

**Before the Independent Hearing Commissioners
appointed by New Plymouth District Council**

Under the Resource Management Act 1991

In the matter of hearing on the resource consent application by the New Plymouth Pistol Club Inc for a land use resource consent for the use of a gun range and associated facilities within the General Industrial Zone on the existing site at 228 De Havilland Drive & 1206 Devon Road (LUC24-48583)

**Statement of evidence of David Carl Bolger on behalf of
New Plymouth Pistol Club Inc**

Date: 4 May 2026

INTRODUCTION

- 1 My full name is David Carl Bolger. I am employed as a Principal Environmental Scientist (Contaminated Land) at BTW Company (**BTW**).
- 2 This evidence is given on behalf of New Plymouth Pistol Club Inc (**the Club**).
- 3 My evidence is in respect of the resource consent application by the Club for the use of a gun range and associated facilities on the site at 228 De Havilland Drive and 1206 Devon Road, New Plymouth (LUC24-48583) (**Application**).

Qualifications and Experience

- 4 I hold a Bachelor of Science (Physical Geography and Environmental Science) (1996) from Massey University, Palmerston North. I am a Certified Environmental Practitioner (CEnvP) with the Environmental Institute of Australia and New Zealand, certification No.870. I also hold the BOHS IP404 Air Monitoring, Clearance and Reoccupation following the Removal of Asbestos.
- 5 I have over 20 years of experience as an environmental consultant throughout New Zealand. My experience includes undertaking contaminated land investigation, from desktop investigation, intrusive soil sampling investigation, contaminated soil remediation, ongoing monitoring and management of contaminated soil. I have a high level of understanding of the National Environmental Standard for Assessing and Managing Soil to Protect Human Health 2011 (NESCS) and the associated Ministry for the Environment Contaminated Land Management Guidelines. During my career, I have been involved with a variety of contaminated land investigation throughout New Zealand, including risk assessments and the fate and transport of contaminants to assess human and environmental health effects.

Involvement in the Application

- 6 I was engaged by the Club in November 2023 to provide environmental services and assist the Club in applying for resource consent from New Plymouth District Council (**NPDC**).

- 7 I was the technical reviewer for the preliminary site investigation (**PSI**) and certified the report as the suitably qualified and experienced practitioner (**SQEP**).
- 8 I reviewed the response to address the section 92 further information request from BECA (technical reviewer for NPDC), dated the 17th of December 2024.
- 9 I undertook a site visit on the 28/04/2026 with BTW Company's Principal Ecologist Greg Larkin.

CODE OF CONDUCT

- 10 I confirm that I have read the Code of Conduct for expert witnesses contained in the 2023 Environment Court Practice Note and that I agree to comply with it. I confirm I have considered all the material facts that I am aware of that might alter or detract from the opinions I express. In particular, unless I state otherwise, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

SCOPE OF EVIDENCE

- 11 My evidence relates to the environmental assessment of the Application.
- 12 My evidence addresses:
- 12.1 Preliminary Site Investigation
 - 12.2 Risk Assessment
 - 12.3 Section 95 Notification Report
 - 12.4 Section 42A Report
 - 12.5 Submissions
 - 12.6 Conclusion.

- 13 In preparing my evidence I have considered the following:

- 13.1 The application for resource consent including the Assessment of Environmental Effects (**AEE**) supporting the consent application, all attachments and technical reports.
- 13.2 The section 92 request for further information (**RFI**) and the Club's RFI response to it.
- 13.3 Section 95 notification report.
- 13.4 Submissions on the Application.
- 13.5 Section 42A report.
- 13.6 Supporting contamination memo by BECA.
- 13.7 The expert evidence filed on behalf of the Club.

PROPOSAL

- 14 The proposal is described in the section 42A report and the evidence of Mr Edwards. From a contaminated land perspective, key aspects of the proposal include the following:
 - 14.1 Disturbance of contaminated and potentially contaminated soils associated with physical noise mitigation works.
 - 14.2 Removal of the existing bund along Range 1.
 - 14.3 Establishment and ongoing management of the fill area to the west of Range 7.
 - 14.4 On-going management and monitoring of contaminated soil.
 - 14.5 Conditions of consent, offered as part of the proposal, include the preparation of the following plans:
 - 14.5.1 Site Management Plan (**SMP**) detailing the procedures, controls and contingency measures to be implemented for the

duration of the soil disturbance works in order to protect human and environmental health.

14.5.2 Ongoing Site Management Plan (**OSMP**) to control the fill area to the west of Range 7 and future Club activities following completion of construction.

14.5.3 Surface Water and Sediment Monitoring Plan (**SWSMP**) to ensure potential adverse effects on groundwater and the unnamed tributary of the Mangaoraka Stream arising from soil disturbance works are appropriately avoided, remedied, or mitigated.

PRELIMINARY SITE INVESTIGATION

- 15 BTW prepared a PSI to support the Application for the continued operation of the Club. The Application included proposed physical noise mitigation measures, activities that would involve soil disturbance which constitute a trigger activity under the NESCS. Accordingly, preparation of a PSI was required.
- 16 The objective of the PSI was to determine whether it is more likely than not activities described in the Ministry for the Environment (**MfE**) Hazardous Activities and Industries List (**HAIL**) are being, or have been, undertaken on the Club site based on current and / or historical land use. This objective was achieved by completing a desktop assessment of available information (including historical aerial imagery, council records, and Club information), site inspections and preliminary soil sampling. Following the identification of potential contaminant sources, potential exposure pathways were evaluated to determine the likelihood that any HAIL activities may present a risk to human health should the acoustic mitigation works occur.
- 17 The PSI desktop investigation identified two categories of HAIL applicable to the site: HAIL C2 - gun club and HAIL C3 – training area for detonation of explosive ammunition. On this basis, the site would be considered a ‘Piece of Land’ under the NESCS, and any soil disturbance within the site would be subject to the NESCS regulations. The primary contaminants of potential concern associated with these activities were identified to be heavy metals (primarily antimony, copper, lead, nickel and zinc) and polycyclic aromatic hydrocarbons (**PAH**).

- 18 Information obtained from the Taranaki Regional Council (**TRC**) included an incident report relating to a complaint received by NPDC questioning the quality of groundwater beneath the Club site. In response to the complaint, and at the time of the PSI, TRC had completed two surface water sampling events, and one sediment sampling event within the adjacent tributary. TRC concluded that there did not appear to be significant amounts of lead or other heavy metals discharging from the site to the tributary of the Mangaoraka Stream.
- 19 Light targeted soil sampling was carried out to provide supplementary evidence to support the assessment of human health risk from potential soil contamination. Ten samples were collected from eight sampling locations across the site. Surface soil samples (0 -100 mm below ground level [bgl]) were taken from all sampling locations, and subsurface soil samples (ranging between 300 mm and 400 mm bgl) were taken from 20% of the sampling locations. The soil samples exhibited variable composition, consistent with the information provided by the Club regarding historical earthworks to cut down the site and construct bunds, as well as regular soil disturbance activities associated with site maintenance and the lead recycling programme. Visible ammunition debris and/or small pale flakes (suspected to be lead) were observed in a number of the samples.
- 20 Soil analytical results indicated that three results for lead and one result for arsenic exceeded the applicable soil contaminant standard for the protection of human health for a commercial/industrial land use scenario. Of the remaining heavy metal results, all results for arsenic, copper, lead and zinc, and several results for antimony, chromium and copper were considered elevated above expected background concentrations. All results for PAHs were below the applicable soil contaminant standard (**SCS**) for the protection of human health.
- 21 The PSI conceptual site model (**CSM**) identified a complete exposure pathway linkage from the available information and soil sampling data. Therefore, the site soil was considered to present an unacceptable risk to human health for the proposed acoustic mitigation works. The potential for a complete pathway linkage with ecological receptors was also identified.
- 22 On the basis of the available information, the PSI could not conclude that it would be highly unlikely there would be a risk to human health if the planned acoustic mitigation works are to be undertaken on the Club site. Additionally, any soil requiring removal from the site would not be able to be classified as “cleanfill” due

to elevated heavy metals concentrations and would therefore require disposal at an appropriately consented facility authorised to accept contaminated material.

- 23 The PSI recommended further consideration of potential environmental effects on groundwater and/or the adjacent tributary as a result of the planned acoustic mitigation works, particularly with regard to the planned modification of the bund immediately adjacent to the tributary of the Mangaoraka stream.

REQUEST FOR FURTHER INFORMATION (CONTAMINATED LAND MATTERS)

- 24 BTW provided a response to address RFI matters from the technical review by BECA on behalf of NPDC on 17th December 2024. BTW addressed these comments by providing a technical RFI response and an updated revision of the PSI (dated 17/12/2024).
- 25 The RFI raised technical points as to why the PSI had a reduced testing frequency of PAHs and why the Relative Percentage Difference (**RPD**) was only calculated for lead for the quality assurance duplicate sampling. Justification for these points were provided in the BTW RFI response (dated 17/12/2024).
- 26 BECA raised a concern as to whether waste disposal to ground could have occurred on the site and whether this could be a source of ground contamination. BTW responded with further evidence regarding historical sludge dumping and subsequent soil testing that occurred approximately 950 m south-west of the Club site and concluded that, from the available information and historical imagery for the site, any waste disposal to ground is considered unlikely to have occurred on the site. BTW noted that some contaminants considered in the PSI would be similar to those expected if waste disposal to ground was a concern, however, on the basis of the available evidence, the primary source of contamination at the site is considered to be the current land use.
- 27 BECA raised that the potential for explosives as contaminants of concern had not been considered. BTW responded that, while the use of explosives associated with the former machine gun range had been acknowledged within the HAIL assessment of the PSI, the primary contaminants of concern were considered to be heavy metals. BTW further noted that the PSI had been updated to reference specific explosive-related contaminants, such as TNT and perchlorates. Testing for these analytes was not included within the limited soil sampling scope but could be

addressed in the future should this be deemed necessary by a SQEP. BTW maintains that the primary source of soil contamination at the site is the current and historical use of the land as a gun club and considers that testing for explosive residues would not provide any meaningful additional insight into site contamination, nor be proportionate given the contamination risks identified.

- 28 BECA raised that the PSI CSM should be updated to include potential pathways to ecological receptors such as nearby surface water features and terrestrial ecology. BTW agreed with this recommendation and updated the PSI accordingly, further identifying the potential for a complete pathway linkage with the identified contaminants and ecological receptors.

ADDITIONAL BUND SAMPLING

- 29 Additional soil sampling from the bund adjacent to the tributary on Range 1 was undertaken on 29th September 2025 by BTW environmental scientists. An additional 12 samples were collected across seven locations from the bund. All samples were analysed for priority heavy metals (arsenic, cadmium, chromium, copper, lead, nickel and zinc) and antimony. Five samples were also analysed for PAHs.
- 30 Synthetic Precipitation Leaching Procedure (**SPLP**) testing for metals was carried out for all samples. This testing method is designed to mimic the effect of acidic rainfall on soils to see if contaminants (metals in this case) have the potential to leach into the surrounding environment (i.e. into the adjacent tributary or groundwater).
- 31 From the analytical results, lead was found to be consistently elevated throughout the soil samples. Whilst only two soil samples exceeded the NESCS SCS to protect human health for the current land use (commercial/industrial), the remaining samples (including a sample taken away from the bund and directly adjacent to the stream) were elevated well above expected background concentrations. Given the mixed fill composition of the bund, concentrations of lead were varied throughout the sample locations.
- 32 The majority of results for arsenic, copper and zinc, while below the applicable SCS to protect human health, were also found to exceed expected background

concentrations. Only one trace detection of PAHs was recorded, well below the SCS to protect human health.

- 33 SPLP results were compared against the ANZECC Trigger Values for Freshwater (95% protection of species), noting that these values are in reference to surface samples from freshwater bodies, as opposed to leachate, therefore the trigger values have been used as a reference point to assess the potential risk to the stream (ecological receptor). Results for copper, lead and zinc exceeded the ANZECC trigger values. It was noted that while the surface water and sediment sampling completed by TRC within the tributary to date did not identify an immediate risk to the stream environment, a leaching potential from the identified heavy metals remained within the bund in situ, and further detailed risk assessment would be required to understand potential risk to off-site receptors.
- 34 From the additional sampling, elevated lead was above the applicable SCS however not throughout the bund. Leachate testing did provide potential source contamination for heavy metals into the surrounding environment, however to date testing has not demonstrated any quantifiable effects off-site.
- 35 The supplementary data on the bund provided key information to undertake a further risk assessment of the potential adverse effects on down gradient receptors and to support the proposed works, including soil re-location.

RISK ASSESSMENT

- 36 The purpose of the risk assessment dated the 2nd March 2026 was to assess the potential adverse effects on down gradient ecological receptors during bund modification works, with particular regard to the unnamed tributary of the Mangaoraka Stream.
- 37 The risk assessment included the hydrological setting, sensitive ecological receptors, the use of recognised toxicity benchmarks and applying a conservative 1D modelling approach. The conservative approach used maximum source concentrations of contaminants, under a steady release with minimal attenuation across the site from the bund location to the tributary.
- 38 The modelling concluded that the lead mobilisation from the bund works will not result in adverse ecological effects on the tributary or aquatic biota.

39 The risk assessment provided confidence that any adverse effects from the bund movement and construction on-site would unlikely cause adverse effects on the surrounding environment and receptors. Therefore, I support consent conditions as an appropriate mechanism to manage any potential adverse effects from onsite soil disturbance during construction and to manage and monitor soil contamination on-site post construction works.

SECTION 95 NOTIFICATION REPORT

40 The section 95 report acknowledged both contaminated land experts were in broad agreement that the contamination risk can be managed via appropriate consent conditions and the effects to human health would be minor.

SECTION 42A REPORT

41 I agree with the section 42A report that an activity or industry described in the HAIL is being or has been undertaken on the site. Therefore, the NESCS regulations apply.

42 The section 42A report acknowledges that the potential soil contamination risk is well understood, and both BTW and BECA agree that contamination can be managed via consent conditions.

43 I note acknowledgement in the section 42A report that both experts (BTW and BECA) are in general agreement the proposal would not give rise to an unacceptable risk to human health.

44 I have had regard to the supporting contamination memo by BECA. The memo concludes conditions are thorough, suggesting that the work summary report condition requirement could be upgraded to a soil validation report and the reporting timeframe for SWSMP monitoring results could be extended to monthly or quarterly. I consider the work summary report is appropriate in this instance and not a site validation report (SVR), as the proposal is to relocate contaminated soil, not remediate the site. The activity would remain, and hence the contamination source would still exist. I do agree with the suggestion to extend the reporting timeframe to quarterly as a practical suggestion. I understand the condition has been updated accordingly as included in Mr Edwards' evidence.

45 Other than the reference to the SVR outlined above, there are no matters of disagreement in the section 42A report on contaminated land matters.

SUBMISSIONS

46 Submissions received are summarised in Mr Edwards' evidence. My evidence below focuses on the submission in opposition lodged by Mr Phillips as well as relevant matters raised in the submission of conditional support from Puketapu Hapū.

Mr. Phillips' Submission

47 I note Mr Phillips' concern that the site is not registered as a HAIL site. I concur with Mr Phillips that the site is not currently included on the publicly available map layer for the TRC Register of Selected Land Use (**RSLU**) for HAIL sites. This matter is noted in section 4.2 in the PSI, with TRC advising they hold minimal information on the site, but that the site would be added to the RSLU when a new database was established. Despite not being identified as a HAIL site on the RSLU, the site has been identified as a HAIL site as part of the Application. Reporting undertaken in support of the Application has been prepared consistent with the Ministry for Environment Contaminated Land Management Guidelines No.1 – Reporting on Contaminated Sites in New Zealand.

48 It should be noted that the HAIL list merely indicates that such activities and industries are more likely to use or store hazardous substances and therefore there is a greater probability of site contamination occurring than for other uses or activities. A HAIL activity does not guarantee soil contamination is present on a site, but rather that investigation is warranted to determine whether contamination has occurred.

49 To clarify, a site listed on the RSLU does not automatically warrant on-going monitoring or an assessment by a regulator. However, this resource consent process does provide a mechanism to undertake a risk assessment for sites where a HAIL activity has been identified and a trigger activity is proposed under the NESCS regulations.

50 As discussed in the PSI summary, TRC have undertaken two sampling events for surface water and sediment sampling. The event on the 26th of July 2024 provided

data that heavy metal enrichment in the sediment and surface water was negligible, however, a trace detection of lead above the analytical detection limits in the discharge was recorded. For guideline reference, the lead concentration detected in the discharge was 0.00019 mg/L, the ANZG (2018) chronic dissolved lead guideline value adopting the 95% species protection level is 0.0013 mg/L, the New Zealand drinking water standard (maximum acceptable value) for lead is 0.01 mg/L. The detected lead concentration is therefore well below relevant guideline values.

- 51 The surface water testing by TRC upstream and downstream of the discharge did not detect lead above analytical detection limits. To date, there is no evidence of “elevated” lead concentrations discharging beyond the Club site boundary.
- 52 I consider the potential for contamination has been appropriately identified and assessed as part of the Application. I am of the opinion the conditions proposed would address Mr Phillips’ concerns and site contamination would be managed and monitored to protect adjoining receptors.

Puketapu Hapū Submission

- 53 I am in agreement with Puketapu Hapū submission points concerning contaminated land matters, and support conditions for a SMP detailing the procedures, controls and contingency measures to be implemented for the duration of the soil disturbance works in order to protect human and environmental health. The SMP is to be prepared in accordance with the Ministry for the Environment Contaminated Land Management Guidelines No 1(revised 2021) and certified by a SQEP
- 54 The SMP would need to align with the erosion sediment control plan (**ESCP**) to manage the risk of soil contamination during site works. Compliance with the ESCP and SMP is mandatory during earthworks to avoid adverse effects on the tributary of the Mangaoraka Stream. The ESCP must be approved before any commencement of earthworks on site.
- 55 I agree that having further separation (minimum set back of 10 m) of the acoustic mitigation works is a positive step in terms of managing potential contamination risk. The greater separation from the tributary would provide a degree of mitigation in managing the potential leaching or migration of lead and other heavy metals towards sensitive receptors including the tributary.

- 56 The additional sampling of the bund to obtain further data of the contaminants of concern was used to undertake a further risk assessment piece of work. To support consent conditions to manage soil contamination risk for receptors during earthworks and beyond, this assessment provided confidence that mobility of the contaminants of concern was considered low under the current conditions and modelling undertaken.
- 57 The modelling from the risk assessment provided evidence that it is unlikely the new location of the acoustic bund soil (the proposed fill area) would give rise to any measurable adverse ecological effects on adjacent freshwater receptors. The modelling adopted a very conservative approach around input parameters, which is appropriate in this situation.
- 58 In addition to management of contaminated soil during construction phase works, I support an OSMP for the site. The OSMP would not only protect the occupants at the site but also provide measures to manage and monitor potential contaminant migration off-site to sensitive receptors including the tributary of the Mangaoraka stream. The OSMP would work in parallel with the SWSMP to ensure potential adverse effects on groundwater and the unnamed tributary of the Mangaoraka Stream arising from soil disturbance works are appropriately avoided, remedied, or mitigated.
- 59 I recommend any on-going monitoring data is provided to Puketapu Hapū and TRC for their records.

CONCLUSIONS

- 60 An activity described on the HAIL is being and has been undertaken on the site, and a trigger activity is proposed in the form of disturbing soil, therefore the NESCS regulations apply.
- 61 Relocating the bunding material away from an unnamed tributary of the Mangaoraka stream would create greater separation distance between a contamination source and a sensitive receptor.
- 62 I consider proposed earthworks can be adequately managed by an ESCP and SMP. I agree with NPDC's expert (Sarah Shepherd, BECA) on this approach.

- 63 Long term management of contaminated soil would be controlled by an OSMP, which is considered appropriate to protect human and environmental health.
- 64 A SWSMP would provide data, parameters and trigger values to monitor freshwater and sediment of the unnamed tributary of the Mangaoraka stream. This is considered a positive outcome of the consenting process to monitor potential off-site effects from the activity long-term.
- 65 Overall, both BTW and NPDC's expert (BECA) agree that the effects associated with land contamination can be adequately managed by consent conditions.

Date: 4 May 2026



David Carl Bolger