

"UHA₄"

Response to comments made in relation to the technical comments made during the public meeting and especially in relation to the VOC emission monitoring campaign, delivered 10 July 2017

1 (a). Two comments were made during the public meeting:

i). That a continuous monitoring campaign was used to determine emissions and was necessary to determine the impact of seasonality and atmospheric pressure on emissions. Nothing in the response suggests that that was indeed the case.

ii) That canister samples were used to fill in the blanks for over-range results. Again, the paucity of canister results suggests that this was impossible and the response does not clarify just how many valid canister samples were collected.

1 (b). If the laboratories used for VOC analyses had different target ranges, the rationale for their selection and the need to change laboratory remains unclear. The response does not clarify the question.

1 (c). Thank you for the clarification.

1 (d). Please clarify if Whirlybirds are only used at Valley 1? The Re Energise Africa report indicates that the two high value vent points sampled were both on Valley 2. In addition, earlier samples at Valley 2 vents (included on Page 6 of Infotox Annexure 1 Rev 2.0) include over-range results for Whirlybirds on Valley 2. However the emission inventory used for the air dispersion model has no reference to any emissions from Valley 2 Whirlybirds. It is confusing if only Valley 1 Whirlybirds were sampled, why the test team chose not to sample the same high value points or incorporate these emissions into the Inventory.

It is not clear where the Whirlybirds and consequently the following emission rates, extracted from the Infotox inventory are accommodated in the emission inventory table used in the model. There is no reference to Whirlybirds as for Valley 1.

Vinyl chloride	02-02-2017		2012.5	2012.5	Whirlybird 2	S29°49'42.5" E030°44'42.2"
Vinyl chloride	02-02-2017		474.9	474.9	Whirlybird 7	S29°49'45.9" E030°44'49.5"
Vinyl chloride	02-02-2017		2965.1	2965.1	Whirlybird 32	S29°49'43.6" E030°44'55.1"

1 (e) to (f). All as per Question 1(d). The application of this data or not is not clear to the reader. It would appear that the absence of any Whirlybird data for Valley 2 (particularly in the light of the Re Energise Africa findings) may be the source of this confusion. This does not appear to be clarified in the report. Note also that the logical arrangement of the data suggests that the Whirlybirds form part of the Valley 2 data set: all other non-tank data on Page 19 (Infotox Annexure 1 Rev 2.0) for instance refer to Valley 2.

1 (g). The response still suggests that there is information left off the report provided.

2 (a). Dr van Niekerk: The response provided still does not explain why evidence provided by the same Enviroserv team, even if it only comprised three weeks of record at the time of submission of the report, was not considered. The respondent does not contest the 30-times variation between the modelled and the higher values measured by the same team. The respondent indicates that ambient measurements were used to verify the modelling data but this does not appear to have been the case in this very instance.

Dr Burger: The work presented at the public meeting appeared to indicate a substantial, undefined alternative source or sources of H₂S in the Hillcrest area. However, the opportunity existed to compare the readings directly downwind of the landfill with the ambient measurements and this does not appear to have been done. Rather the focus was on identifying other sources. This leaves a great deal of uncertainty related to the reliability of the model in this application.

2 (b). Thank you for the responses.

2 (c). The written response is not consistent with the responses provided verbally at the public meeting which suggested that the appropriate data was selected using professional judgement. The data sheets provided, the highly summarised table of values presented by Airshed (Table 2-1, 2-2) and the implications of the graph in Figure 2-4 do not provide a coherent link between the various measurements and the final emission database or model. They also indicate that professional judgement or calculation not directly related to the emission measurements was applied.

Furthermore, there is no discussion about how environmental conditions were correlated with the measurement or how the specialists sought to accommodate this in their assessment of their data, despite acknowledging this phenomenon during the public meeting. The reader is left uncertain as to how the professional team finally approached the question of an emission inventory for the site, quite apart from the disquiet associated with the many "over-range" results removed.

2 (d). Thank you for this clarification. It does not clarify however why the ambient data, that twice in this response, the authors have indicated was too short to be used, could nevertheless be used in extended form in a public meeting to justify the presence of other sources and why local observation is ignored in favour of these particular measurements. No comment is made on the reliability of the air pollution measurement or of the associated wind measurement, although the data is used to justify the point.

2 (e). My comments related to the verbal description of the emissions monitoring provided at the public meeting by Dr van Niekerk. I agree that the description is at odds with the written report and my impression of the work.

2 (f). A response to the review commissioned by the affected community with due regard to public health and public interest generally would be highly appreciated.