



28th January 2011

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**RE: NZTA Contaminated site notification at Stokes Point**

Dear Steve,

Thank you for letting us know about this issue, and for meeting with us earlier this week. It was good to talk face to face, and to give us an opportunity to present our initial thoughts. This letter is a follow-up, and provides more detailed consideration of this issue. In particular:

- ARPHS role
- ARPHS feedback on the written information you sent to us
- Questions for the NZTA to consider
- ARPHS recommendations for further management of this issue

**ARPHS role**

Auckland Regional Public Health Service (ARPHS) provides services for the population of the three District Health Boards covering the Auckland region - Auckland District Health Board (ADHB), Counties Manukau District Health Board (CMDHB) and Waitemata District Health Board (WDHB). As part of our service we work to protect and promote the health and wellbeing of all Aucklanders from actual and potential environmental hazards across the region - through our Environmental Health Team. As part of this role, we provide health advice on contaminated sites to support other agencies.

ARPHS receives notifications of raised blood lead levels from doctors and laboratories. The levels of blood lead which are legally required to be notified in New Zealand are those equal to, or in excess of, 0.48  $\mu\text{mol/L}$  (or 10  $\mu\text{g/dL}$ ) for non occupational exposures, and 0.72  $\mu\text{mol/L}$  (or 15  $\mu\text{g/dL}$ ) for occupational exposures. ARPHS provides public health advice on precautionary measures to minimise lead absorption by individuals.

## **ARPHS feedback on the written information you sent to us**

### Preliminary Assessment Phase 1 - OPUS International Consultants

- There is a concern that there is no mention of effects to the marine environment. Residues from the Harbour Bridge paint are potential contaminants of the marine food chain, and in turn the human food chain. Public access to a coastal area implies access to recreationally collectable marine species – wild foods that are currently the regulatory responsibility of the New Zealand Food Safety Authority.
- More clarity is required around how the sampling area was defined.
- A more specific environmental assessment of the site is recommended; in order to identify what recreational gathering of shellfish or other marine species might occur in this location, and how contaminants in invertebrates might impact upon the non-territorial fish population.
- Future maintenance of the Harbour Bridge presents an opportunity to reduce emissions of paint and other contaminants - to the benefit of both public health, and the cost of subsequent remediation efforts.
- Where contamination of developed or potentially developable land exists, there are implications for both present and future owners, and we support the present owners being involved in the investigation, and any remediation conducted. A means to alert future owners to the findings (including peripheral findings not breaching human health guideline levels) would seem to be appropriate via Council property records.
- Where businesses are involved, we suggest liaison with the Occupational Safety and Health Service of the Department of Labour.
- The use that contaminated land is put to is critical to the public health risk. We have visited the site and consider that the land comprising the grassed area of reserve under the northern approach is unlikely to be highly used by visitors. Access difficulties make it unlikely that there is recreational use around the Point. The closest beach likely to be used for recreational purposes would seem to be Little Shoal Bay, and NZTA should assess what risks there may be there - and at other locations - where deposition of contaminants from the Bridge may have occurred.
- The implicated area is likely to contain homes where lead paint would have been used in the past. This will have created some historical burden of lead in the soil of these properties. Subsequent to Bridge and motorway construction there will have been a considerable period when lead from vehicles will have accumulated.
- Of the additional chemicals tested for in the August 2010 survey is benz-a-pyrene (BAP) with up to 32 fold exceedance according to the reference used by the laboratory. This BAP is likely to be due to vehicle emissions, or an oil or fuel spill.
- Most of the heavy metals are likely to relate to bridge maintenance. We note that the Auckland Council guideline values are exceeded in the extreme cases for lead (x 3.5); zinc (x 15.25); and copper (x 1.57). These metals, and BAP, need to be considered by the NZTA.
- NZTA should also consider the contaminant impacts upon groundwater, or the implications for human health of springs, historical commercial or domestic use of groundwater, or potential future extraction of potable water.

## Auckland Harbour Bridge Maintenance Discharge Risk Assessment proposal - GHD Limited

- We agree that further testing be conducted. Selection criteria for location should include wind effects, land use, and vulnerable populations.
- Distant spot testing should be conducted to define the contamination zone. This should be determined in consultation with the Auckland Council, as regulatory agency.
- Where there are indications that contamination is extensive, there should be a wider and deeper soil investigation.
- Where more toxic forms of contaminants might be expected at depth, sampling at greater depth should occur.
- Regarding the use of portable X-ray fluorescence; we would appreciate information about this as a current best practice method for determination of contaminants in soil, and what information exists as to its accuracy and reliability.
- ARPHS will be interested in reviewing the GHD Limited report to ensure that all public health issues have been considered.
- Consideration should be made of the marine environment in this proposal. The marine food chain should not be excluded from an assessment of human health risk.
- Consideration of the impact upon aquifers should be made.

## Fact Sheet Proof 1 - NZTA

- The following statement is unclear " ....only lead exceeded Auckland Council human health guideline levels". The results from Hill Laboratories for zinc, copper and BAP showed guideline exceedances of up to 32 times.
- It would be more appropriate if the NZTA received direct enquiries from the public.
- Reference is to land-based contamination only; there is no mention of beach use, the marine food chain or ground water.
- Members of the public can use a HEPA filter for any dry vacuuming - if suspected contaminated soil has made its way into the home.
- NZTA communications plan will need to address public reaction to fact sheet messages and information verified for accuracy and clarity.
- Please remove the paragraph reference to Auckland District Health Board.
- If ARPHS or ADHB's name is used in the fact sheet, we do request that the writer seek permission to include ARPHS or ADHB and discuss the issues or request prior to its appearance on a fact sheet.
- Please refer to the Ministry of Health's fact sheet on lead to inform content accuracy.

## **Questions for the NZTA to consider**

Below is a list of questions that require clarification to enable us to provide the best possible public health advice to the NZTA, and the public:

- What prompted the lab testing?
- Why did you test for these particular contaminants?
- What other lab results do you have for the last 10 years for this area?
- Why was there a six month delay from August 2010 until now to come forward with these lab results?
- Was the last resource consent publicly notified?

- Can you please clarify your communications with the Auckland Council and who the contacts are?
- Why do you think this soil contamination has only occurred in the last ten years – presumably you have been cleaning and repainting the bridge for decades (when, in the past, there will also have been more lead paint present)?
- Are you planning further testing to reassure the wider community, i.e. at local beaches, properties, parks, etc?
- Will you be carrying out public communication regarding copper, zinc and BAP, which also seem to be elevated against the guidelines used?
- What about land beneath the south end of the bridge - what did testing show there? And if it has not been tested, why not?
- How will this be managed to prevent further contamination?

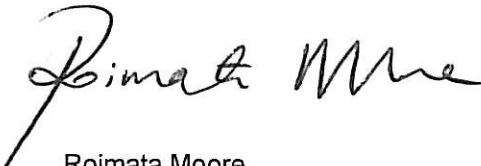
#### **ARPHS recommendations for further management of this issue**

1. Establish a hotline for public enquiries and clinical triage
2. An experienced doctor in environmental issues be contracted to advise the NZTA on matters such as:
  - Appropriate wording of public information and fact sheets
  - Responding to concerns from individuals about their family's health
  - Providing support for the hotline on clinical issues
  - Advising NZTA of likely health effects from observed levels of contamination
  - Assisting NZTA as their medical spokesperson for media
  - Providing signed laboratory forms for blood lead testing
3. An environmental consultancy group be contracted to carry out site assessments when requested by local residents
4. Develop a 'questions and answers' document that covers predictable enquiries (see **Questions for the NZTA to consider** above)
5. Consider covering any medical costs that might arise from this issue.
6. Define the significance of the results with Auckland Council contaminated land staff in relation to the most appropriate set of control criteria / guidelines, and clarify if affected properties will have LIMs flagged for being contaminated.
7. Volunteer for the current resource consent application to become notified.
8. Consult the NZ Food Safety Authority and Department of Labour, as appropriate. ARPHS will be able to provide contact information for both agencies.
9. Utilise the Ministry of Health leaflet on lead to inform the contents of any proposed fact sheet. Please see this attached.
10. Advise ARPHS of any human blood lead level tests exceeding 0.48  $\mu\text{mol/L}$ ,
11. Seek to identify higher risk domestic situations, such as vegetable gardens and sandpits.
12. If necessary, communicate with the primary health sector, make contact with Waitemata District Health Board for issues regarding the North Shore population, and Auckland District Health Board for primary health issues regarding the Point Erin area. ARPHS can help with providing contact information for these DHBs.
13. Consider if there are any more NZTA locations that are likely to be contaminated.
14. Publicise your intent to introduce an abrasive and paint debris containment process as per best overseas practice to ensure that there is no future addition to the contaminant load already present.

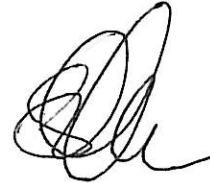
15. Clarify if there is any abstraction from the aquifer(s) under both ends of the Bridge. We are aware that Chelsea Sugar takes ground water from close to Stokes Point.

Again, we thank you for raising this issue with us, and we will continue to support the NZTA on this matter. We will be happy to meet with NZTA again to discuss any issues raised by this letter, and be part of any steering group you consider necessary to establish to help manage this issue. Feel free to contact us at any time.

Yours sincerely



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