

31 January 2022

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CLARIFICATIONS TO VOLUNTARY AUDIT REPORT No 40, VERMEER AVENUE, NEWNHAM, TASMANIA

Dear [REDACTED]

On 24 June 2021 I completed a Voluntary Audit Report (VAR) for the above site. The report was subsequently provided to EPA Tasmania as part of an Investigation Notice.

The EPA has requested some additional information regarding the report in the following correspondence and also in an accompanying email:

EPA Tasmania (2021). INVESTIGATION NOTICE 10127/1 40 VERMEER AVE, NEWNHAM, TAS CT NUMBER 106901/1, dated 13 August 2021

This letter provides clarification of the items raised, which are listed below.

1. What information was used to reach the conclusion that the site is a contaminated site and what management measures must be put in place if the site is developed for a residential use?
2. Define the areas where the HHRA will need to be reviewed once development plans are available along with areas where no review of the HHRA is necessary.
3. Supply a groundwater plume stability assessment (as proposed by the Auditor) to determine possible future groundwater concentrations, the resulting vapour levels in residential properties with and without basements expected on 40 Vermeer Ave and whether remediation is required.

1. Clarifications

- i. **What information was used to reach the conclusion that the site is a contaminated site and what management measures must be put in place if the site is developed for a residential use?**

Both the consultant's (JBS&G) report and the auditor's report conclude that 40 Vermeer Ave is considered a contaminated site due to trichloroethylene (TCE) levels on the site. This was an error that resulted from a misinterpretation of the *Environmental Management and Pollution Control Act 1994*. This occurred because in most states any level of contamination above background levels is determined to be pollution or contamination regardless of the risk it may pose.

However, as pointed out by EPA Tasmania the definition of a contaminated site in Section 74A(2) of the *Environmental Management and Pollution Control Act 1994* is as follows:

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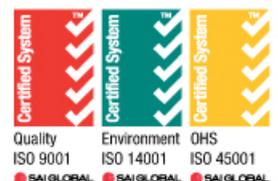
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An area of land is a contaminated site if –

(a) there is in, on or under that area of land a pollutant in a concentration that –

(i) is above the background concentration; and

(ii) is causing or is likely to be causing serious or material environmental harm or environmental nuisance, or is likely to cause serious or material environmental harm or environmental nuisance in the future if not appropriately managed.

Regarding the Vermeer Avenue Site, the levels of TCE identified are above background levels (given it is an anthropogenic compound). However, the levels encountered are not considered to be causing serious or material environmental harm or environmental nuisance, and as such, the site **would not be considered a contaminated site** under this definition.

ii. Define the areas where the HHRA will need to be reviewed once development plans are available along with areas where no review of the HHRA is necessary.

The Human Health Risk Assessment (HHRA) conducted for the site considered the following:

- Future residents (low density occupation, slab on ground and no basements)
- Recreational site use
- Construction Worker use
- Sub-surface maintenance worker use.

The HHRA concluded that there is no significant risk for any of these uses. This would also be the case for less sensitive uses such as commercial or industrial use.

Habitable basements were not included in the analysis as the depths where vapour was sampled were not sufficient (i.e. not deep enough) to assess the risk. It is noted that the presence of shallow and competent bedrock renders this an unlikely future scenario, and given the levels of vapour found, the risk for this use is unlikely to be significant.

In summary, there are no areas of the site where uses need to be restricted. The risks to users of habitable basements has not been calculated but this is an unlikely scenario.

iii. Supply a groundwater plume stability assessment (as proposed by the Auditor) to determine possible future groundwater concentrations, the resulting vapour levels in residential properties with and without basements expected on 40 Vermeer Ave and whether remediation is required.

Noting that the VAR and HHRA are based on **current** levels of TCE vapour, the aim of the Plume Stability Assessment (PSA) is to predict the likely potential **future** concentrations so that future risks can be assessed. Given the factor of safety determined from the current HHRA it is considered unlikely that future risks will be significant, but the PSA will quantify this and provide a TCE trigger level against which to assess future concentrations.

The PSA stability should include the following:

- Location of sources at the source site
- Timing of release and likely age of contamination
- Review of stability of TCE and its breakdown products
- Review of change in plume dimensions over time
- Time series data review for individual key wells
- Statistical analysis to confirm temporal trends
- Derivation of the groundwater TCE trigger level that could result in a risk at the Vermeer Avenue site.

Please note that I will update the VAR in line with the clarification provided above.

I hope this addresses the queries and please do not hesitate to contact me via [REDACTED] or on [REDACTED] for further clarification.

[REDACTED]

Principal Contaminated Site Auditor
Australian Environmental Auditors Pty Ltd