VETERANS' ENTITLEMENTS APPEAL BOARD

Name:	[redacted]
Service Number and Rank:	[redacted] **Staff Sergeant**
Address:	[redacted]
Hearing date:	**12 December 2025**

Parties:

The Appellant:	[redacted]
Representatives:	Ms Teresa Cousins Mr Robert Todman
The Respondent:	Veterans' Affairs New Zealand
Representatives:	Ms Tracy Lamb, Assistant Director Legal Services Veterans' Affairs Dr Mike O'Reilly, Principal Medical Advisor Veterans' Affairs Mrs Shakila Davies, Deputy Head, Operations Veterans' Affairs

This Appeal

This is an appeal against the 16 April 2025 decision of the Review Officer. That decision upheld the 14 March 2025 decision of the Decision Officer, which declined to accept [redacted] diagnosis of malignant brain tumour as service-related under the Veterans' Support Act 2014 (**the Act**).

[redacted] grounds for appeal are that the decision-making process was procedurally deficient. Specifically, [redacted] claims the Review officer failed to appropriately consider or engage with the academic references and scientific literature submitted in support of his claim.

This appeal has been heard on a de novo basis as required by s 229(1) of the Act. A de novo appeal allows a party dissatisfied with a decision from a Veterans' Affairs Review Officer to have the "entire matter" heard afresh. A hearing de novo is a complete rehearing, meaning the Board approaches the case as if for the first time, standing in the shoes of the original decision-maker and hearing the matter from the beginning.

The Board is not bound by the Review Officers' decision and must make its own independent decision on the matter and any relevant issues. Consequently, parties are free to present new evidence and raise new issues that were not before the Review Officer, provided they relate to the same fundamental application.

Outcome
The appeal is successful. The decision of the Review Officer is revoked. This decision substitutes the decision of the Review Officer.

Summary
[redacted] has been successful in two aspects of his claim:

1. Having regard to the service record, the medical and scientific evidence, and the statutory framework, the hypothesis that service-related concussive and head-impact injuries contributed to [redacted] malignant glioblastoma is a reasonable hypothesis and is service related.

2. Having regard to the service circumstances in Somalia, the absence of contrary evidence and the contemporary scientific understanding of burn pit exposures in deployed military environments, the Board considers the hypothesis linking burn pit exposure during his Somalia service to [redacted] malignant glioblastoma reasonable and is service related.

DECISION

[1] [redacted] appeals the decision of the Review Officer dated 16 April 2025 declining to accept high grade glioblastoma multiforme in the right temporal lobe as service-related under the Veterans' Support Act 2014 (the Act) and declining coverage for his diagnosis of a malignant brain tumour.

Background

[2] [redacted] served in the Logistics Regiment of the New Zealand Army, attaining the rank of Staff Sergeant.

Diagnosis

[3] [redacted] has been diagnosed with high grade glioblastoma multiforme in the right temporal lobe. The diagnosis is uncontested. [redacted] condition carries a poor prognosis and is considered terminal.

Qualifying service

[4] [redacted] has qualifying operational service in Somalia where he served from 15 January to 1 July 1994 and Timor-Leste from 13 September to 24 December 2002.

[5] The Appeal Board thanks [redacted] for his service.

Review Officer's decision

[6] The Review Officer found that the initial assessment of [redacted] claim was conducted in accordance with the relevant SOP and determined that none of the required factors were applicable. The Review Officer held that the claim was appropriately declined.

[7] The Review Officer considered two hypotheses raised by [redacted] regarding pesticide exposure in Timor-Leste and a traumatic brain injury sustained in Somalia. The Review Officer did not consider either of these as being reasonable under s 15 of the Act.

[8] The Review Officer commented that he could not generate any additional hypotheses to link the veteran's service with his medical condition.

[9] The Appellant appeals the Review Officer's decision.

Issues for this decision

[10] [redacted] says the following three reasonable alternative hypotheses will lead to a decision that his medical condition is service related:

(a) TBI/Concussions

(b) Organophosphate exposure in Timor-Leste

(c) Burn pits, Airborne Hazards & Environmental Toxicants

[11] Veterans' Affairs disputes these are reasonable alternative hypotheses.

The law

[12] The Board must consider [redacted] application under s 14 of the Act. Where there is no applicable statement of principles (**SOP**) the Board must then consider the application under s 15 of the Act. The Board's decision must be made benevolently in accordance with s 10 of the Act.

Analysis under s 14 of the Act

[13] SOP 85/2016 exists for Malignant Neoplasm of the Brain. It was agreed at the hearing that the factors included in the SOP did not apply and the analysis in this case is subject to s 15 of the Act.[1]

Analysis under s 15 of the Act

[14] The first step in applying section 15 of the Act is to determine whether the hypothesis, on which reliance is placed by [redacted], is reasonable.[2] In this context, "reasonableness" is defined by section 15(4) of the Act as:

> A hypothesis is reasonable if it is—
>
> (a) more than a possibility; and
>
> (b) consistent with the known facts; and
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> (c) not inconsistent with proven or known scientific facts.

[15] If the reasonable hypothesis is accepted, Veterans' Affairs must then prove on reasonable grounds that the condition is not service-related.[3] If they cannot the claim must be accepted.

TBI/Concussions

[16] [redacted] has advanced the hypothesis that concussive and repetitive head-impact injuries sustained during qualifying service and service-sanctioned activities contributed to the biological processes that culminated in malignant glioblastoma.

[17] It was submitted that the service-related head trauma may have caused, contributed to, or aggravated the disease process.[4]

Known facts

[18] [redacted] sustained a head impact during qualifying operational service in Somalia in 1994 involving a fall and head strike during physical training.

[19] [redacted] service record shows he suffered repeated rugby-related head impacts during service resulting in neurological symptoms including dizziness and visual disturbance between 2006 and 2007.

Scientific facts

[20] The Repatriation Medical Authority (**RMA**) of Australia reviewed the SOP for malignant neoplasm of the brain at its August 2025 meeting.[5] The comparison

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[1] Veterans Support Act 2014 s 4(4).

[2] Veterans Support Act 2014 s 15(2).

[3] *Veterans' Affairs New Zealand v Estate of Tā Harawira Gardiner* [2025] NZHC 2479 at [55].

[4] Veterans' Support Act 2014 s 7.

[5] Repatriating Medical Authority, Malignant neoplasm of the brain, Legislation Act 2003 review, RMA101/18, August 2025.

table, referencing the sources employed by the RMA was provided by Veterans' Affairs in its submissions.

[21] The draft SOP was accepted by the RMA in its October meeting, and as part of its standard processes, the RMA has provided the draft to stakeholders for consultation. Once accepted the SOP will be considered by the Veterans Health Advisory Panel for recommendation to the minister, before becoming a legislative instrument in Aotearoa.

[22] The drafted SOP reflects the most current review of the literature regarding the association between service-related exposures and subsequent malignancies of the brain. Moderate to severe traumatic brain injury (**TBI**) has been included as a factor for malignant neoplasm of the brain. RMA acknowledges that the evidence for a link between mild-TBI and brain cancer is limited but plausible.

[23] Veterans' Affairs accepts [redacted] sustained a mild head injury in Somalia but not a moderate to severe injury.

[24] The RMA review highlights that the more serious a brain injury, the higher the risk of later developing a malignant brain tumour. This risk increases gradually. Even though the studies reviewed by the RMA do not all show a strong link for mild brain injuries, there was no biological evidence that a concussion or mild TBI cannot play a role in causing a tumour in an individual case.

[25] Research into how brain injuries affect the brain shows that even mild injuries can trigger inflammation and other changes that are relevant to how brain tumours develop, even if those effects are stronger with more severe injuries.

Reasonable hypothesis

[26] Having regard to the service record, the medical and scientific evidence, and the statutory framework, the hypothesis that service-related concussive and head-impact injuries contributed to [redacted] malignant glioblastoma:

(a) is more than a mere possibility, being grounded in documented service exposures and recognised biological mechanisms;

(b) is consistent with the known facts of [redacted] service; and

(c) is not inconsistent with proven or known scientific facts, notwithstanding the absence of definitive epidemiological proof.

[27] The hypothesis is reasonable.

Is [redacted] malignant glioblastoma service related?

[28] Having concluded the hypothesis is reasonable the Board must turn its mind to consideration of whether there are reasonable grounds for believing that [redacted] malignant glioblastoma was not service related.

[29] Veterans' Affairs have produced no evidence that [redacted] condition was not caused, contributed to, or aggravated by qualifying service. Veterans' Affairs relied upon evidence that the epidemiological studies did not report any statistically significant association between mild TBI and malignant brain tumours at a population level and the absence of definitive medical or scientific proof establishing concussive injury as a causal factor for glioblastoma.

[30] These submissions and the evidence relied upon establishes, at best, scientific uncertainty but does not establish contradiction, nor does it provide an objective and rational basis for believing the disease was not caused by, contributed to, or aggravated by qualifying service.

Conclusion

[31] The statutory requirements for acceptance of [redacted] claim is met.

Organophosphate exposure in Timor-Leste

[32] [redacted] advances the hypothesis that exposure to organophosphate pesticides during qualifying operational service in Timor-Leste caused, contributed to or aggravated the malignant glioblastoma subsequently diagnosed.

[33] In support of that hypothesis, [redacted] asserts that:

(d) organophosphate compounds were widely used in vector-control programmes in Timor-Leste during the early 2000s;

(e) such compounds were applied through fogging, residual spraying, treatment of equipment, and water-source larviciding in urban areas including Dili;

(f) his duties required regular operational movement through environments where such vector-control measures were in use; and

(g) exposure to organophosphate was therefore foreseeable and unavoidable during service.

Known facts

[34] While serving in Suai [redacted] was required to transit through Dili. Vector-control activities were undertaken in Timor-Leste at that time. Veterans' Affairs has provided evidence that that during the period of [redacted] service the vector control involved the use of synthetic pyrethroid insecticides rather than organophosphate compounds.

[35] No evidence has been produced demonstrating that organophosphate pesticides were used by, supplied to, or deployed in conjunction with New Zealand Defence Force or United Nations forces in Timor-Leste during [redacted] period of qualifying service.

[36] Exposure to organophosphate pesticides is not supported by the known facts.

Scientific Facts

[37] The Board accepts, as a matter of general principle, a hypothesis linking organophosphate exposure to glioblastoma is not inherently unreasonable. This has been reflected in prior decisions, including *Gardiner*, where the factual matrix established agent orange exposure had either caused or contributed to the development of glioblastoma.[6]

[38] However, section 15(4) requires that a hypothesis be consistent with the known facts of the service rendered**,** not merely with general scientific possibility.

[6] *Veterans' Affairs New Zealand v Estate of Tā Harawira Gardiner* [2025] NZHC 2479.

[39] In this case, the scientific literature relied upon by [redacted] presupposes exposure to organophosphate compounds. Where such exposure is absent, the literature cannot support the hypothesis advanced.

[40] Further, the synthetic pyrethroids identified as having been used in Timor-Leste differ materially from organophosphates in chemical structure, toxicological mechanism, and regulatory classification. The epidemiological and mechanistic evidence relating to organophosphates cannot be transposed to pyrethroid exposure.

[41] Pyrethrins and synthetic pyrethroids are generally not considered to cause genetic damage or cancer in humans at the levels typically encountered through occupational exposure, and they are not known to cause the kinds of DNA damage, genetic instability, or long-lasting inflammation in the nervous system that are associated with the development of glioblastoma.

[42] The proposition that exposure to the identified pyrethroid compounds caused or contributed to [redacted] glioblastoma is not supported by an identified biological mechanism when assessed against established scientific evidence.

Reasonable hypothesis

[43] Having regard to the service record, the medical and scientific evidence, and the statutory framework, the hypothesis that service-related exposure to organophosphates contributed to [redacted] malignant glioblastoma:

(a) is not a possibility;

(b) is not consistent with the known facts of [redacted] service; and

(c) is inconsistent with proven or known scientific facts.

[44] The hypothesis is not reasonable.

Burn pits, Airborne Hazards & Environmental Toxicants

[45] [redacted] advances the hypothesis that exposure to solid or liquid particles suspended in the air containing toxicants arising from waste combustion and burn pits during qualifying operational service caused, contributed to, or aggravated the malignant glioblastoma subsequently diagnosed.

[46] The hypothesis advanced by [redacted] is that waste burning and associated combustion practices in operational settings generate complex mixtures of airborne contaminants, including fine particulate matter, volatile organic compounds, polycyclic aromatic hydrocarbons, dioxins, and combustion-related hydrocarbons. It is further asserted that such emissions may arise not only from large-scale burn pits, but also from smaller-scale waste combustion and the burning of petroleum-based fuels, including diesel.

[47] [redacted] contends that inhalation of these airborne toxicants during service results in systemic exposure, with ultrafine particulates and lipid-soluble compounds capable of translocating from the respiratory tract into the circulation and, in some circumstances, crossing or disrupting the blood–brain barrier. On this account, repeated or chronic exposure is said to give rise to neuroinflammation, oxidative stress, microglial activation, and DNA damage within central nervous system tissues.

[48] In relation to diesel combustion, it is asserted that diesel exhaust contains a range of hazardous constituents, including benzene and other aromatic hydrocarbons, which are recognised carcinogens in other contexts. [redacted] relies on emerging scientific literature, and recent consideration by the Repatriation Medical Authority in its review of the malignant brain tumour Statement of Principles, which acknowledges benzene as a substance of oncogenic relevance.[7]

[49] It is on this basis that [redacted] submits that inhalation of combustion products from diesel burning and waste disposal practices during service could plausibly contribute to the development of malignant glioblastoma.

[50] The hypothesis is advanced in respect of two operational deployments: Timor-Leste and Somalia. While the scientific material relied upon is common to both, the factual circumstances of service differ materially and require separate consideration.

Timor Leste

[51] Waste disposal by burning occurred in Timor-Leste during [redacted] period of qualifying operational service. The Board accepts [redacted] may have been present in the broader operational environment in which such practices occurred.

[52] However, Veterans' Affairs has provided affirmative evidence, based on contemporaneous New Zealand Defence Force environmental health advice, that:

(a) the historical practice of burning diesel in latrines had been discontinued prior to the Appellant's qualifying operational service; and

(b) waste disposal in Sector West was conducted on a relatively small scale, under New Zealand Defence Force control, at a location approximately 15 kilometres from the Suai base; and

(c) [redacted] duties did not involve the operation, management, or control of the waste disposal site, and any exposure would have been incidental, intermittent, and remote from the source.

[53] The RMA review notes that in relation to burn pits, the studies suggest no causal association between burn pit or general deployment exposures and brain tumours.[8]

[54] The scientific material relied upon by [redacted], including reports of the National Academies of Sciences and related international literature, addresses large-scale, open-air burn pits operating continuously, often adjacent to living quarters, and typically fuelled by petroleum products such as JP-8.

[55] Those reports consistently emphasise the importance of exposure intensity, proximity, duration, and fuel type in assessing health risk. They do not support the proposition that all waste burning, irrespective of scale or context, carries a comparable oncogenic risk.

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[7] Above n 5.

[8] Above n 5 at page 27.

[56] The hypothesis that exposure to aerosolised toxicants from burn pits during [redacted] Timor-Leste service caused, contributed to or aggravated malignant glioblastoma does not satisfy the threshold of a reasonable hypothesis.

Somalia

[57] Veterans' Affairs has confirmed it holds no records regarding the waste disposal practices during [redacted] service in Somalia in 1994. The burn pits in question were operated under United Nations or foreign military control, rather than the New Zealand Defence Force.

[58] The United States of America has, through its "Honouring our Promise to Address Comprehensive Toxics Act 2022" (the PACT Act) and associated determinations of its Department of Veterans Affairs, recognised burn-pit and airborne-hazard exposure as capable of giving rise to malignancy, including brain cancer, in defined operational theatres.[9]

[59] The United States Department of Veterans Affairs, in administering the Airborne Hazards and Burn Pit Registry established under that framework, identifies Somalia as a location of potential airborne hazard exposure during United States and United Nations military operations conducted between 1992 and 1994.

[60] The Board has accepted that for the purposes of this matter, the PACT Act reflects a contemporary reassessment by a competent jurisdiction, informed by scientific review and expert assessment, that burn pit exposures in Somalia between 1992 and 1994 are capable of giving rise to long-term adverse health effects, including malignancy.

Reasonable hypothesis

[61] Having regard to the service circumstances in Somalia, the absence of contrary evidence and the contemporary scientific understanding of burn pit exposures in deployed military environments, the Board considers the hypothesis linking burn pit exposure during his Somalia service to [redacted] malignant glioblastoma is:

(a) more than a mere possibility;

(b) is consistent with the known facts of [redacted] service; and

(c) is not inconsistent with proven or known scientific facts.

[62] The hypothesis is reasonable.

Is [redacted] malignant glioblastoma service related?

[63] Having concluded the hypothesis is reasonable the Board must turn its mind to consideration of whether there are reasonable grounds for believing that [redacted] malignant glioblastoma was not service related.

[64] Veterans' Affairs has not advanced any grounds for believing [redacted] diagnosis was not service related. It has confirmed the Burn Pits in question were under United Nations and foreign military control, that it holds no records

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[9] Honouring our Promise to Address Comprehensive Toxics Act 2022 (PACT Act), Pub L No 117-168, 136 Stat 1759 (2022).

concerning waste disposal practices during that period and has no knowledge enabling it to confirm or refute [redacted] account.

[65] The Board has concluded there are no grounds for believing [redacted] malignant glioblastoma was not service related.

Conclusion

[66] The statutory requirements for acceptance of [redacted] claim are met.

Decision

[67] It follows from the foregoing reasons that the decision of the Board is that [redacted] glioblastoma must be treated as a service-related condition under the Act.

[68] The decision of the Review Officer is revoked. This decision substitutes the decision of the Review Officer.[10]

[69] The Board thanks the parties for their comprehensive written submissions which were supported by a large body of peer reviewed scientific papers.

Non-publication Orders

[70] The Board has made orders prohibiting the publication of the Appellants name and any details that would identify the Appellant.

Signatures

Vicki Campbell
Chairperson

Dr Chris Holdaway
Member

Dr Tristram Ingham ONZM
Member

Date: 29 January 2026

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[10] Veterans' Support Act 2014 s 237.