



TOXIC WASTE:

is this the result of dioxin poisoning in New Zealand?
HAMISH CARNACHAN investigates the terrible legacy the
Government claims to know nothing about

Picture this: an early 1970's hospital ward in provincial boomtown New Plymouth, late afternoon sun streaming through the casement windows and catching little dust eddies in the air, making them sparkle. Nurses in crisply-starched white uniforms and caps march equally crisply along corridors, while somewhere nearby a newborn baby mewls for its mother.

Yet to one woman walking the wards that day, something was inexplicably wrong. It just did not seem right. Why was this happening? As she patrolled the sterile hospital corridors, her eyes focusing on the rows of cots cradling helpless little

newborns and, in particular, the infant wailing for a mother who would never come, the same questions ran through her mind over and over again. Why were there so many of these babies in the maternity ward, one in every 30 births, with gross disfigurements?

This was supposed to be one of the happier places in the hospital and the birth of a child was supposed to be one of the happiest days of the parents' lives. But it broke the senior health worker's heart to see parents walking away from these wretched little children. What was causing these defects so disturbing that even the children's parents were

rejecting their very own flesh and blood?

In her 29 years of obstetric experience she had never seen anything like it. Was it the atomic bombs they were testing in the Pacific? Perhaps it was the weed spray the council was using in the streets or the farmers using on their land? None of the doctors seemed to have any answers but they were well aware that something out of the ordinary was causing an unprecedented rise in the number of congenital birth defects in the area.

The senior health worker was desperate to find the answers to put an end to the suffering and heartache.

But, like many of those babies tragically disowned, she found herself alone. Unhappy with the lack of assistance from local health authorities she was forced to conduct her own independent study. She started taking photos and recording the various types and degree of birth abnormalities coming through her ward.

More than 30 years on, the senior health worker is now well into her 80s. The things she saw and the fact that she could do nothing for those poor children still deeply affects her. In a recently written letter to the Chairman of the Dioxin Investigation Action Group she expressed her concern and remorse at the lack of interest shown by the authorities in the 70s, and concluded with this heartfelt plea: "I hope it won't be too long before we get some explanatory conclusions as, at 80+, time is getting short for me and I don't want to die wondering".

Many of the people in the Taranaki region, where this took place, and those who have been affected feel the same way.

The photos that appear on these pages are only a fraction of what was passed to *Investigate*. We were handed statistics and an entire album full of similarly disturbing images, 167 babies in total and many of them with multiple defects. Most of these were too graphic to publish.

This is the first time the public has seen these pictures. They were taken in a New Plymouth maternity ward at the same time a local chemical manufacturer, Ivon Watkins Dow, was producing dioxin in their herbicide 2,4,5-T – in amounts hundreds of times greater than today's recognised safety levels.

body part scandal

BUT THESE PHOTOS, and the story behind them that successive health authorities have refused to investigate, is part of a massive timebomb



The senior health professional who conducted the study and took these photos wishes to remain anonymous. For this reason we have made every effort to protect this person's identity and have referred to this person as a 'senior health worker'.



LEFT & TOP: a baby born dead with anencephaly - no brain - a condition linked to dioxin poisoning.
MIDDLE: massive facial deformity.
BELOW: Cleft palate, another condition linked to dioxin poisoning



sitting underneath New Plymouth Hospital: *Investigate* has reliable information that the hospital is sitting on a stockpile of deformed babies in jars, a so-called "House of Horrors", that makes the Greenlane heart scandal pale into insignificance.

Health authorities have known about the photos and the health problems suffered by the New Plymouth residents for decades but, documents obtained by *Investigate* reveal a pattern of health officials continually stonewalling any attempts to discern the underlying cause.

The residents have been left feeling disgruntled, neglected, but above all – angry. They want answers and they want them now, not in the form of political rhetoric or big business spin doctoring, but by means of an entirely independent inquiry.

These images echo the well-documented pictures of the Vietnamese children born to veterans of the 60s and 70s conflict that tore their nation apart. Researchers in Vietnam are almost certain there is a link between the extraordinarily high occurrence of birth defects in their country and the use of Agent Orange defoliant that was extensively sprayed over large areas of South Vietnam, and the children's parents, nearly 40 years ago.

Now, all over Vietnam, especially in the south where the heaviest fighting and consolidated spray operations ravaged the countryside, are children who have been born with remarkably similar defects.

The figures from the Vietnam experience speak for themselves. In areas that were sprayed with Agent Orange the researchers have discovered a threefold leap in stillborn births and miscarriages. In one province 69 babies out of every 10,000 were born with no brain, compared to fewer than 10 in most countries and two in Canada.

While the doctors who undertook



ABOVE: Dioxin Investigation Network's Andrew Gibbs. RIGHT: Artist's impression of 1972 explosion at the IWD plant in New Plymouth

the research admit that the data is not conclusive, other birth defects indicate that it is highly evocative. The risk of cleft palate is nearly 3 ½ times higher in areas that were sprayed and skin disorders nearly 4 ½ times higher. Some cases are so severe that portions of the face are completely missing.

Similarly increased rates of blindness, deafness, extra digits, missing or truncated limbs, clubfoot, cere-

bral palsy and spina bifida have also been recorded.

This appalling legacy of a horrific war continues to scar this struggling nation more than two decades after the last shots were fired and the last planes unloaded their lethal cargo of highly toxic spray over the countryside and the people.

But this story is about New Zealand and New Zealanders who may have unwittingly been subjected to a simi-

larly appalling experiment - one that may well account for our nation's poor health record when compared with other developed countries, and one that will completely shatter our much-lauded 'clean green' catch-cry.

New Zealand is a country built on agriculture and associated with that is the longest history of 2,4-D and 2,4,5-T use - both of which are key ingredients of the infamous defoliant Agent Orange. These herbicides have been used extensively since 1948 when they were first imported and then from 1960 onward when local manufacture began. It seems possible that we have poisoned a generation in our over-zealous endeavors to become one of the top OECD countries in the 1960s.

The increase in the number of congenital birth defects in New Plymouth was not merely a regional disparity. It is a little known fact that nationwide the number of congenital malformations recorded also increased dramatically. For example, between 1964 and 1971 the number of birth defects reported in New Plymouth nearly doubled. Similar increases were recorded in city centers and regions throughout New Zealand over the same period.

The spokesman for the Dioxin Investigation Network, Andrew Gibbs, says it is no coincidence that many in New Plymouth and other regions of New Zealand have suffered from the same health problems as the Vietnamese and Vietnam veterans.

He believes these tragic birth defects and the various ailments suffered can be directly linked to the city's largest employer - the Ivon Watkins Dow chemical plant, now called Dow Agro Sciences NZ Ltd.

Since the early 1960s IWD manufactured the herbicides 2,4-D and 2,4,5-T. According to the United States Environmental Protection Agency (USEPA) these herbicides contain 14 types of dioxin, one of



Photo: I.C IMAGES

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which, 2,3,7,8-Tetrachlorodibenzo-dioxin (2,3,7,8-TCDD), is listed as one of the most toxic substances known to man.

Following exposure to dioxin, effects may not manifest in the body for a long time. It has been linked to many different tumors, especially non-Hodgkin's lymphoma, respiratory cancers, soft tissue sarcoma, Hodgkin's disease and prostate cancer. Recent US and European stud-

ies suggest it is highly likely to cause problems in fetal development. It can cause severe birth defects including malformation of the penis, heart disease, clubfoot and a condition known as anencephaly, where a child is born without a brain.

George Lucier, director of the US National Toxicology Programme and author of the USEPA report says scientists are not quite sure how dioxin damages the body, but they do

know that it acted on a universal mechanism controlling cell functions.

Dioxin attaches or binds to the “All receptor” – a kind of cellular doorway found in virtually all cells in the body. Once there, it changes the function of hundreds of genes. It will either stimulate gene expression or suppress it. Gibbs says this is so worrying because the genetic damage can be passed down through many generations.

“What you’re going to get are these health problems and birth defects coming out from generation to generation within the exposed group. We’re seeing this happening in ex-Paritutu [a suburb bordering the Dow plant] residents now,” he says.

New Zealand first used the dioxin-contaminated herbicide in 1948 to control blackberry in the Taranaki region. After that it was used extensively on farms throughout the country until 1987 when it was finally pulled from the market because of increasing awareness of the inherent health risks.

IWD was the only company that formulated the chemical in this country. Gibbs believes the level of dioxin in the product they manufactured between 1960 and 1972 could have been far greater than the safety levels of today.

“According to the Commissioner for the Environment and the International Agency for Research on Cancer [IARC], the 1960s batches may have contained dioxin up to 20,000 times higher than 1985 levels,” he says.

In a 1997 IARC report (volume 69), their overall evaluation clearly states: “2,3,7,8-TCDD is carcinogenic to humans”.

designed for chem warfare

THE PRODUCTION OF 2,4,5-T at the IWD plant peaked in the 60’s and 70’s, and Gibbs says the residents of New Plymouth were subsequently exposed to levels of dioxin as high as the levels in Agent Orange used in Vietnam.

Both 2,4-D and 2,4,5-T were developed in 1941 at Fort Detrick as chemical warfare agents to be used against the Japanese in WWII. However, the first tests of what was to become Agent Orange (a mixture of equal parts of the herbicide 2,4,5-T and 2,4-D) did not take place until 1959.

“We were using it from 1948 so New Zealanders were

The production of 2,4,5-T at the IWD plant peaked in the 60’s and 70’s, and Gibbs says the residents of New Plymouth were subsequently exposed to levels of dioxin as high as the levels in Agent Orange used in Vietnam

effectively the guinea pigs. The 2,4,5-T that we were using had levels of dioxin just as high as that used in Agent Orange,” says Gibbs. “That’s why there was such a noticeable rise in the numbers of birth defects in the 60s and 70s.”

In addition, the Vietnam Veterans Association pharmaceutical advisor has alleged that New Zealand supplied stocks of Agent Orange chemicals for the Vietnam War, quantities of which were returned in the early 70s and sold to farmers for agricultural spray.

At the time, a National Government was paying subsidies on agricultural sprays for many parts of the country.

IWD had to make a chemical called 2,4,5-trichlorophenol (TCP) before the herbicide could be produced. It was one of the essential ingredients in 2,4,5-T. However the problem with the TCP manufacturing process was that it produced dioxin (TCDD) as a byproduct. This was extracted and concentrated in a solvent that was then stored in drums.

From 1974 to 1976 the Health Department granted IWD consent to bury 950 drums of dioxin-contaminated waste in three sites in the New Plymouth area. The buried waste leaked at one of these locations, an area of eroding coastal land, and was later



relocated to a secure lined-dump. In 1975 the company constructed a liquid-burning incinerator to continuously burn the accumulated solvent byproduct under conditions also licensed by the Department of Health. This continued until 1979, by which time 566,000 litres of waste had been incinerated. It contained nearly 6kg of dioxin. Gibbs believes the 1975 emissions were over 9500 times the concentration of today's recognised safety level.

IWD later installed a solid waste incinerator at New Plymouth to burn solid wastes and sludge that had accumulated since 1976. Though neither of them had 'scrubbers' to remove harmful pollutants and the potentially lethal dioxin from emissions - the Health Department licensed both of these.

the 1975 - 1979 burn off by the IWD plant, and Gibbs believes they may well have been producing more 2,4,5-T than the company records actually disclose.

Gibbs' mistrust of the company is not entirely unwarranted. In a memo from IWD's parent company, Dow Chemicals, one of their biochemists states (in reference to dioxin): "This material is exceptionally toxic, it has a tremendous potential for producing chloracne and systemic injury".

The confidential document was sent to the Bioproducts Manager of Dow Chemicals in Canada in 1965. It provides clear evidence that the company had known of the adverse effects caused by 2,4,5-T prior to its large-scale use in Vietnam.

another confidential Dow document dated March 10, 1965 referring to the same chemical produced by Monsanto states: "This material presents a definite hazard"

The US completed the burn-off of excess defoliant from the Vietnam War in 1977. They were incinerated on a ship about 120 kilometers down wind of Johnson Island in the Pacific. IWD incinerated their waste merely a few kilometres up wind of New Plymouth.

A further incident in 1972 compounded the exposure the New Plymouth residents were subjected to. On November 3 an explosion ripped through a building at the plant that blew out much of the roof and walls of the facility. The resultant fallout scattered contaminants, probably including dioxin, over the suburbs and farmland that borders the factory.

No health alert was issued. There was no monitoring of the local population. Instead of alerting the residents to the presence of a dangerous situation, the government agencies responsible for the consequences of chemical contamination did nothing. IWD were undaunted and continued production.

Despite constantly reassuring the public that the chemicals they produced were safe, IWD did not disclose what chemicals or what process had resulted in the explosion - somewhat contradictory to their latest radio slogan: "Supporting an informed community".

The Health Department only intermittently monitored

Furthermore, another confidential Dow document dated March 10, 1965 referring to the same chemical produced by Monsanto states: "This material presents a definite hazard which would require all the precautions...to prevent injury..." and "In my opinion their products should not be sold until animal tests show these products to be free of a significant hazard from the [dioxin] related materials".

Dow ignored these warnings even after animal tests conducted in 1965 showed dioxin caused severely increased rates of cleft palate in mice. The tests carried out by Bionetics Research Laboratory, a US-based independent testing agency, also reported that 2,4,5-T and possibly 2,4-D were 'teratogens' (Greek for 'monster forming') - agents that raise the incidence of congenital abnormalities. This knowledge was suppressed until 1969.

Equally as disturbing though is that this knowledge was kept from the New Zealand public. Workers in the IWD plant and agriculture, railway and forestry sectors had formed a heavy reliance on the product since its first trial in Taranaki, and continued to use it until 1987. Indeed, drums of the material can still be found in farm sheds around the country.

"The IWD manual [1970s] shows a New Zealand spray

applicator wearing shorts and not even a T-shirt while using this stuff – no respirator or protective suit. Pictures taken during the Vietnam War show ‘Ranch Hand’ troops [Chemical Corp soldiers] in full protection ‘hazchem’ suits,” says Gibbs.

“They should be liable for label fraud too. The product has never been labeled as containing dioxin, and the dioxin concentration wasn’t even regulated until 1973. Prior to that was when the damage was done.

“Why do you think New Zealand’s got such an appalling health record compared to other developed countries? Look at our cancer stats. Look at our level of respiratory diseases.”

He says the Ministry of Health is “dragging the chain” and they are not willing to acknowledge the health problems for fear of opening the floodgates for compensation claims.

The President of the Vietnam Veterans Association of New Zealand Inc., John Moller, sympathises with Gibbs and the Taranaki residents. The US government has acknowledged their veterans’ (and their families’) health problems but it has taken our Government years longer to compensate soldiers who served in Vietnam.

Moller believes the Government refuses to comprehend the seriousness of the matter because of the link between the servicemen’s exposure to dioxin in Agent Orange and the populations’ exposure to dioxin in 2,4,5-T.

“It took them [Government] 18 years to realise our concerns and we’re still having problems,” says Moller. “They really haven’t had a serious look at the national problem either.

“They’re trying to keep it quiet because New Zealand defence was implicated with trying to supply Agent Orange to Vietnam. We’ve never been able to prove that but there’s been so many lies told over the years that it’s hard to ascertain where the truth lies.”

Although he believes the issues surrounding the veterans’ health concerns have not been resolved adequately, Moller says the Government should now focus very seriously on the national health problems associated with dioxin exposure.

“Studies in Australia show their veterans are five times more likely to develop prostate cancer than the rest of the population. The Government has a responsibility to inform our veterans, and all the guys who used those herbicides, they need to have regular medical checks,” he says.

“Our overall cancer rate is something like five times higher than other developed countries. They [Government] have to take some responsibility for that.”

Gibbs agrees but says previous inquiries have failed to address relevant issues, which is indicative of a cover-up.

A 1986/87 Ministerial Committee of Inquiry investigating the New Plymouth dioxin exposure concluded that there was no evidence supporting the residents’ concerns and that they had not been exposed. However, soil tests by the Department of Scientific and Industrial Research (DSIR) that discovered Vietnam-like levels of dioxin around the IWD plant were not published in the report. These tests provided evidence of historic airborne contamination.

The most recent report, prepared by Taranaki’s medical officer of health Dr. Patrick O’Connor, was released in August 2001. The objective of this study was to compare the rate of illness in several New Plymouth suburbs (bordering the IWD plant) with the rest of the country.

The findings were important because O’Connor stated that they should be used to ascertain whether or not further investigations into the historic health outcomes would be warranted.

But because the study did not deal with health outcomes before 1988 in the first place, Gibbs says the report was a costly “red-herring produced at the taxpayers’ expense”.

He remains adamant that the study was a waste of time because it failed to identify the key exposure group – all residents who were present in the 60s and 70s when the largest quantities of 2,4,5-T, with Agent Orange levels of dioxin, were manufactured.

Even O’Connor’s report recognises that human carcinogens may have a latency period of between 5 and 30 years or more. Basically this means they lie dormant in the body for long periods before they cause problems.

“To get accurate results they needed to track down residents who have left. That’s going to affect the results of the study because many of them have moved away,” says Gibbs. “Their cancers and health problems that were probably caused when they lived here are attributed to the regions they live in now.

“O’Connor’s report focused on an area that was too small to accurately quantify the level of dioxin exposure, and it failed to include people who may have worked in those suburbs but resided elsewhere.

“The report does not recognise that the rate of birth defects would have fallen significantly with the introduction of antenatal ultrasound scanning. This technology was not available at the time [the senior health worker] carried out her study. In more recent times it is likely that many parents who had their unborn child diagnosed with congenital abnormalities may have terminated the pregnancy.”

Gibbs asserts that various omissions and erroneous dates substantiate his claims that the study was another Health Department cover-up. *Investigate* cross-referenced the



report with official documents and media-reports and it appears that key events are indeed missing.

Dr O'Connor refers to the explosion at the manufacturing plant as a "fire" and he makes no reference to the incineration of 5.7kg of TCDD between 1975 and 1979.

A 1986 Health Department report by the Regional Air Pollution Control Officer, Ron Pilgrim, indicates the peak emission period, and hence the key exposure, was from 1964 to 1969. Pilgrim states: "The degree of process control at the time was rudimentary compared with after 1969".

Again, O'Connor makes no reference to this critical period of dioxin exposure in his report despite telling *Investigate* that he believed the chronological summary of the report was "accurate".

He was unapologetic of the fact that he did not investigate historic exposure, and was unwilling to accept the identified links between dioxin and detrimental health effects.

"To recognise adverse effects from dioxin in general is not the same as accepting a specific link between dioxin exposure and illness for Paritutu residents," he says.

Because of the historical nature of this problem, and because there was no legal requirement to keep records, the health authorities have often used the 'lack of evidence' argument to counter the residents' concerns.

But those affected believe there is ample evidence – for them, it is a case of "none so blind as those who will not see."

The Cancer Mortality Atlas of New Zealand (1982) recorded New Plymouth's levels of lymphosarcoma

and Hodgkin's disease at three times the national average. But in 1986 the medical officer of health for Taranaki, Dr Allan Cowan, said there was "not a shred of evidence" to link the diseases with dioxin. The US government now compensates their Vietnam veterans affected by both of these illnesses.

Though the senior health worker's report was not a commissioned study, it provides the only insight into the escalated appearance of congenital birth defects in the region at the time. Additionally, this increase, which was also a national trend, clearly corresponds with the manufacture of a deadly chemical that was used extensively throughout the country.

International environmental consultants Hatfield Consultants Ltd. have carried out extensive research



LEFT: A “real” Kiwi bloke doesn’t need protection. ABOVE: BBC World footage shows (top right corner) herbicide being handled by workers in full hazchem gear.

on the effects of Agent Orange in Vietnam. Their studies have recorded more than twice as many birth defects – 2.9 per cent of all babies - among those exposed to the defoliant.

The senior health worker’s statistics compare markedly. From 1965 to 1971 the number of newborns with defects accounts for 3.1 per cent of all births – that means 1 baby out of every 30 was born with a malformation.

Her study notes, statistics and pictures have been offered to various official bodies, including Dr O’Connor and the Ministry of Health on a number of occasions. Not once have they been accepted despite the remarkable similarities to Vietnam.

“I am aware that some information was collected by a local midwife some years ago, documenting individual cases of birth defects,” says O’Connor. “I have made some enquiries regarding this information but have not seen it.”

The “midwife”, it should be recognised, was actually a senior health professional employed by the maternity hospital. In a letter to the chairman of DIAG, written four months *before* O’Connor’s report came out, she states: “Personally I have been in contact with your Medical Officer of Health Dr O’Connor and have supplied him with a list of abnormalities that occurred over those years and the statistics”.

In a previous response to the senior health worker’s investigations, a letter from the Department of Health dated 1973 said: “As far as New Plymouth is concerned many of the abnormalities reported from there are very

minor and variation has been shown to be due to staff changes”.

“That’s just b/s,” says Gibbs. “There were no staff changes – [the senior health worker] conducted that study from start to finish. If they’re minor why were there so many neural-tube defects? Take a look at the photos and tell me those are minor.”

The study recorded 48 out of the 167 birth deformities as neural-tube defects. These include disorders such as anencephaly (no brain), hydrocephaly (water on the brain), microcephaly (undeveloped brain) and spina bifida.

government denial flawed

ASSOCIATE MINISTER OF HEALTH Ruth Dyson told *Investigate* that the Government had no knowledge of any evidence of birth defects linked to dioxin but they would launch a full and thorough inquiry into the issue if they were offered physical proof.

“The government agencies working with the community in New Plymouth have repeatedly been told of a birth defects study carried out by a local midwife in the 1980s. Despite this study being repeatedly referred to by one New Plymouth resident, and the government agencies repeatedly asking for this evidence, nothing has been forthcoming,” says Dyson.

It appears Dyson has not been fully briefed by her officials.

Patrick O’Connor, in a letter dated February 27th last year (six months before his report was issued and a year before Dyson’s denial cited above), acknowledges re-

ceiving “very interesting” information about birth defects from a former New Plymouth health worker, and says “I have passed on the content of your letter to the Ministry”.

“Dr O’Connor told me he had the study,” mutters Andrew Gibbs. “Annie Coglin from the Ministry of Health rang me before Christmas and I told her O’Connor had it. The Ministry of Health, ACC, OSH and the Ministry for the Environment were told about it again at a meeting of Timber Workers, Taranaki residents and John Moller in Whakatane prior to Christmas. It’s a blatant lie that nothing’s been forthcoming. They haven’t even tried,” says Gibbs.

Dyson says the Government cannot accept that Vietnam-like exposure to dioxin occurred in New Plymouth because previous work on body burden (the amount of dioxin carried in the body) in New Zealanders found our levels to be low compared to other countries.

However, Moller says the previous studies were not representative because they failed to investigate the “hot spots” - areas where historical use of 2,4,5-T was particularly high.

“Dyson’s reliance on the environmental audit report is not acceptable because it’s biased,” he says.

“When they took samples they took them from our native forests, not the pine forests which would have been the most contaminated areas.

“In the old days they used to spray all the forestry blocks before they burnt them off.

“They’re looking for carrots in a pumpkin paddock.”

Gibbs believes such insight shows the Government’s ignorance of the subject.

“World Health Organisation tests in 1988 showed we have a concentration of 2,3,7,8-TCDD [dioxin] in breast milk second only to South Vietnam,” he says. “Previous blood serum tests haven’t taken into account that dioxin has a half-life of 7 ½ years – that means it has broken down and will only be about six to 12 percent of the concentration when the worst exposure occurred prior to 1970,” he says.

“The Government have known since 1992 that herbicide applicators had high levels of dioxin. The 86/87 inquiry stated that in a worst case scenario a sprayer would have a dioxin concentration of 2.96ppt [parts per trillion] in their blood after 30 years of use. In 1992 when they tested and found up to 140ppt what did they do for those men? What did they do for their families?

“Why haven’t they informed them that they are in a high risk category for prostate cancer and they need regular health checks?” says Gibbs.

He already knows the answer to his own question: it would be an admission of guilt – after all the Govern-

Ruth Dyson told *Investigate* that the Government had no knowledge of any evidence of birth defects linked to dioxin but they would launch a full and thorough inquiry...if they were offered physical proof.

ment subsidised 2,4,5-T for farm use and hence dioxin has been in our food chain for many years. Several generations of New Zealanders through historic exposure have now drunk, eaten, inhaled and worn dioxin, one of the most toxic chemicals known to man. As Andrew Gibbs puts it: “It’s bigger than thalidomide”.

But why shouldn’t Dow Chemicals pay restitution? Gibbs believes that the only chance of that happening is if the Government is put under enough pressure to admit what has been going on in this country for the best part of half a century.

That will not be an easy task though. The Dioxin Investigation Network and various others have been fighting for recognition for years now. Many of their colleagues did not want the photos to be published but Gibbs says it is time to “get the gloves off and show them what they’ve suppressed for decades”.

“People may not be interested in dead babies and cancer. It’s one thing to be a guinea pig – it’s another to have to pick up the tab for it though. Dow lied – Dow pays.”

There is hope that the senior health worker will get her closure. The frenzied activity in Wellington following *Investigate*’s inquiries would suggest something is indeed stirring. However, as the president of the Hatfield group said in a recent interview in a Canadian newspaper: “There are some big chemical companies. The US military is involved. So no matter how good our science, no matter how sincere our health protection plan, people are going to come out of the woodwork and start tearing it to pieces”.

Gibbs knows it.

“A 2001 report by the Ministry for the Environment stated that dioxin is linked to disruption of the immune system, fertility/reproduction, and neurobehavioural outcomes.

“Recently Professor Allan Smith stated on *TV One* our current dioxin levels are close to those that cause birth defects – and they’re currently only 6-12 percent of the peak levels,” he says.

“The Government is responsible for upholding scientific and medical fraud for political reasons.”