

MEMORANDUM

July 25, 1980

TO: Dr. S. G. Austin
Mr. N. E. Bolton
Mr. J. B. Browning
Mr. M. G. Dial Jr.
Mr. Damon Engle
Mr. A. S. Hart
Mr. R. J. Hughes
Mr. M. C. Lewis
Dr. T. A. Lincoln
Mr. A. C. MacLeod
Dr. R. E. Pyle
Mr. E. E. Tarika
Mr. H. F. Tomfohrde III
Dr. H. M. D. Utidjian
Mr. A. G. Voress
Mr. R. W. Wesson

CC: Mr. L. A. Agnello
Ms. A. D. Haughton
Mr. G. D. Holt
Ms. K. A. Richards

In case you did not see them, attached are articles
in the Washington Post, Wall Street Journal and New York Times on
the epidemiology study at Texas City.

Ralph Leviton
RALPH LEVITON

RL:vp
Attachments

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Cancer Outbreak Found in 2 Chemical Plants

Page 1

By Victor Cohn and Joanne Omang
Washington Post Staff Writers

A serious outbreak of brain cancer has been discovered in two Texas petrochemical plants, and federal officials fear they may find a high incidence of brain cancer elsewhere in the huge industry that makes chemicals from oil.

In a probe that started in early 1979, 25 brain-tumor cases—24 of them fatal so far—have been discovered among recent and past workers at a Dow Chemical plant in Freeport, Tex. Eighteen other fatal cases turned up at a Union Carbide plant in Texas City, Tex.

Both plants are in the Houston-Galveston area, which is thickly dotted

with plants that make or process petrochemicals. But so far, federal investigators have not been able to pinpoint a guilty chemical—or, more likely, a group of chemicals or a process—though there are several under suspicion.

The brain-cancer incidence among workers in the plants in the last 24 years is twice the normal level in the general population. Dr. Richard Waxweiler of the National Institute of Occupational Safety and Health (NIOSH) said yesterday.

All of the victims are men. Few women work in the plants.

Investigators from the two federal agencies involved—the Labor Department's Occupational Safety and

Health Administration (OSHA) and the Department of Health and Human Services' NIOSH—have not yet been able to look in detail at other plants, though they have started some investigations.

They have reports, they said, of possible concentrations of similar brain cancers in plants at Beaumont and Port Arthur, Tex.; Charleston, W. Va.; Louisville, and San Francisco, as well as one in Canada.

"There's no reason to suspect all petrochemical plants," Waxweiler said. But Dr. Victor Alexander of OSHA said there may be "five or six others" at least, and J. William Lloyd, OSHA epidemiologist, said, "There may be

any number of chemical plants involved."

Spokesmen for Dow and Union Carbide noted that the results so far are inconclusive. "We see no common thread that would suggest (that) exposure to any particular material or location in the plant" is involved, said James Hansen for Dow. "There is nothing so far to connect the workplace to the brain cancer."

Damon Engle, manager of Union Carbide's Texas City plant, agreed that the cancer incidence may be higher than the national average but has not yet been proved higher than incidence in the area. "If it is we're just as anxious as anybody to get to the bottom of it," he said.

When the study began in 1979, researchers suspected that the cause of the cancers might be vinyl chloride, which is associated with the glioblastoma multiforma type of cancer being found. But some of the victims had no exposure to vinyl chloride, the NIOSH researchers said.

Tony Mazzochi of the Oil, Chemical and Atomic Workers Union said preliminary reports from other studies found higher-than-normal rates of brain and stomach cancers among petrochemical workers along the Texas Gulf Coast and as a result the union and the National Cancer Institute are studying the entire industry. Eventually 60,000 workers will be checked, he said.

"There is a cancer epidemic among American workers and certainly

among the workers we represent" Mazzochi said.

Petrochemicals involve more than 30,000 workers in Texas alone and bring in about \$3 billion annually according to state figures. The Houston Chamber of Commerce reported last year that six of every 10 pounds of gallons of U.S. petrochemical production come from the Texas Gulf Coast. Dow's Freeport plant which covers 4,500 acres and employs 7000 persons is the biggest one there.

OSHA and NIOSH officials are planning a joint conference on the problem possibly in October involving government industry and the scientific and medical worlds. The situation "is something we didn't know about before" said Dr. Irving Selikoff of Mount Sinai Medical Center in New York.

He is editor of the American Journal of Industrial Medicine, which will soon publish the first scientific report on the outbreak, written by a group headed by Dr. Alexander of OSHA.

"We just don't know how widespread this problem is," said Sheldon Samuels, AFL-CIO director of occupational health and safety. There has been no industrywide study of it, just as "there is no systematic epidemiology yet of the American work force," he said.

But he said the fact that Dr. Eulah Bingham, OSHA director, "put together OSHA's first medical and scientific team" meant OSHA had a skilled team to go to the Union Carbide plant early last year and begin to study the brain tumors.

Alexander headed that first investigation, which was triggered by a complaint in late 1978 from a brain cancer victim at Union Carbide.

Ironically, that victim's cancer had spread from another part of his body. So he is not officially considered one of the victims.

But it's important for workers to speak up, Waxweiler said. "If we hadn't heard from that worker," he said, "we wouldn't have known about Union Carbide. We wouldn't have known about Dow or any of it."

Working with Texas doctors and health officials and with Union Carbide—a company that has been "highly and unusually cooperative," Alexander said—Alexander found 18 tumors among 9,000 people who had worked at the Texas City plant since 1956, when the first victim died.

He then investigated "a second plant"—which he would not name—and found five brain tumor deaths. But two of these people had also worked at Union Carbide.

Statisticians at the famed M.D. Anderson Hospital and Tumor Institute in Houston then combed their computerized Texas death records for lists of brain cancer victims and their work records.

This led the investigators to the Dow plant, the site of 25 tumors among more than 30,000 workers since the early 1960s. Studies now are focusing on company records to determine where the men worked and what chemicals they were exposed to in the vast complex, which makes 200 different products, including antifreeze, chlorine, latex, ethylene, vinyl chloride and other industrial chemical building blocks.

July 25, 1980

High Incidence of Brain Tumors Found In Texas Plants of Carbide, Dow Chemical

By a WALL STREET JOURNAL Staff Reporter

WASHINGTON — Federal investigators have discovered an unusually high incidence of brain tumors among petrochemical workers employed by Dow Chemical Co. and Union Carbide Co. in Texas.

Forty-three cases of brain cancer, all but one of which have been fatal, have shown up among present and past employees at Dow Chemical's Freeport facility and Union Carbide's Texas City plant. The findings are likely to lead to an intensified government-industry search for the cause.

"We have an indication of a twofold increased risk of dying of brain cancer if you worked at Dow Chemical," said Gordon Reeve, an epidemiologist for the National Institute of Occupational Safety and Health in Cincinnati. At Union Carbide's plant, he said, "the increased risk varied from none to up to three times" the normal level in the population, and depended on how long a worker was employed there.

Scientists from NIOSH and the Labor Department's Occupational Safety and Health Administration have been studying the two Texas plants for more than a year. But so far, the investigators don't have any leads as to what chemical or chemicals might have caused the cancer, said Richard Waxweiler, another investigator. However, he added, 13 of the 18 Union Carbide victims had worked at the plant for more than 15 years.

Where the Victims Worked

To try to pinpoint the cause of the tumors, federal and industry scientists are studying where the victims, all male, worked in each plant. The NIOSH officials said they may have some firmer hypotheses later this year.

The investigation grew out of a complaint in late 1978 to OSHA by a Union Carbide employee with brain cancer. The subsequent comparison of local hospital records for brain tumors with Union Carbide personnel files turned up 18 cases among the 9,000 individuals who had worked at the plant since it opened in 1941, Mr. Waxweiler said. This

review led to the discovery of 25 brain-cancer victims among the 40,000 Dow Chemical employees since 1942.

OSHA and NIOSH officials are planning to hold a symposium with industry officials on the brain-cancer problem, Mr. Waxweiler said, but a date hasn't been set. Meanwhile, he continued, "it would be wise for the (petrochemical companies) to look at their own death-record files for brain cancer."

In New York, a spokeswoman for Union Carbide called the latest findings "an interim report" and noted that the study is expected to take another year or two to complete. She said the company is cooperating fully with government investigators. "Currently, we have no reason to believe there is any correlation between these tumors and any occupational exposures," she said.

In Midland, Mich., a spokesman for Dow said it is "inappropriate at this time to draw any conclusions" because the series of studies isn't completed. He said the studies so far haven't shown anything conclusively connecting brain cancer to the workplace or chemicals.

The spokesman said, "At Dow's Texas division, we are talking about approximately 24 deaths, out of more than 40,000 employees, over a 40-year period of observation. The last death from brain cancer involving a Dow employee, or former employee, occurred in 1977. Those are not epidemic proportions."

Dow said it has been cooperating with OSHA and NIOSH in the investigation and plans to meet with scientists from those agencies in Texas on Monday.

Looking at Other Groups

A recent National Cancer Institute study of workers at three Texas oil refineries also found higher-than-normal rates of cancer of the brain, stomach, liver, pancreas, lung and skin. Brain tumors had the highest incidence. Consequently, the institute "is looking at a number of other groups" of chemical, petrochemical and pharmaceutical workers, said Linda Rudolph, a health consultant for the Oil, Chemical and Atomic Workers union, which sought the original study.

Since last August, NIOSH and Union Carbide have been studying 40,000 former and current workers at three Carbide facilities around South Charleston, W.Va., to determine the effects of chemical exposure on their health. A limited study had showed "an unusual distribution" of certain types of cancer among 819 deceased employees, including nine cancers of the central nervous system. "From what we know now, we don't see any similarity" between the West Virginia and the Texas situations, said Mr. Waxweiler of NIOSH.

Both NIOSH and the National Cancer Institute are part of the Department of Health and Human Services.

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Brain Cancer Discovered in Petrochemical Workers

Special to The New York Times

WASHINGTON, July 23—A "high" incidence of brain cancer among the nation's petrochemical workers has led to suspicion here that chemicals may lie at the root of the problem, according to Federal work-safety officials.

Investigators for the Department of Health and Human Services and the Department of Labor have confirmed an "excessively high" incidence of brain cancer in at least seven petrochemical plants in Texas, West Virginia, Kentucky and California.

They said that they had discovered 25 brain-tumor cases, 24 of which were fatal, among workers at a Dow Chemical plant in Freeport, Tex. Eighteen fatalities have been discovered at a Union Carbide plant in Texas City, Tex., the authorities said.

The incidence of brain cancer among the workers in the two Texas plants is twice that of the general population. Spokesmen for the two agencies cautioned that the results were still tentative and that no firm scientific conclusions should yet be drawn.

A spokesman at the Department of Labor's Occupational Safety and Health

Administration said that a lack of available funds had delayed investigations into the magnitude of the incidence of cancer in plants at Beaumont and Port Arthur, Tex.; Louisville; Charleston, W. Va., and San Francisco.

"With varying levels of proof, we believe each of them represents an excessively high" incidence of the disease, said Dr. Victor Alexander, a medical officer with the Labor Department agency.

"We don't have much information about chemicals causing brain cancer," Dr. Alexander added.

"These chemical plants may have 50 to 100 chemicals that they use more than a million pounds of during the year," he said. "It's important to recognize the magnitude that a small number of workers can handle." He said that "at least a dozen" known cancer-causing chemicals were found in most petrochemical plants.

The investigation began in 1979, after a victim of brain cancer at Union Carbide filed a complaint with the Labor Department.

Of the cases under investigation, all the reported victims are men. Women workers are in a minority in the industry and may be less susceptible to brain-cancer

causing agents, according to officials of the occupational safety agency.

A spokesman at the Department of Health and Human Services' National Institute of Occupational Safety and Health said that vinyl chloride was originally suspected of being the brain-cancer causing agent. But the spokesman said that further research turned up cases of the cancer in workers not exposed to the chemical.

Vinyl chloride was found to be the cause of liver cancer among petrochemical workers in industry studies published in 1974 and 1976.



INTERNAL CORRESPONDENCE

UNION CARBIDE CORPORATION

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To (Name) / S. G. Austin
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Location T. A. Lincoln
Floor Number A. C. MacLeod
R. R. Rankin
J. W. Whittlesey
Copy to A. Haughton

Date July 2, 1980

Originating Dept.

Floor Number

Answering letter date

Subject

The attached story appeared in the Washington Post this morning. I believe we got a fair treatment overall and one bouquet.

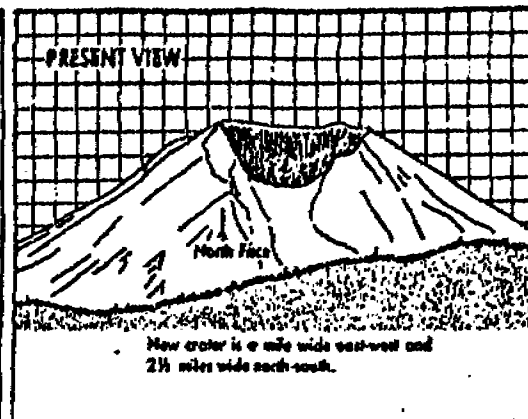
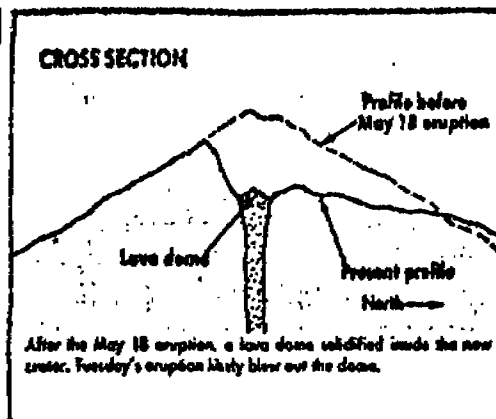
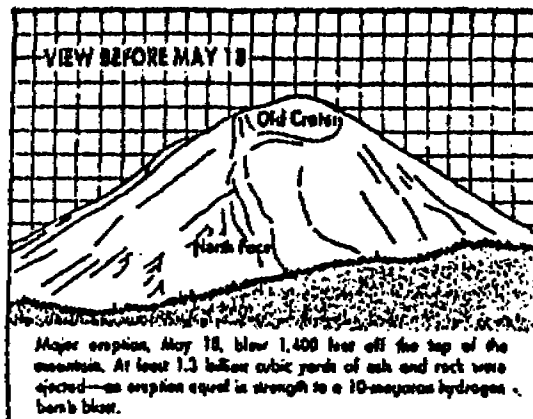
We are watching this area very closely, especially in view of the implications on the law suits filed by Texas City people.

A. G. Voress

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By Richard Fourn and Dave Cook—The Washington Post

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Harris Survey: Reagan, 61-33

Ronald Reagan has one of the largest leads recorded by the Harris Survey at the start of a campaign—61 percent to 33 percent over President Carter among likely voters nationwide, according to results broadcast last night.

Reagan's edge, in the survey taken just after last week's Republican National Convention, is not as great as Carter's 63-to-27 lead over then president Ford at the same point in the 1976 campaign.

The latest poll asked a choice only between Reagan and Carter, without mention of Rep. John B. Anderson.

Details on Page A3

Cancer Outbreak Found at 2 Texas Plants

By Victor Cohn and Joanne Omsang
Washington Post Staff Writers

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In a probe that started in early 1979, 25 brain-tumor cases — 24 of them fatal so far—have been discovered among recent and past workers at a Dow Chemical plant in Freeport, Tex. Eighteen other fatal cases turned up at a Union Carbide plant in Texas City, Tex.

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The brain-cancer incidence among workers in the plants in the last 24 years is twice the normal level in the general population, Dr. Richard Waxweiler of the National Institute of Occupational Safety and Health (NIOSH) said yesterday.

All of the victims are men. Few women work in the plants.

Investigators from the two federal agencies involved—the Labor Department's Occupational Safety and Health Administration (OSHA) and the Department of Health and Human Services' NIOSH—have not yet been able to look in detail at other plants, though they have started some investigations.

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Louisville, and San Francisco, as well as one in Canada.

"There's no reason to suspect all petrochemical plants," Waxweiler said. But Dr. Victor Alexander of OSHA said there may be "five or six others" at least, and J. William Lloyd, OSHA epidemiologist, said, "There may be any number of chemical plants involved."

Spokesmen for Dow and Union Carbide noted that the results so far are inconclusive. "We see no common thread that would suggest [that] exposure to any particular material or location in the plant" is involved, said James Hansen for Dow. "There is nothing so far to connect the workplace to the brain cancer."

Damon Engle, manager of Union Carbide's Texas City plant, agreed that the cancer incidence may be higher than the national average but

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ervoir Lake Has Cleared Chemical Hunt

uly 21 (AP)—Unity officials to reactivate pumps at Lake Tawnee this week after learned that they found no detectable chemicals in water samples from the lake, which supplies 1 percent of its water.

at the state department of water in Austin tested the samples of arsenic and two herbicides and 2, 4, 5, TP—that may come from chemical canisters buried in the lake.

is safe, and there is no question of purity. We have satisfied that there is no threat from the lake at being removed" from Tom Taylor, director of water Dallas.

restored water service from Lake Tawnee now and the weekend.

oster, director of the state department's water hygiene division, says water samples were taken from Point, Lakeview, South Tawnee Water Supply Corp., Greengrove, and the Dallas East Side.

ses showed no detectable levels of chemicals and meet U.S. Environmental Protection Agency regulations health Department standards for water, said Foster.

city manager Ray Jackson said he turned on pumps at Lake Tawnee Thursday.

Study of 2 Petrochemical Plants Finds Twice the Normal Rate of Brain Cancer

CANCER, From A1

has not yet been proved higher than incidence in the area. "If it is, we're just as anxious as anybody to get to the bottom of it," he said.

When the study began in 1978, researchers suspected that the cause of the cancers might be vinyl chloride, which is associated with the glioblastoma multiforme type of cancer that is the predominant one being found. But some of the victims had no exposure to vinyl chloride, the NIOSH researchers said.

Tony Mazrochi of the Oil, Chemical and Atomic Workers Union said preliminary reports from other studies found higher-than-normal rates of brain and stomach cancers among petrochemical workers along the Texas Gulf Coast, and as a result the union and the National Cancer Institute are studying the entire industry. Eventually 60,000 workers will be checked, he said.

"There is a cancer epidemic among American workers and certainly among the workers we represent," Mazrochi said.

Petrochemicals involve more than 30,000 workers in Texas alone and bring in about \$3 billion annually, according to state figures. The Houston Chamber of Commerce reported last year that six of every 10 pounds or gallons of U.S. petrochemical production come from the Texas Gulf Coast. Dow's Freeport plant, which covers 4,500 acres and employs 7,000 persons, is the biggest one there.

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tion "is something we didn't know about before," said Dr. Irving Selikoff of Mount Sinai Medical Center in New York.

He is editor of the American Journal of Industrial Medicine, which will soon publish the first scientific report on the outbreak, written by a group headed by Dr. Alexander of OSHA.

"We just don't know how widespread this problem is," said Sheldon Samuels, AFL-CIO director of occupational health and safety. There has been no industrywide study of it, just as "there is no systematic epidemiology yet of the American work force," he said.

But he said the fact that Dr. Enlish Bingham, OSHA director, "put together OSHA's first medical and scientific team" meant OSHA had a skilled team to go to the Union Carbide plant early last year and begin to study the brain tumors.

Alexander headed that first investigation, which was triggered by a complaint in late 1978 from a brain cancer victim at Union Carbide.

Ironically, that victim's cancer had spread from another part of his body. So he is not officially considered one of the victims.

But it's important for workers to speak up, Warwicker said. "If we hadn't heard from that worker," he said, "we wouldn't have known about Union Carbide. We wouldn't have known about Dow or any of it."

Working with Texas doctors and health officials and with Union Carbide—a company that has been "highly and unusually cooperative," Alexander said—Alexander found 18 tumors among 9,000 people who had

worked at the Texas City plant since 1934, when the first victim died.

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Workers at Union Carbide's plant had jobs "all over the place," Warwicker said. One of the few common denominators was that 13 of the 18 victims had worked there more than 15 years.

The Texas plant studies, and the studies of workers' backgrounds, are still not complete, federal investigators said.

But "we strongly suspect," said Alexander, that the cause of the tumors may be not a single chemical but "a chemical process"—exposure to all or some of the many steps that lead to a single chemical product. Or, he said it may be more than one process involving the 300 or so chemicals commonly found in a modern petrochemical factory.

THE WASHINGTON PC



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Sunday, June 29, 1980 The Dallas Morning News

High cancer rates found in Texas coastal workers

This is the first of two stories on cancer along Texas' Gulf Coast. Today's story looks at cancer in the petrochemical industry.

By CHUCK COOK

Scientists involved in at least four separate studies have uncovered alarmingly high levels of cancer among workers at Texas Gulf Coast petrochemical plants.

The studies, probably the most far-reaching look at cancer in the petrochemical industry, show increased brain, stomach, blood and lung cancer at eight chemical plants and refineries.

Some of the findings include:

- An increase in stomach, kidney and brain cancers, leukemia, and multiple myeloma (bone marrow cancer) among workers in three Gulf Coast petroleum refining and petrochemical plants.

An increased incidence of blood cancer and other blood disorders among workers at two Texas Gulf Coast synthetic rubber plants.

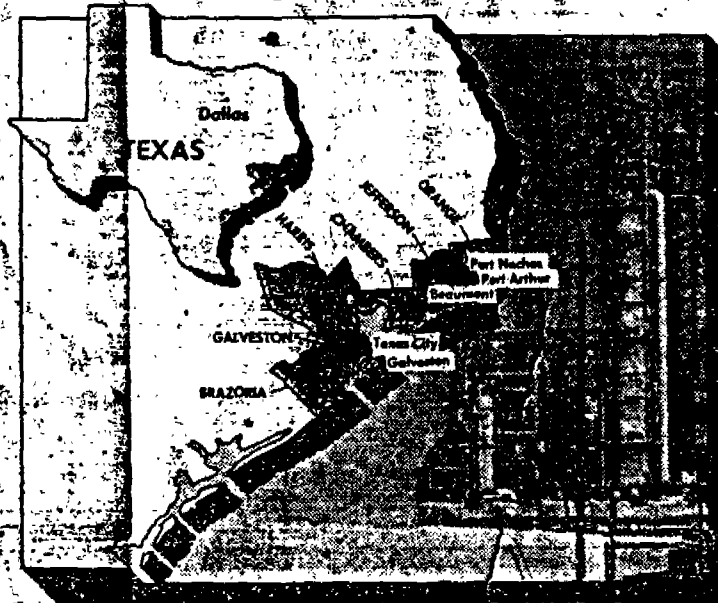
- High rates of an often-fatal brain tumor among workers at three Texas chemical plants.

The findings — most of which are part of preliminary reports — already are prompting a response from the American Petroleum Institute (API), which in February began its own study of cancer among petrochemical workers.

Steve Swenson of API said the study will remain confidential but will be utilized in the event a "defensive posture" is needed.

The National Cancer Institute (NCI) recently released findings of its study of deaths of 3,105 Texas members of the Oil, Chemical and Atomic Workers International Union who died between 1947 and 1977.

At Port Arthur's Texaco flagship



refinery, the rate of stomach cancer in white workers who had been at the plant for 20 years was 4 times what researchers expected.

The rate for central nervous system cancer was 3½ times normal.

At the nearby Gulf Oil Corp. refinery, more than three times the normal stomach cancer rate was found among both white and nonwhite workers with more than 10 years on the job. Lung cancer among nonwhite workers was three times the normal rate, the study revealed.

At the Mobil Oil Corp. refinery near Beaumont, almost twice the usual amount of lung cancer was discovered.

In addition, the survey showed marked increases in brain cancer at Texaco and Mobil.

The study suggests that workers in this industry are at increased

risk of certain cancers," the NCI report said. The report also said further studies are necessary to support and clarify these findings.

Dr. Sharon Itaya of Houston is working on the follow-up survey of refinery workers. She said unconventional means are being used to track down former refinery workers. She said the search goes so far as to rely on family Bible records to verify dates of deaths. There is also considerable time being spent going through death certificates and interviewing physicians who may have treated affected OCAW members.

She said the follow-up to the original survey has proved "supportive to data" in the original survey.

In a separate study, National Institute for Safety and Health (NIOSH) researchers have established

See FIRESTONE on page 6A

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Dallas News: David Woo

A worker leaves the Texaco refinery in Port Arthur.

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Firestone refused records to researchers



Dallas News: David Woo

A group of Texaco refinery workers wait on a bench before going to work

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Continued from Page 1A.

lished what they believe is a definitive link between synthetic rubber plant workers and high blood cancer.

NIOSH researchers studied 2,756 workers at BF Goodrich and Texas-U.S. Chemical synthetic rubber plants in Port Neches.

They found 10 blood cancer victims among those interviewed, where 1 would have been normal.

Although the results were significant, NIOSH officials say their study was less than complete.

It only included white males who worked at least six months between 1943 and 1976. Nine other individuals who did not meet criteria for the NIOSH study were also found.

In addition, researchers did not find records on 88 employees of the plants, and these workers were counted as being alive.

A spokesman for NIOSH said the study was also incomplete in other areas.

It did not include workers prior to 1950 at the Texas-U.S. plant, because records from 1943 to 1950 allegedly had been destroyed.

NIOSH researchers also needed — but were refused access to — Social Security records from the Firestone Corp., which operated the Texas-U.S. plant during the 1940s.

According to a NIOSH spokesman, these records could hold significant information since five of the nine leukemia cases in the Goodrich plant occurred in workers who started between 1943 and 1945.

Another problem NIOSH experienced in conducting the survey was obtaining information on operational procedures which may relate to exposure of the workers to cancer-causing materials.

In 1946, the Goodrich plant had a major process change, NIOSH's Dick Lemen said. He said NIOSH does not have enough information to draw conclusions on what effect the change may have had.

Lemen said investigators found the plant switched methods of handling chemicals, which possibly reduced the exposure of workers to cancer causing substances.

Another problem encountered in the survey is that information on exposure levels at the plant are sketchy prior to 1976, according to Lemen.

A report prepared by Dr. Ted Meinhardt, senior author of the NIOSH report, stated, "Occupational health hazards in this industry were considered minimal or non-existent until early in 1976 when

representatives of the Port Neches local of the Oil, Chemical and Atomic Workers union became concerned with a number of leukemia cases (among) members who were employed in SBR (styrene-butadiene rubber) plants."

But, studies as early as 1948 linked SBR exposure to cancer, and

had indicated the Goodrich plant was one of the worst in the nation as far as levels of exposure were concerned.

Two researchers at Johns Hopkins University conducted a study among 10 SBR plants and found the synthetic rubber process resulted in exposure of workers to butadiene peroxide, a known cancer-causing agent.

A peroxide analysis showed the Goodrich plant had the second highest amounts of butadiene peroxide of all plants in the nation with 1560 parts per million in air samples.

This compared with an average of 150 to 700 ppm at other plants.

Results of two other studies indicate there may be a strong link between cancer and the petrochemical industry.

Health researchers have found a brain cancer cluster among workers at two Texas City plants which produce vinyl chloride.

Although company officials say there is no definite link between vinyl chloride and brain cancer, workers at the Union Carbide Corp. plant show an unusually high incidence.

Sixteen brain cancer cases have been found among workers at the plant, and federal investigators are continuing to sift through company medical records.

At the nearby Monsanto Chemical Inc. plant, five more cancer cases have been discovered through a medical records search.

A spokesman for Union Carbide said the company feels drawing any conclusions from the federal findings is premature. He said many of the deaths took place before the government recognized and mandated controls for hazardous chemicals, such as vinyl chloride.

Last month, Dow Chemical Co. released results of a medical study which showed higher than normal rates for brain cancer among its workers at the Freeport plant.

Dow undertook the study after the Occupational Safety and Health

Administration (OSHA) found 12 cases of brain tumors among workers. OSHA also found 33 brain tumor deaths in Brazoria County, including Dow workers.

"We are concerned, but we see no cause for alarm," Ralph Buell, safety and health manager for Dow's Texas Division said.

The average incidence of brain cancer for white male Americans is 11.5 cases per 100,000 population, according to the NCI.

A report prepared this year by a Citizens Environmental Coalition task force charges Texas traditionally has been extremely lax in protecting workers at industrial sites. CEC is an environmental action group funded in each state by the U.S. Environmental Protection Agency.

The report shows that prior to the implementation of OSHA in 1971, Texas spent only 2 cents a year per worker for industrial health inspection, less than any other state. Oregon led all states by spending \$2.11 per worker to ensure safe working conditions.

After passage of the act which created OSHA, Texas' Occupational Safety Act (which did not cover toxics), became a dead issue. Although this act still exists on the books, it is neither funded nor implemented. Instead, OSHA has assumed its functions.

The CEC report charges the Texas Department of Health, "strongly supports the concept of voluntary compliance," and never levies a fine for violations.

With the exception of Firestone, all companies mentioned in the studies are participating in a follow-up survey.

"We are making all records available, and helping in any way we can," said Jim Gatten, a spokesman for Gulf.

Dr. Itaya said the methodology used in the Texas survey of refineries is being viewed as a possible basis for other occupational-related disease studies.

"We (OCAW) are looking at other industries," she said. "We are considering using the methodology of the Texas refinery study in the pharmaceutical industry and others."

Former industrialist seeks 'elusive' cancer links

By CHUCK COOK
Staff Writer of The News

PORT ARTHUR, Texas — The sallow complexion, reserved attitude and wrinkled brow belie the tenacity of Bodie Pryor.

Every day, unless he is experiencing one of his "sinking spells," Pryor roams the halls of hospitals, rummages relentlessly through filing cabinets at the county records building or spends hours on the phone searching for what he calls "an elusive ghost."

Pryor, a retired petrochemical company executive, has leukemia. He is looking for causes of the disease.

"I read the obituaries. I interview families. I go to hospitals. I hear street talk about people who may have leukemia, and I go interview them," Pryor said.

"I'll keep on searching until the day I die," Pryor said as he proudly exhibited carefully organized records of occupation-related diseases.

The records — an extensive card index and stacks of yellowing newspaper clippings — contain information on leukemia cases. Pryor said his files contain names of more than 170 persons in the Beaumont-Port Arthur area of Jefferson County.

Two years ago, when fellow employees presented him with a gold watch at his retirement from Gulf Chemical Co. (formerly associated with BFGoodrich, Inc.), Pryor was keeping the secret of his disease even from his best friends. He had worked with some of them the entire 36 years he was with the company.

"I have seen what they do to people who get the disease — they are outcasts, and sometimes they are even terminated," Pryor said.

At his retirement, co-workers toasted Pryor as one of the best industrial hygienists the plant ever had. As administrator of environmental affairs, Pryor had gained the insight to know exactly what to expect if he announced to the company management he had leukemia.

"When I was working there, a lot of information crossed my desk that made me more intensely aware of what SBR (styrene-butadiene rubber) exposure could do," Pryor said. "If I had not been in that job — in charge of health problems — I would have been just another casualty."

Butadiene peroxide, a known

carcinogen, is one of the key byproducts of synthetic rubber, the major product of the Port Neches BFGoodrich plant.

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He discovered an unusually high incidence of blood and lymph gland cancer among former students of Port Neches-Groves High School, which is located near two SBR plants.

His findings — four leukemia deaths among male students where statistically one would be normal, and four cases of lymph cancer — led to an investigation by the Texas Department of Health and the National Center for Disease Control.

Although the two agencies acknowledged the incidence of the disease was high, they said they found no correlation between exposure to emissions from the SBR plants and leukemia or lymph cancer.

But, as a result of the study, Pryor said a "suspicious" incidence of leukemia, Hodgkin's disease and lymphatic cancer was found among female students, and a follow-up study is under way.

William Townsley, a Beaumont attorney, labeled the Port Neches study "a sham."

"They (health agencies) used the excuse that they do not have the resources to do the type of study that is required," Townsley said. "But I have talked with people from the Center for Disease Control and they didn't think much of what the state did. Neither did the University of Texas School of Public Health."

Because of his tireless search for leukemia causes, Pryor said he has become an outcast in the heavily industrialized community where he lives.

"People, some who were at one time close friends, treat me like I had the plague," Pryor said. "They will not talk to me, and the people at the plant do not want me to talk to any of the employees."

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Pryor's records are meticulous.

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Pryor said he has no outside funding for his research. He is planning speaking engagements to try and raise funds.

Even if he doesn't raise money, he said he will raise awareness.

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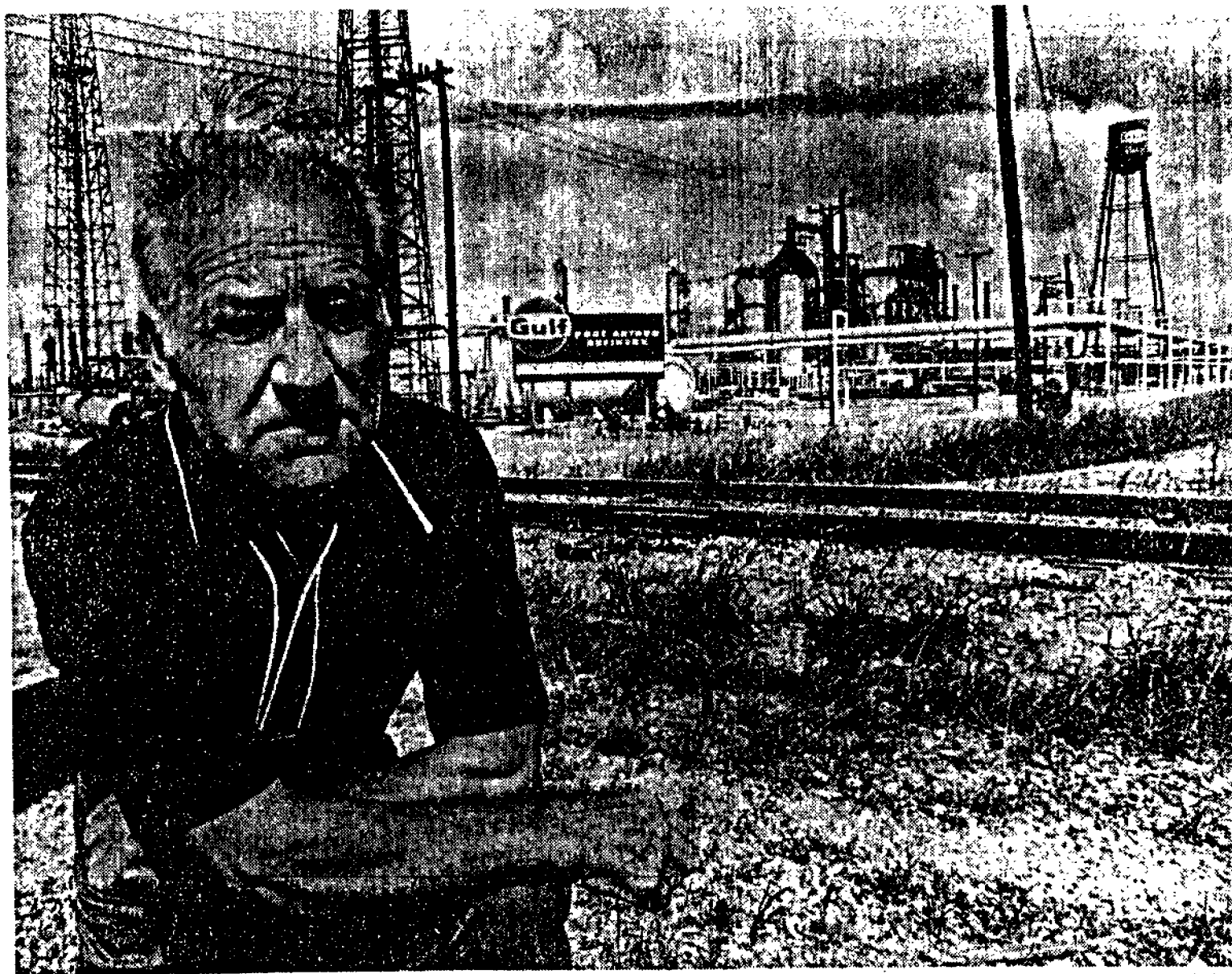
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"Pryor is an extremely intelligent man. He knows what he is doing. But he is dealing with a subject — occupational cancer — that is taboo with management people."

Pryor said he knows he has an uphill fight and feels that, despite his mild success in identifying possible cancer causes, he is getting very little support.

"I feel like the little Dutch boy with his finger in the dike," he said.



Bodie Pryor in front of the Gulf Refinery where he used to work.

Dallas News: David Woo

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To: Dr. Susan Austin (3)
R. L. Frantz

From: D. L. Engle

Sunday, June 29, 1980 The Dallas Morning News

High cancer rates found in Texas coastal workers

This is the first of two stories on cancer along Texas' Gulf Coast. Today's story looks at cancer in the petrochemical industry.

By CHUCK COOK

Scientists involved in at least four separate studies have uncovered alarmingly high levels of cancer among workers at Texas Gulf Coast petrochemical plants.

The studies, probably the most far-reaching look at cancer in the petrochemical industry, show increased brain, stomach, blood and lung cancer at eight chemical plants and refineries.

Some of the findings include:

- An increase in stomach, kidney and brain cancers, leukemia, and multiple myeloma (bone marrow cancer) among workers in three Gulf Coast petroleum refining and petrochemical plants.

- An increased incidence of blood cancer and other blood disorders among workers at two Texas Gulf Coast synthetic rubber plants.

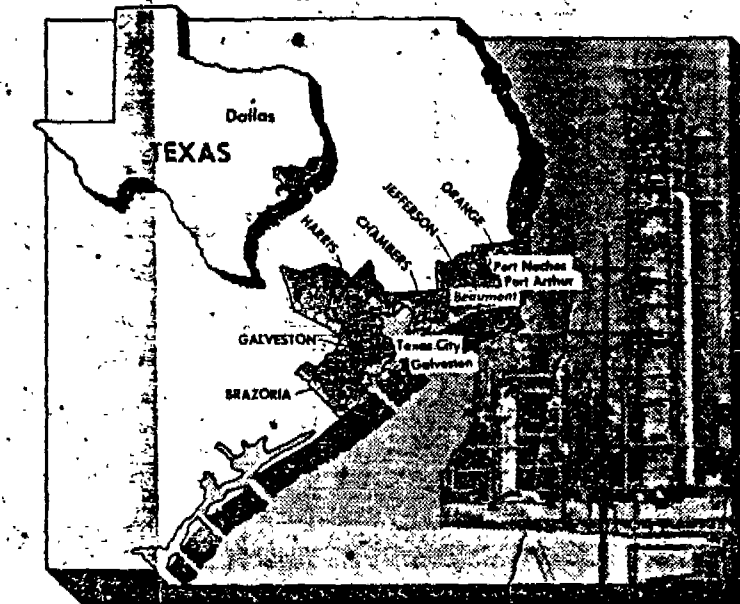
- High rates of an often-fatal brain tumor among workers at three Texas chemical plants.

The findings — most of which are part of preliminary reports — already are prompting a response from the American Petroleum Institute (API), which in February began its own study of cancer among petrochemical workers.

Steve Swenson of API said the study will remain confidential but will be utilized in the event a "defensive posture" is needed.

The National Cancer Institute (NCI) recently released findings of its study of deaths of 3,105 Texas members of the Oil, Chemical and Atomic Workers International Union who died between 1947 and 1977.

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Dallas Morning News: Craig Spaulding

refinery, the rate of stomach cancer in white workers who had been at the plant for 20 years, was 4 times what researchers expected.

The rate for central nervous system cancer was 3½ times normal.

At the nearby Gulf Oil Corp. refinery, more than three times the normal stomach cancer rate was found among both white and nonwhite workers with more than 10 years on the job. Lung cancer among nonwhite workers was three times the normal rate, the study revealed.

At the Mobil Oil Corp. refinery near Beaumont, almost twice the usual amount of lung cancer was discovered.

In addition, the survey showed marked increases in brain cancer at Texaco and Mobil.

"The study suggests that workers in this industry are at increased

risk of certain cancers," the NCI report said. The report also said further studies are necessary to support and clarify these findings.

Dr. Sharon Itaya of Houston is working on the follow-up survey of refinery workers. She said unconventional means are being used to track down former refinery workers. She said the search goes so far as to rely on family Bible records to verify dates of deaths. There is also considerable time being spent going through death certificates and interviewing physicians who may have treated affected OCAW members.

She said the follow-up to the original survey has proved "supportive to data" in the original survey.

In a separate study, National Institute for Safety and Health (NIOSH) researchers have established
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Dallas News: David Wob

A worker leaves the Texaco refinery in Port Arthur.

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A group of Texaco refinery workers wait on a bench before going to work

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lished what they believe is a definitive link between synthetic rubber plant workers and high blood cancer.

NIOSH researchers studied 2,756 workers at BP Goodrich and Texas-U.S. Chemical synthetic rubber plants in Port Neches.

They found 10 blood cancer victims among those interviewed, where 1 would have been normal.

Although the results were significant, NIOSH officials say their study was less than complete.

It only included white males who worked at least six months between 1943 and 1976. Nine other individuals who did not meet criteria for the NIOSH study were also found.

In addition, researchers did not find records on 88 employees of the plants, and these workers were counted as being alive.

A spokesman for NIOSH said the study was also incomplete in other areas.

It did not include workers prior to 1950 at the Texas-U.S. plant, because records from 1943 to 1950 allegedly had been destroyed.

NIOSH researchers also needed — but were refused access to — Social Security records from the Firestone Corp., which operated the Texas-U.S. plant during the 1940s.

According to a NIOSH spokesman, these records could hold significant information since five of the nine leukemia cases in the Goodrich plant occurred in workers who started between 1943 and 1945.

Another problem NIOSH experienced in conducting the survey was obtaining information on operational procedures which may relate to exposure of the workers to cancer-causing materials.

In 1946, the Goodrich plant had a major process change, NIOSH's Dick Lemen said. He said NIOSH does not have enough information to draw conclusions on what effect the change may have had.

Lemen said investigators found the plant switched methods of handling chemicals, which possibly reduced the exposure of workers to cancer causing substances.

Another problem encountered in the survey is that information on exposure levels at the plant are sketchy prior to 1976, according to Lemen.

A report prepared by Dr. Ted Meinhardt, senior author of the NIOSH report, stated, "Occupational health hazards in this industry were considered minimal or non-existent until early in 1976 when

representatives of the Port Neches local of the Oil, Chemical and Atomic Workers union became concerned with a number of leukemia cases (among) members who were employed in SBR (styrene-butadiene rubber) plants."

But, studies as early as 1948 linked SBR exposure to cancer, and

had indicated the Goodrich plant was one of the worst in the nation as far as levels of exposure were concerned.

Two researchers at Johns Hopkins University conducted a study among 10 SBR plants and found the synthetic rubber process resulted in exposure of workers to butadiene peroxide, a known cancer-causing agent.

A peroxide analysis showed the Goodrich plant had the second highest amounts of butadiene peroxide of all plants in the nation, with 1560 parts per million in air samples.

This compared with an average of 150 to 700 ppm at other plants.

Results of two other studies indicate there may be a strong link between cancer and the petrochemical industry.

Health researchers have found a brain cancer cluster among workers at two Texas City plants which produce vinyl chloride.

Although company officials say there is no definite link between vinyl chloride and brain cancer, workers at the Union Carbide Corp. plant show an unusually high incidence.

Sixteen brain cancer cases have been found among workers at the plant, and federal investigators are continuing to sift through company medical records.

At the nearby Monsanto Chemical Inc. plant, five more cancer cases have been discovered through a medical records search.

A spokesman for Union Carbide said the company feels drawing any conclusions from the federal findings is premature. He said many of the deaths took place before the government recognized and mandated controls for hazardous chemicals, such as vinyl chloride.

Last month, Dow Chemical Co. released results of a medical study which showed higher than normal rates for brain cancer among its workers at the Freeport plant.

Dow undertook the study after the Occupational Safety and Health

Administration (OSHA) found 11 cases of brain tumors among workers. OSHA also found 33 brain tumor deaths in Brazoria County, including Dow workers.

"We are concerned, but we see no cause for alarm," Ralph Buell, safety and health manager for Dow's Texas Division said.

The average incidence of brain cancer for white male Americans is 11.5 cases per 100,000 population, according to the NCI.

A report prepared this year by a Citizens Environmental Coalition task force charges Texas traditionally has been extremely lax in protecting workers at industrial sites. CEC is an environmental action group funded in each state by the U.S. Environmental Protection Agency.

The report shows that prior to the implementation of OSHA in 1971, Texas spent only 2 cents a year per worker for industrial health inspection, less than any other state. Oregon led all states by spending \$211 per worker to ensure safe working conditions.

After passage of the act which created OSHA, Texas' Occupational Safety Act (which did not cover toxics), became a dead issue. Although this act still exists on the books, it is neither funded nor implemented. Instead, OSHA has assumed its functions.

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With the exception of Firestone, all companies mentioned in the studies are participating in a follow-up survey.

"We are making all records available, and helping in any way we can," said Jim Gatten, a spokesman for Gulf.

Dr. Itaya said the methodology used in the Texas survey of refineries is being viewed as a possible basis for other occupational-related disease studies.

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Former industrialist seeks 'elusive' cancer links

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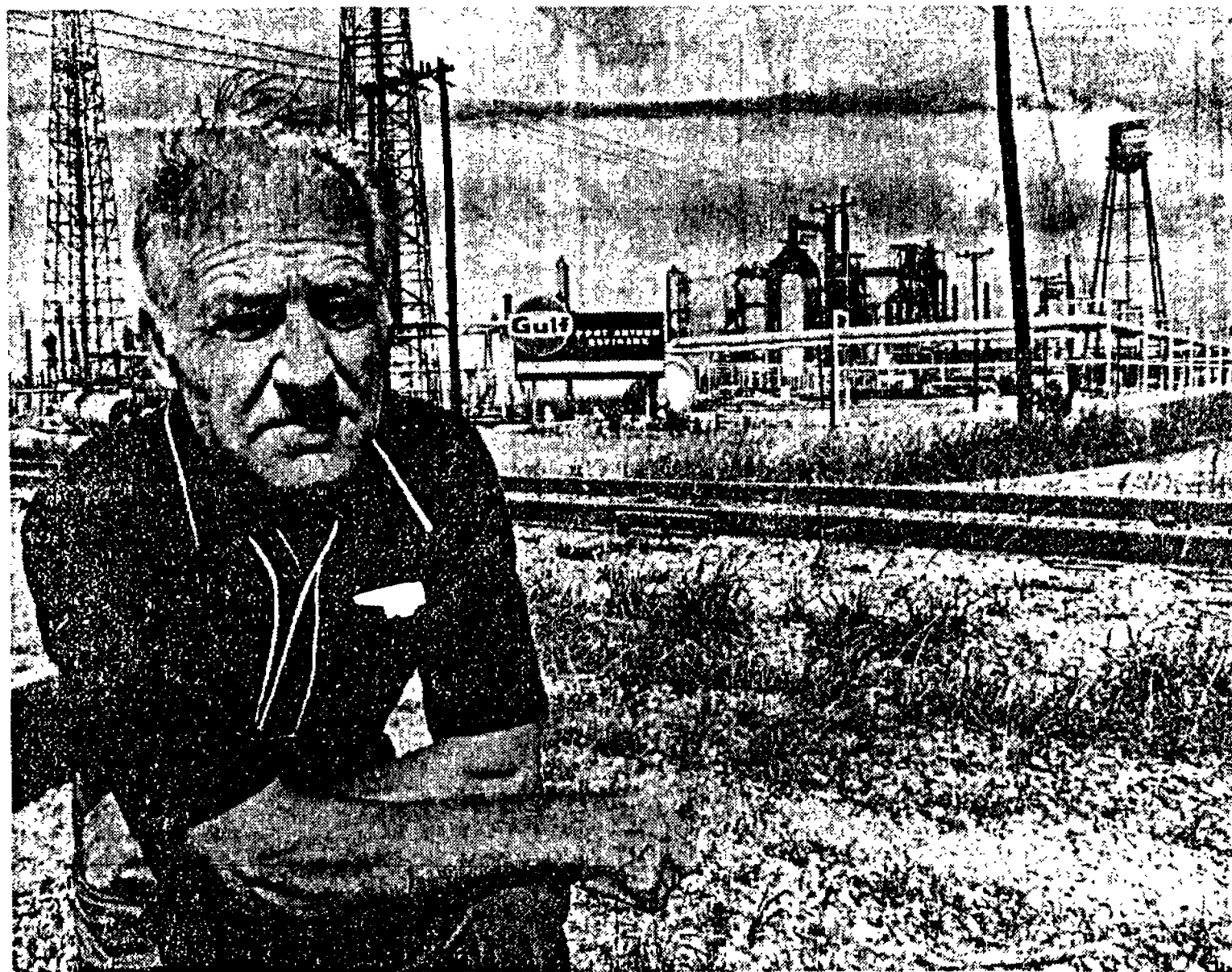
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Dallas News: David Woo

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Sunday, June 29, 1980 The Dallas Morning News

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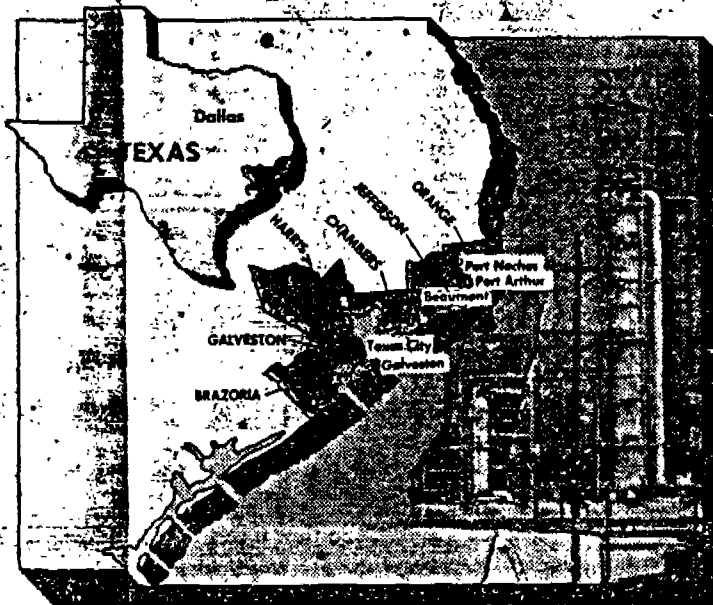
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Dallas News: David Web

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Continued from Page 1A.

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carcinogen, is one of the key byproducts of synthetic rubber, the major product of the Port Neches BFGoodrich plant.

Pryor said he collected names of about 70 leukemia victims who either worked at, or lived near, SBR plants or refineries.

He discovered an unusually high incidence of blood and lymph gland cancer among former students of Port Neches-Groves High School, which is located near two SBR plants.

His findings — four leukemia deaths among male students where statistically one would be normal, and four cases of lymph cancer — led to an investigation by the Texas Department of Health and the National Center for Disease Control.

Although the two agencies acknowledged the incidence of the disease was high, they said they found no correlation between exposure to emissions from the SBR plants and leukemia or lymph cancer.

But, as a result of the study, Pryor said a "suspicious" incidence of leukemia, Hodgkin's disease and lymphatic cancer was found among female students, and a follow-up study is under way.

William Townsley, a Beaumont attorney, labeled the Port Neches study "a sham."

"They (health agencies) used the excuse that they do not have the resources to do the type of study that is required," Townsley said. "But I have talked with people from the Center for Disease Control and they didn't think much of what the state did. Neither did the University of Texas School of Public Health."

Because of his tireless search for leukemia causes, Pryor said he has become an outcast in the heavily industrialized community where he lives.

"People, some who were at one time close friends, treat me like I had the plague," Pryor said. "They will not talk to me, and the people at the plant do not want me to talk to any of the employees."

Pryor said it took almost two years for company officials to get his pension payments started. He said he kept getting "lame" excuses as to why he was not receiving payments.

"Then one day, I threatened to go public — take my case to the media — and suddenly I had all my back pay and was on the pension program," Pryor said. "They deliv-

ered it airmail special delivery."

Because of his background in the industrial health field, Pryor said he suspected long before his leukemia was diagnosed that some cancers were job-related. But company officials weren't interested in hearing his theories, he said.

From his exhaustive research, Pryor said he believes he has established a possible link between job-related exposure and increased cancer rates in chemical and petrochemical workers.

He said he also discovered five cases of leukemia among employees at a small coastal shipyard.

In his quest for more information, Pryor said he has encoun-

tered many people who won't talk and followed leads that didn't pan out.

But that hasn't stop him.

While looking for cancer related to the petrochemical industry, Pryor said he has talked to others who have ideas about causes of their cancer.

"I talked to this medical student from Kansas City at M.D. Anderson (Hospital in Houston) the other day, and he thinks his disease may have been caused by too much exposure to formaldehyde," Pryor said. "Another one, a young man from the (Rio Grande) Valley, was a flagger for a crop-dusting service. He says he got his from pesticides."

Pryor's records are meticulous.

He separates cases that may have no strong relationship to environmental factors from those where a person may have been exposed through job or residence to suspected carcinogens.

Pryor said he has no outside funding for his research. He is planning speaking engagements to try and raise funds.

Even if he doesn't raise money, he said he will raise awareness.

"I've found out that publicity and lawsuits are the only thing the big companies will listen to," Pryor said.

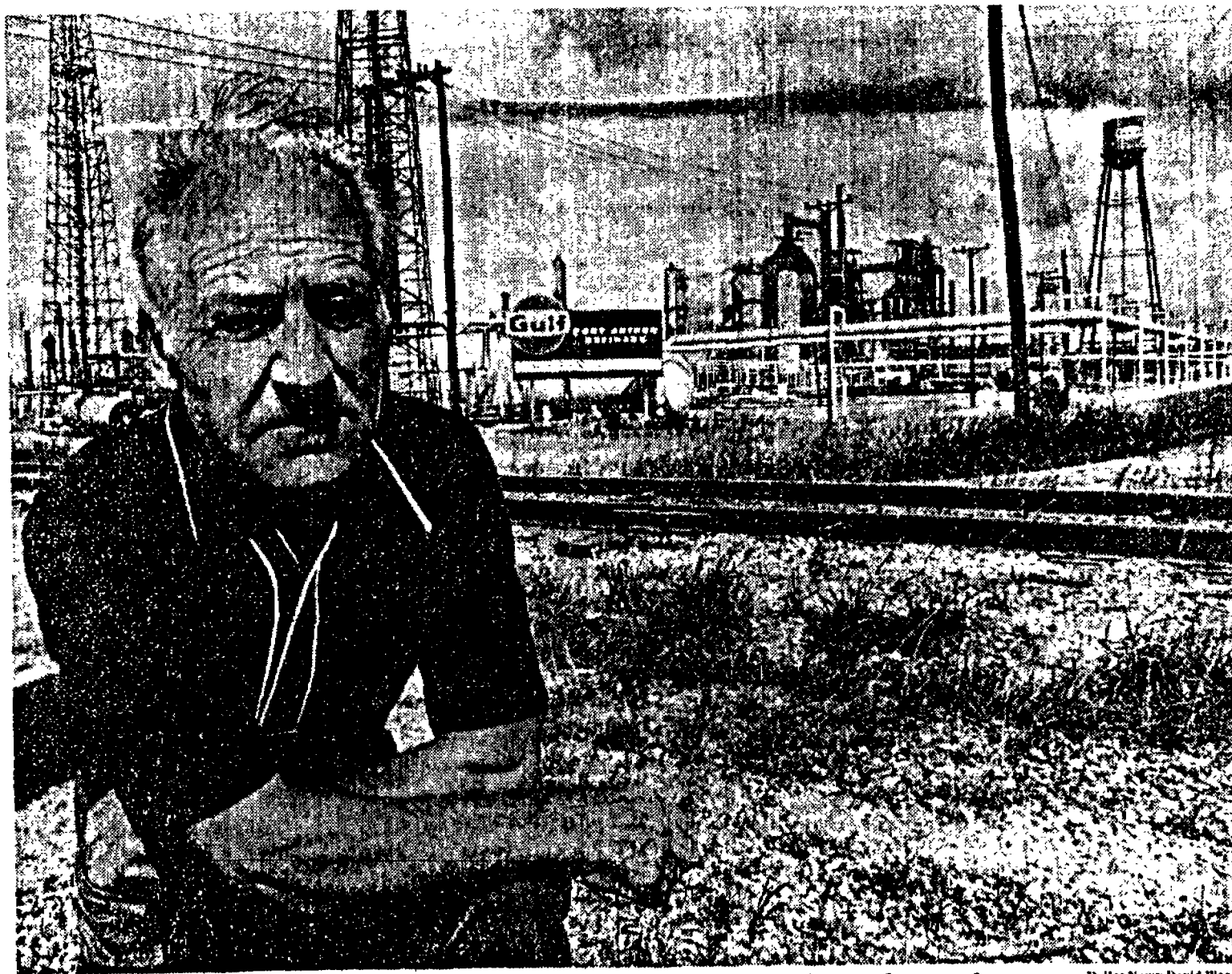
Townsley said he believes the information Pryor has developed should be "solid gold" to anyone wanting leads to cancer causes.

"But they (Pryor's studies) will only be of benefit if people who are charged with public health responsibility utilize them," Townsley said. "So far they haven't shown a willingness to do that."

"Pryor is an extremely intelligent man. He knows what he is doing. But he is dealing with a subject — occupational cancer — that is taboo with management people."

Pryor said he knows he has an uphill fight and feels that, despite his mild success in identifying possible cancer causes, he is getting very little support.

"I feel like the little Dutch boy with his finger in the dike," he said.



Bodie Pryor in front of the Gulf Refinery where he used to work.

Dallas News: David Woo

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Study finds 33 brain tumor deaths at Port Arthur, Beaumont refineries

Houston Post - Nov 12, 1980

By ERNA SMITH
Post Reporter

Thirty-three brain tumor deaths have been found among union workers at three petroleum refineries in Port Arthur and Beaumont, The National Cancer Institute has reported.

The workers, members of the Oil, Chemical and Atomic Workers International Union, were employed at Texaco and Gulf refineries in Port Arthur, and the Mobil refinery in Beaumont.

The findings confirm a NCI "hypotheses-generating" study, released in May 1979, that suggested workers in the entire petrochemical industry are exposed to increased risks of several cancers, including those affecting digestive and respiratory systems. The greatest increase emerged in the number of brain cancer cases.

"Scientists at the National Cancer Institute and the National Institute for Occupational Safety and Health have found an apparent association between increased risk of brain cancer and employment in the oil refinery industry," reads an NCI fact sheet, obtained by the Post.

However, Gill — using a more widely recognized statistical method and examining a larger number of deaths — reported the preliminary results of a company study "shows no increased risk of employees developing or dying from brain tumors" at its Port Arthur refinery.

Furthermore, the company contends, the "undue publicity" given the NCI findings has "caused needless anxiety and concern among our employees."

Three years ago, OCAW invited NCI to examine its membership records to evaluate for the first time cancer risks among a large group of workers exposed to petroleum and petroleum products. The union, the largest labor organization for petroleum workers, has nearly 20,000 members in Texas.

The NCI and NIOSH scientists in their study confirmed that 27 of the 33 OCAW members died of cancer. In the remaining six cases, the cause of death was listed only as brain tumor.

NCI's original study population consisted of 3,105 males whose deaths were reported between 1947 and 1977 to OCAW locals in Texas. For the brain cancer report, scientists examined 2,133 deaths of active and re-

tired men who worked in the refineries from 1943-78. Researchers examined death certificates, obtained by the union and the state's vital records division, and used that data to compute the frequency of fatal diseases among the workers.

The number of deaths was statistically compared to deaths from all causes and deaths from all types of cancer among males in the U.S. population as a whole.

Researchers reviewed 1,008 deaths at Texaco, 729 at Gulf and 396 at Mobil. Out of the 2,133 deaths examined at all three refineries, researchers found 27 brain cancer cases, compared to the normally expected 15 fatalities from all forms of cancer.

At Texaco, scientists observed 16 fatal brain tumor cases, compared to an expected 7.5 fatalities from all causes of death. Ten brain tumor fatalities were observed among Gulf union members compared to an expected 7.5, and 7 cases were uncovered at Mobil compared to an expected 3.

Terry Thomas, NCI's chief project researcher, said the Institute's findings are "preliminary" and more

Please see 33 deaths/page 19A

33 deaths linked to brain tumors

From page 1

study is needed to determine if a correlation can be drawn between brain cancer and exposure to petroleum products.

"A lot of other studies need to be done in other plants. It will take a great deal more research to draw correlations."

The cancer mortality rates among workers who are still employed at the time of their death is always higher than the expected rate from all causes of death in the population as a whole, she noted.

"Some chronic disabling diseases prevent some individuals from becoming employed in the first place, or force them to stop working many years prior to their death, so these types of deaths are not as prominent within the worker population," she explained. "This is what we call the healthy worker effect."

She said researchers will be examining the work histories of the 33 union members. A case control study of stomach cancer fatalities at the three plants also is under way.

"The new results indicate there may be an increased frequency of stomach cancers and leukemia," she said.

Shortly after initial cancer study results were released last spring, NCI and NIOSH, with the cooperation of the companies, began in-depth epidemiological studies at the refineries.

The NCI's preliminary brain cancer findings were presented Oct. 28 at a New York Academy of Sciences meeting in New York. At that time, Gulf released the results of its in-house study into the deaths of 4,766 of its employees and retirees that occurred between June 15, 1935, and Dec. 31, 1979. The death certificates for 4,600 white males were examined.

Gulf's study, billed by the company as the "largest study of refinery employees ever reported in North America," included OCAW members as well as other union and non-union employees, said company spokesman Kirk Vogeley.

Using a different statistical methodology, the Gulf scientists observed 30 brain tumor deaths compared to an expected 31 brain tumor fatalities.

"In other words, the risk of these workers dying from brain tumors was essentially the same or slightly less than what would be expected for the total population of the United States," according to a Gulf study statement.

Despite company study results, Vogeley said, Gulf is continuing its investigation and is participating in four other studies, including NCI's.

"We have cooperated with NCI, OCAW, NIOSH in the NCI study by providing data and assistance. We will continue to work with them in investigating this important matter," the Gulf statement continued.

Texaco spokesman Mike McDermott said "studies of individual cases conducted to date have failed to confirm any correlation between work performed and cause of death."

Texaco and Gulf are participating in a study by the University of Texas, compiling and reviewing mortality records of workers at several sites in both Orange and Jefferson counties. Like Gulf, Texaco is conducting an in-house study.

In addition, both companies are involved in a comprehensive American Petroleum Institute study examining 100 petroleum refineries for adverse health effects in the workplace.

Mobil spokesman John Flint said the company has hired the Stanford Research Institute to "conduct an in-depth study of our entire mortality experience at the Beaumont refinery. We will share the results with government agencies as well as anyone else, including employees, when the study is complete in late 1981."