPA confirmed the presence of mercury, lindane and other contaminants in the creek in 1981 and identified the companies it thought were responsible. Frontera Creek has since been declared a federal Superfund site.

In 1978, Ciudad Cristiana was built along the creek and about a year later residents began complaining of health problems.

In February 1985, the Health Department found high levels of mercury in blood and urine samples and EQB also found evidence of mercury contamination in soil samples. A month later, Hernández Colón ordered the residents out.

That same year, EPA and the federal Agency for Toxic Substances and Disease Registry analyzed the Ciudad Cristiana samples and could not find significant levels of mercury contamination. The agency issued a preliminary conclusion at the time that residents were not in danger of mercury contamination in groundwater or soil.

Since then, the Commonwealth has been ordered by U.S. District Court to pay \$12.5 million in damages to the Ciudad Cristiana developers. In December, the Commonwealth lost its appeal to the First Circuit Appeals Court in Boston. The federal government also holds the Hernández Colón administration responsible for the Ciudad Cristiana mortgage which had been subsidized by the Fannie Mae Home Administration.

Frontera Creek probe to include Ciudad Cristiana

By CARLOS GALARZA
Of The STAR Staff

A long-term investigation of mercury-contaminated Frontera Creek in Humacao by the Environmental Protection Agency will be extended to include the nearby Ciudad Cristiana community, EPA Regional Administrator Christopher J. Daggett told a Senate committee Friday.

But Daggett insisted that all federal studies so far indicate that no immediate and significant health dangers involving mercury contamination exist at the housing development.

The EPA official turned over to the committee a work plan for the long-term investigation which includes additional sampling of soil and ground water at Ciudad Cristiana. He said the first phase of the study would begin in a month or two with the collaboration of Commonwealth agencies.

"Despite the conclusion that an immediate threat did not exist within Ciudad Cristiana itself, we still felt it necessary to proceed with the long-term EPA study of the whole Frontera Creek site because of the known mercury contamination in the creek and its environs," Daggett said.

"We decided to expand this investigation to include additional sampling in the Ciudad Cristiana community to determine if any contamination in the deeper soils exists and if so, what long term exposure problem, if any, this could pose for the residents," he added.

However, Daggett said that federal authorities were not questioning the decisions reached by the Commonwealth government to remove residents from Ciudad Cristiana in February 1985. Four months after the government evacuated more than 300 residents, several federal agencies concluded that "mercury does



STAR photo by Eddie Croope
Environmental Protection Agency Regional Administrator Christopher J. Daggett confers with translator Evelyn Hansen Friday during his testimony before a Senate committee investigating the Ciudad Cristiana controversy.

health threat to residents of Ciudad Cristiana."

The investigation EPA plans to launch at Frontera Creek and surrounding areas is part of the Comprehensive Environmental Response, Compensation and Liability Act, also known as "Superfund." This law requires EPA to identify, investigate and respond to actual or potential hazardous substances in the environment.

fund sites identified in Puerto Rico; there are 888 sites on the national list. The decision to place Frontera Creek on the list was made in 1983 after several years of consideration, Daggett said.

According to Daggett, EPA formally identified Frontera Creek as being highly contaminated in 1979. Two years before, 30 cows had been discovered dead in the area, arousing suspicions of

Asked by committee chairman Gilberto Rivera Ortiz whether EPA could guarantee that no contamination from the creek had moved into the surrounding areas, including Ciudad Cristiana, the EPA official said he could not.

Daggett managed to side-step several efforts by Sen. Victoria "Melo" Muñoz Mendoza to find out exactly what levels of mercury concentration represented an emergency situation for EPA.

When asked by Muñoz if EPA had ever recommended the evacuation of a community in the U.S. because of mercury contamination, Daggett said it had never been done.

Later Daggett told reporters that EPA has a policy of always attempting to clean up toxic-waste dumps and of removing the source of health hazards rather than order evacuations.

"Once you evacuate a community it's very difficult to convince people to move back in. . . . It's best to attempt to clean up the problem, otherwise you'll end up with a wasteland," said Daggett.

Daggett said that negotiations are under way with Revlon, the former owner of Technicon Electronics Corp., one of several industries which discharged wastes into the Frontera Creek, to take the planned investigation.

The EPA official said that the Superfund law requires that industries involved in pollution disputes be allowed to participate in any investigation undertaken.

He said that if Revlon is finally selected to do the tests at Frontera Creek and Ciudad Cristiana, the company would be overseen by EPA and Commonwealth officials.

"Revlon would compile the data under our supervision, but any decision made on the results would be made by me," said Daggett, while fending off charges that Revlon's participation would constitute a

H

By R
Of The

A
peak;
disea
Heal
The
outbr
gue

Th
carri
the f
and

Th
telev
will
and
insec
recei
the j
Augu
hatcl

"A
of m
quid
Izqui
can
"all
ticip
to b
sion

De
pers
the
cann
Co
the t

C

By R
Of The

M
del

Ut
na
ke

Uni
Rico
tonio
been
fession
accor
direct
Instit
ans. H
menta
Centra
to hol
sidere
est ca

Alfa



SCRIPPS HOWARD

Star

August 21, 1985.

V.I. 55° * METRO 25

Ciudad Cristiana mercury levels said not perilous

By BEATRIZ RUIZ de la MATA
Of The STAR Staff

Federal officials have found that mercury levels at Humacao's Ciudad Cristiana "posed no health threat" to the former residents of the now deserted community, a finding that means evacuation of the housing development may have needlessly cost the Commonwealth more than \$20 million, the STAR has learned.

The findings by the Center for Disease Control in Atlanta, Ga., however, are being withheld by the federal Environmental Protection Agency (EPA) to allow the Hernández Colón administration to release the information in a manner whereby it can avoid being politically embarrassed.

"We are going to give it (the report) to the governor and let him make the announcement," confirmed EPA Deputy Regional Administrator Jim Marshall in a long distance telephone interview. "If the governor does not release it, then we'll decide what to do," he added.

Marshall said the EPA was putting "the final touches" on the cover letter that will accompany the CDC report and would send copies today to the Puerto Rican officials.

The unusual agreement that Hernández Colón, and not the EPA, would release the CDC findings, reportedly was reached in May following a flap over EPA officials'

statements that no mercury had been found at the controversial housing project.

Top Commonwealth government officials categorically rejected the preliminary findings and in their first open clash with EPA, Health Secretary Luis Izquierdo Mora, Housing Secretary Jaime Torres Gaztambide and Environmental Quality Board Chairman Santos Rohena charged the EPA was "irresponsible" in trying to "cover up" the contamination.

The charge was denied by EPA officials, who had already given all the data they had gathered in an emergency survey to the CDC for them to determine "whether or not the values reported constitute any significant health effect."

According to reliable sources, the CDC experts found there was "no threat to the health" of Ciudad Cristiana residents. "As far as we know they said both the EPA tests were all right."

Meanwhile, Marshall responded with a flat "no comment" to questions about reports that the CDC 15-page evaluation had to be edited to delete harsh remarks about the Health Department's performance.

As recently as last Sunday, Izquierdo Mora said he was "sure" mercury levels at Ciudad Cristiana are above normal.

According to Izquierdo Mora, the Health Department would have ready

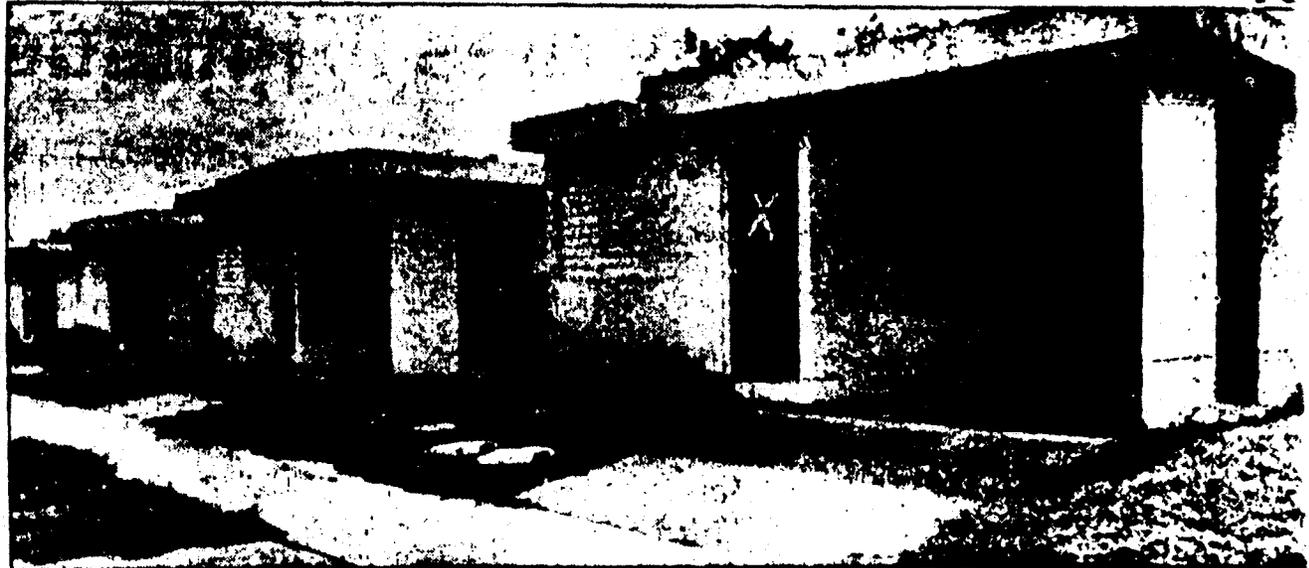
See MERCURY, Page 14

¡¡ AUXILIO !!

Pe X gro
Mercurio



7 FRO 001 2483



Unsold model homes in the Humacao urbanization are marked with an "X."

Mercury panic unfounded?

By MANNY SUAREZ
Of The STAR Staff

The Department of Housing stepped up the evacuation of families from Humacao's Ciudad Cristiana Tuesday as evidence started to mount that the fears of mercury pollution in the urbanization may have been exaggerated.

According to Cristina Brown, the Housing Department's coordinator at the scene, 20 families have been moved to basic housing units that had been constructed by the department. Four of the families moved into units in Humacao and the remainder in the neighboring towns of Yabucoa and San Lorenzo, six found rental units to be subsidized under Section 8 of the federal Housing Act and one moved out without government assistance programs.

She said 179 other families had received authorization for subsidies under Section 8 and were in the process of looking for rental housing units.

"The latter group can look for housing anywhere, Caguas, Bayamón or wherever. They are not limited to Humacao although the majority would prefer to continue living here," she said.

Farmers Home Administration State Director Julia Rivera de Vincenti said her office has moved out three families that have shown evidence of mercury poisoning and will continue to move out others although the level of

"We were dealing today with eight others who found housing and had brought in certificates that they had been contaminated," she said.

Mrs. Vincenti said Farmers Home had guaranteed 187 mortgages in the urbanization but had not been involved in the construction of the project itself. "Some people have been berating us as though we were responsible.

"We are still not certain what will happen because it is still uncertain whether the mercury contamination is of a serious level or not," she added. "We have retained the Geological Laboratory of the Mayaguez Campus of the University of Puerto Rico to determine the water, land and air values in the area."

The doubts stem from the fact that the overwhelming majority of persons tested had minimal levels of mercury showing up in urine samples. Only two had what is referred to as "levels of danger" with 240 and 260 micrograms of mercury per liter.

Federal environmental agencies consider 300 micrograms in a 24-hour period acceptable because the body begins to excrete it almost immediately after exposure.

In an interview, Secretary of Health Luis Inquiloro Mora acknowledged the mercury levels were not excessively high "but they should not have been there at all.

"Levels like that in an industrial area..."

STAR photos by José García

Ciudad Cristiana also tells it all