

3 June 2015

Mr Malcolm Gillies
Wallaceville Developments Limited
Via Email

Dear Mr Gillies

RE: Peer Review of Contaminated Land Reports Supporting Wallaceville Plan Change
Our Reference: 11307.000.000

1 Introduction

Upper Hutt City Council requested that Golder Associates (NZ) Limited review contaminated land reports by Tonkin and Taylor Limited (T&T) and ENGEO Limited (ENGEO). ENGEO have undertaken recent desktop studies and field investigations in support of a plan change application. This letter responds to the comments made by Golder in the peer review.

The objective of Golder's review was to determine whether the site is "*potentially fit for the intended purpose. That is, whether soil contamination is likely to be such that the site could be rendered fit for purpose by reasonable management or remediation*"

2 Response to items in Section 5

2.1 Items requiring further information for plan change

The peer review remarks on the omission of the potential for biological contamination in the conceptual site model. Discussions with former employees of AgResearch, both historically by T&T and more recently by ENGEO and other evidence collected since the DSI was issued, indicate the following:

- Allen Heath (who worked at the site for a period of approximately 50 years, from 1965 to recently) stated that zoonosis (risk of transfer of disease from animals to humans) was not applicable for many of the diseases studied at the centre. A large part of the research was devoted to nutrient disorders and similar. Only a limited amount of research was carried out which presented a potential human health risk
- Allen stated that slaughtered animals were not buried at any point during his employment at the site; all carcasses were cremated in the on-site incinerator or the meat from the animals was sold to employees for personal consumption. There has been an incinerator on-site since the inception of the site in the early 1900s.
- A number of disposal pits were recognized and remediated by Tonkin and Taylor.

- Large scale disposals of animal carcasses, or animal remains in plastic bags (which would slow the decomposition rate of any organic material significantly by creating a localised anoxic environment) to ground would have left very clear evidence. No animal remains were identified in the material excavated from the identified waste pits during remediation. If any waste containing biological contamination was disposed in these pits, this would have been removed during remediation.

A cross-reference check of the remediation record with all historical aerial photography available indicates that remediation was not carried out at one location identified as potentially being a disposal pit (adjacent to the railway line at the northern boundary of the site). Investigation of records relating to this location, potentially followed by intrusive investigation is planned.

It is considered that, after further investigation of the remaining potential waste pit, and having regard to the further research that has been undertaken, there is no known evidence or record of practices which point to potential for biological contamination across the site.

2.2 Items requiring further information for future consents

- **Arsenic contamination in areas identified by ENGEO (2015).** Remediation of these areas will be undertaken before resource consent is applied for.
- **Potential selenium contamination of identified paddocks.** Selenium testing was undertaken during the 2004 investigation in several paddocks. See attached extract from Table 2 of the T&T 2004 report, pages 31 and 32. All test results were below the laboratory levels of detection.
- **Potential fuel contamination of the Wellington Racing Club area.** Upon further investigation, the location of this refuelling station is not within the proposed development site and is within the Wellington Racing Club site off Racecourse Road.
- **Potential solvent contamination at depth underlying waste disposal areas:** Two soak pits were tested for carbon tetrachloride within fill material and in the natural ground beneath. Testing indicated very low levels of carbon tetrachloride (0.09mg/kg) close to laboratory detection limits and below any of the current global residential guidelines in Soak Pit 1 (SP1) in the natural material. Results from samples tested from the other soak pit were below the laboratory detection limit. Where carbon tetrachloride was detected (SP1), the soil tested was from 2 m depth; soil above this depth was tested and carbon tetrachloride was not detected. It is considered that at this depth any carbon tetrachloride is unlikely to affect human health post development. However, groundwater at the site may be impacted. Testing of the groundwater at these locations may be required to confirm the levels of solvents in the groundwater. Further investigation of the existing data will be carried out to confirm whether groundwater testing is required.
- **Potential presence of munitions, explosives residues, etc. from use during WWII.** We comment in our PSIR that *“Relatively small square structures are visible in clusters across the western end of the site, connected by a road / track. The track connects the site and surrounding area with a large complex of buildings and other structures located directly south of the race track (currently NZDF Trentham). A grid of several square structures appears similar to banded ammunition storage areas which Geoscience (now ENGEO) has encountered on other sites in New Zealand. As the photograph was taken during World War 2, it is possible that the structures on part of the site could be a tent camp for Defence Force*

personnel who were involved with the ammunition storage area and other buildings surrounding the race track". We consider that, as we suspect that ammunition was stored on site for a relatively short period of time (by the 1951 photograph, these structures had been removed), and as we suspect that Defence Force personnel were living around this area, there is a low risk of ammunition burial on site. However, a ground penetrating radar survey will be considered before development to confirm that burial of munitions has not occurred.

- **Potential asbestos contamination around older site buildings.** Although this has not been specified in the report, we have verbally raised this point with the client. Asbestos assessment will be undertaken on buildings prior to demolition.

There are no known human health issues/incidents that have ever been attributed to this site. In its heyday over 100 staff was employed at the site, and the site had on-site staff housing. It should reasonably be expected that the former activity would have operated and applied safe practices for human safety given the long term nature of employment and human occupation at the site.

We trust that this information meets your current requirements. Please do not hesitate to contact the undersigned on 04 472 0820 if you require any further information.

Report prepared by



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Reviewed by



David Robotham

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