



Ex-Marsden Point Oil Refinery worker with cancer wants compensation, claiming lead poisoning

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Brian Arndt speaks to The New Zealand Herald about his ongoing battle for recognition for the lead poisoning he says he has suffered from since working at Marsden Point refinery in the 1960-70s



By: Kurt Bayer

NZ Herald reporter based in Christchurch

Twitter: @KurtBayerNZME

A former Marsden Point Oil Refinery worker has won a battle to further probe whether cancers that riddle his body are linked to exposure to highly toxic lead at the facility more than 40 years ago.

But Brian Arndt has been told no specialist scans are available in New Zealand.

The 77-year-old worked as a shift operator at New Zealand's only refinery, at the entrance to Whangarei Harbour, from 1965 to 1975.

A major part of his job was transferring tetraethyl lead (TEL) and tetramethyl lead (TML) from bulk 44-gallon (200l) drums into separate vessels for the blending of Regular and Premium Petrol.

Leaded petrol in New Zealand was phased out over two decades before unleaded petrol became mandatory in 1996.

TEL is medically-linked to long-term human health damage and [could also be blamed for violent crime](#).

Wearing white cotton overalls, underclothes, gumboots, dairy worker-style gloves, and a face mask, Arndt says he would remove the drum lids and an internal plug, with his head just 60cm above the surface of the poisonous lead fuel additive.

"Even through the mask you could smell it, it was terrible stuff," Arndt told the *Herald* from his Matamata home.

Within months, the fit, strong young man was allegedly suffering health issues, including violent "psycho" dreams and erectile dysfunction. Arndt only recalls having one medical check at work.

Just three months after he joined the refinery in April 1965, Medical Officer of Health E. Simpson wrote a letter to the Whangarei district officer of the Department of Labour, warning of the dangers of lead.

"There is, at the Marsden Point Oil Refinery, a section of the plant wherein employees will be handling one or both of these compounds [tetraethyl/tetramethyl lead] which are added to petrol to reduce 'knock'," the medical officer wrote in documentation Arndt obtained from Archives New Zealand.



"Both are extremely toxic, affecting the central nervous system of persons exposed to a harmful concentration. The risk is present wherever the compounds are handled, and also when petrol tanks are de-sludged."

Global research, including studies by the International Agency for Research on Cancer (IARC), an intergovernmental agency forming part of the WHO, show TEL is readily absorbed through the skin. Although IARC does not class TEL as carcinogenic, it can change into highly-carcinogenic inorganic lead when lodged into major bones.

Arndt has survived various cancers since the 1980s. A tumour was removed from his left lung in 1989 and, between 2011 and 2014, he underwent two mastectomies. In 2012, he was diagnosed with prostate cancer.

"My oncologist wanted to know what I had been working with as they could not identify my various tumours to anything on the New Zealand medical databases. He was amazed that there had been an organic lead plant here in New Zealand," he said.

It was only five years ago that Arndt first suspected his cancers were linked to lead exposure during his Marsden Point days.

When his teeth had to be removed last year – having first noticed them crumbling in 1978 - he claims he could taste lead.

"I could smell it on my breath and I thought, 'Oh my god, there's lead in my jawbone'," Arndt said.

Further examinations found Arndt's dental leads were 1659 per cent above normal levels.



Brian Arndt pictured at home in Matamata with the huge pile of paperwork that he has accumulated over the years. Photo / Alan Gibson



In April last year, his GP lodged an ACC injury claim form, saying that Arndt had suffered exposure to toxic chemicals while at work which had resulted in prostate cancer, breast cancer, and squamous cell skin cancer, with a recorded accident date of April 1, 1974.

ACC rejected Arndt's claim after an occupational physician found his "employment properties or characteristics had not caused or contributed" to his prostate or breast cancers, but possibly had contributed to his skin cancer.

ACC's toxicology panel concluded it was unlikely that Arndt's cancers were caused by workplace exposure to TEL and TML and recommended his claim be declined.

However, a review last month of Arndt's claim by FairWay Resolution quashed ACC's decision after finding the case required further investigation.

The independent reviewer noted there "seems no dispute" that Arndt was exposed to TEL and TML lead during his work at Marsden Point Oil Refinery and that a K X-ray emission spectroscopy, funded by ACC, was the best way to determine whether his health issues were associated with lead poisoning at work.

"Once the results of that X-ray are known, ACC must consider Mr Arndt's claim for squamous cell carcinoma and decide whether his work tasks or environment contained a property or characteristic that caused or contributed to the cause of his squamous cell carcinoma," FairWay Resolution ruled.

While ACC accepts it is bound by the reviewer's direction, it claims there "is nowhere in New Zealand where such a scan can be done", and legislation under section 128 of the Accident Compensation Act 2001 does not allow ACC to fund treatment or procedures overseas.

But if Arndt can identify an "alternative and comparable" diagnostic scan in New Zealand, ACC says it would look at funding it. Alternatively, if Arndt gets a K X-ray done overseas, it vows to assess its results.

"We believe the information ACC has received on this claim shows that Mr Arndt's work environment did not cause his cancer, nor did it put him at significantly greater risk of developing it – these are key criteria that form part of considering work-related gradual process claims," a spokesman said.

"A further point is that even if Mr Arndt did have massive exposure to organic lead at the refinery prior to 1975, the level of lead in his bones now – four decades later – is very unlikely to be higher than levels commonly found in the community, and so would not provide any indication of the likely cause of Mr Arndt's cancer."

Refining New Zealand also denied Arndt's claims that he was endangered while working at the facility in the 1960s and 70s.

A spokesman said task-specific personal protective equipment (PPE), including breathing masks, was worn for the handling of lead additive.

"We also know from long-serving employees that its use was rigorously followed. Staff also received regular medical checks for lead," he said.

"We are of course deeply empathetic with this former employee who is suffering from cancer. However, while recognised as toxic, the Chemwatch Material Safety Data Sheet (MSDS) states that there is no identified causal link between lead and cancer."

Arndt and fellow ex-refinery worker, Brian Tobin, alleged earlier this year that lead-laden sludge was dumped "between a couple of sandhills" at Marsden Point.



Refining New Zealand denied any wrongdoing, saying it was part of a process called land-farming where tank sludge was mixed with soil and lime to remediate it, and which remains a consented process under the Resource Management Act today.

"Lead content at this land farm, at 33 parts per million (ppm) is well below the national standard for safe recreational use (880 ppm). When last measured in 1995 the result was so low and leaded activity ceased, so no further monitoring of that land farm took place in later years," the spokesman added.

Arndt estimates he's spent around \$70,000 on dental and cancer treatments over the last 30 years, with tens of thousands more coming out of medical insurance that he can no longer afford.

If granted compensation, Arndt says he would expect a lump sum plus ongoing payments.

But more than the money, he wants "truth and transparency".

"There's been enough lies. I've had 52 years of problems. Literally for my adult life, I haven't lived the life of a man.

"The bastards poisoned me. I'd like to know how much I have in my body. I have a right to know."

DEADLY TETRAETHYL LEAD (TEL)

- TEL is an organic compound with the formula $(\text{CH}_3\text{CH}_2)_4\text{Pb}$.
 - it was added as an octane-booster to gasoline in the 1920s and helped reduce internal combustion engine knocking.
 - Even when it was invented, it was known to be poisonous, but its deadliness emerged in the summer of 1924 when 15 workers engaged in producing the additive fell sick and died at several refineries in New Jersey and Ohio.
 - All forms of lead are toxic if inhaled or ingested. Lead can affect the nervous system, red blood cells and cardiovascular and immune systems. Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioural and learning problems and lower IQ.
 - Some historians argue that lead-tainted food and drink popular with emperors and the ruling elite helped bring about the fall of the Roman Empire.
 - The ban of TEL in automobile gas was phased in over a number of years and resulted in significant reductions of lead emissions to the environment.
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