



# Witness Statement - Planning Panel Hearings Hume Planning Scheme, Amendment C207 and C208

## 1. Name and Address

Mr Tim Pollock

c/- GHD 180 Lonsdale Street Melbourne

## 2. Qualifications and Experience

- BE (Hons) Monash 1968
- M. Eng. Sci. Monash 1972
- Member: Clean Air Society
- Professional Experience
- 2002 – 2017: Principal Environmental Engineer, GHD
- 1988 – 2002: Principal Environmental Engineer, CSF, CMPS&F, Egis
- 1985 – 1988: Research Fellow, Monash Univ.
- 1975 – 1985: Senior Environmental Engineer, Caldwell Connell Engineers

## 3. Areas of Expertise

I have specialised in dispersion modelling in marine and air environments, the latter for the last 15 years. In the last 10 years I have conducted many odour impact assessments on existing and proposed industries with potential off-site impact. I have developed buffer methodologies where meteorology and throughput is taken into account and have applied them to a range of industries. See CV attached.

## 4. Expertise to Prepare Report

I have reported on odour impact assessments on many cases for Planning Panel and VCAT proceedings and have conducted such assessments for a range of industries with off-site odour impact.

## 5. Instructions which defined Scope of Report

6. I received instructions dated 21 August 2017 from Norton Rose Fulbright Australia, lawyers acting for Hi-Quality Quarry Products Pty Ltd and Tranteret Pty Ltd to prepare an expert witness statement in relation to the work documented in 'Veolia Buffer Assessment, Odour Monitoring and Modelling Results' (GHD report # 257233). A copy of this report was distributed electronically to the Panel and parties for Hume Planning Scheme Amendment C207 by Mat Garner of the Victorian Planning Authority on 4 August 2017.

GHD was commissioned by Hi-Quality Quarry Products Pty Ltd to investigate the buffer requirements for the current operations of the Veolia Bulla organics facility based on the outcome of a meeting (dated 24<sup>th</sup> May 2016) with Hi-Quality, GHD, EPA and VPA to discuss what assessment of the composting facility buffer was required for the Sunbury South PSP. Following that meeting, Lance Ingrams of Hi-Quality Quarry Products Pty Ltd requested that GHD provide a proposal to undertake an odour and buffer assessment odour for the Bulla organics facility. GHD provided a proposal on 10 June 2016. EPA commented on GHD's proposal on 21 July 2016, and GHD took those comments into account in preparing its report.

GHD subsequently undertook additional measurements and modelling via proposal to Lance Ingrams of Hi-Quality Quarry Products Pty Ltd dated 8 May 2017, EPA commented on GHD's May 2017 proposal on 19 June 2017 and GHD took those comments into account in preparing its report. GHD finalised the report in August 2017 titled 'Veolia Buffer Assessment, Odour Monitoring and Modelling Results' (GHD report # 257233).

7. Facts, Matters and Assumptions Relied Upon

- Site inspections
- EPA letter correspondence regarding review of GHD proposal, dated 19 June 2017
- Review of plans and reports
- My experience relevant to buffer and odour impact assessments

8. Documents to be taken into Account

- GHD report # 257233 (Veolia Buffer Assessment, Odour Monitoring and Modelling Results)

9. Identity of Persons Undertaking Work

- Tim Pollock, Michael Asimakis

10. Summary of Opinions

- The substantive portion of my statement is given in the GHD report # 257233 (Veolia Buffer Assessment, Odour Monitoring and Modelling Results).

11. My opinions are not provisional except where specifically qualified.

12. The analysis presented in this report is within my area of expertise.

13. I declare I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

Regards



**Tim Pollock**

Principal Environmental Engineer

21 August 2017

**Attachment 1** Tim Pollock's CV



## Tim Pollock Principal Environmental Engineer



Qualified: Bachelor of Engineering (Mechanical)(Hons), Monash University

Master of Engineering Science (Mechanical), Monash University

Connected: Member, Clean Air Society of Australia and New Zealand.

Relevance to project: As a Principal Environmental Engineer within GHD's Environmental Management Group, Tim's experience in air quality modelling covers the arenas of works approvals and licensing, modelling for EIA and EIS's, modelling for expert evidence in VCAT, Independent Panel, and Land and Environment Court forums. He has particularly focussed on modelling of odour impact from industry. Tim's experience in odour impact assessment encompasses a range of industries including intensive animal husbandry industries such as broiler and egg layer farms, piggeries and cattle feedlots, as well as wastewater treatment plants (WWTP's), rendering plants, abattoirs, waste transfer stations, composting facilities and pulp mills. He has implemented novel indirect odour emission rate measurement techniques using downwind transects and back-calculation using Ausplume. He has also developed buffer distance methodologies to; (i) take account of local meteorology, to determine site-specific buffers, and (ii) directly model upset/malfunction scenarios to determine site-specific and process-specific buffers for industries – in particular for wastewater treatment plants.

### Unitywater – Maroochydore STP Odour Assessment Investigation Report:

GHD was commissioned by Unitywater to undertake an odour impact assessment of the Maroochydore Sewage Treatment Plant (STP), in response to an identified risk of non-compliance to the EPA odour criterion. Tasks included synthesis and validation of a meteorological data file using CALMET. Compilation of an emissions inventory for odour generated due to the proposed operation of the WWTP. Dispersion modelling for odour using the CALPUFF dispersion model to assess compliance with relevant criteria. Identification of appropriate mitigation measures and management strategies, associated GIS mapping and technical report writing.

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### Veolia Environmental Services Pty Ltd:

Odour Assessment to Support Works Approval Application for Bulla In-vessel Composting Facility: Synthesis and validation of a meteorological data file using CALMET. Compilation of an emissions inventory for odour. Dispersion modelling for odour using the CALPUFF dispersion model in support of a works approval application. GIS mapping, report writing/compilation.

### Bundaberg Regional Council – Rubyanna WWTP –Odour dispersion modelling:

GHD was engaged by Bundaberg Regional Council to conduct an odour impact assessment for a proposed waste water treatment plant (WWTP) at Rubyanna, north of Bundaberg in Queensland. Tasks included synthesis and validation of a meteorological data file using CALMET. Compilation of an emissions inventory

### Yarra Valley Water – Wallan STP Buffer and Odour Impact Assessment:

Compilation of an emissions inventory for odour generated due to the operation of the Wallan STP. Synthesis and validation of a meteorological data file, representative of the site. Dispersion modelling for



odorous emissions using Ausplume. GIS mapping, client consultation and technical report writing.

## Western Water – Sunbury RWP Buffer and Odour Impact Assessment:

Compilation of an emissions inventory for odour generated due to operation of the Sunbury RWP. Synthesis and validation of a meteorological data file. Default and directional buffer assessment and dispersion modelling for odorous emissions using Ausplume for normal operations and plausible upset/malfunction scenarios to predict an appropriate buffer distance. GIS mapping, client consultation, project management and technical report writing

## South Gippsland Water – Nyora WWTP Buffer and Odour Impact Assessment:

Compilation of an emissions inventory for odour from a proposed WWTP at Nyora. Synthesis and validation of a meteorological data file. Default and directional buffer assessment and dispersion modelling for odorous emissions using Ausplume. GIS mapping and technical report writing.

## Central Highlands Water – Country Towns Sewage Project - Buffer and Odour Impact Assessment:

Compilation of an emissions inventory for odour generated due to operation of the Cardigan Village WWTP. Synthesis and validation of a meteorological data file. Default and directional buffer assessment and dispersion modelling for odorous emissions using Ausplume for normal operations and future scenarios to predict an appropriate buffer distance. GIS mapping and technical report writing.

## Central Highlands Water – Ballarat North Wastewater Treatment Plant (WWTP) Buffer and Odour Impact Assessment:

Compilation of an emissions inventory for odour generated due to operation of the Ballarat North WWTP. Synthesis and validation of a meteorological data file. Dispersion modelling for odorous emissions using

Ausplume for normal operations and plausible upset/malfunction scenarios to predict an appropriate buffer distance. GIS mapping, client consultation and technical report writing.

## Barwon Water – Black Rock WRP Buffer and Odour Impact Assessment:

Compilation of an emissions inventory for odour generated due to the operation of the Black Rock WRP. Synthesis and validation of a meteorological data file, representative of the site. Dispersion modelling for odorous emissions using Ausplume. GIS mapping, client consultation and technical report writing.

## Gippsland Water:

Buffer and Odour Impact Assessment for Maffra WWTP, Warragul WWTP, Maryvale Emergency Storage and Traralgon Emergency Storage:

Compilation of an emissions inventory for odour. Default and directional buffer assessments and dispersion modelling for odorous emissions using Ausplume for normal operations and plausible upset/malfunction scenarios to predict appropriate buffer distances. GIS mapping, client consultation, project management and technical report writing.

## Cascades Waste Water Treatment Facility | Tasmania:

WWTP odour impact assessment for a development approval. The study used air dispersion modelling, using local meteorology and terrain data to predict operational odour compliance at nearest residential receivers.

## Cressy abattoir and rendering plant odour modelling | Tasmania:

AUSPLUME modelling and reporting of the cumulative effect of odour emissions from an existing abattoir and red meat rendering plant to include a proposed white meat rendering plant.



# Curriculum Vitae

Transpacific Cleanaway Ltd:

Odour Assessment to Support Works Approval Application for Organic Composting Facility in Gerogery, NSW: Developed the characterisation of odour sources in the facility including the random timing of aeration of the covered windrows.. Dispersion modelling for odour using the CALPUFF dispersion model in support of a works approval application. GIS mapping, report writing/compilation.

Odour Impact Assessment of Lyndhurst Landfill for SITA Environmental Solutions:

Downwind odour transect measurements to determine by back-calculation the specific odour emission rate from an active tipping face during dumping and covering. The odour impact Assessment was also used for an EPA Victoria Works Approval Application (WAA).

Places Victoria: Fishermans Bend Buffer Assessment:

GHD was engaged to prepare a Buffer Assessment Report to present a suitable approach to development at Fishermans Bend to inform the Strategic Framework Plan and Development Contributions Plan for the Fishermans Bend Urban Renewal Area (FBURA). Tasks included, identifying all existing relevant known default buffers, identifying industries that have the potential to constrain the FBURA due to odour, dust, noise or lighting sources, identifying any potential mitigation measures, and any future planning scheme requirements. Client Consultation/project management, GIS mapping and technical report writing.

Victorian Chicken Meat Council:

GHD was engaged to provide a position paper outlining the issues with the Victorian Broiler Code (the Code) and considering the proposed draft Environmental Risk Assessment (ERA) methodology developed by EPA Victoria (EPA) to be incorporated into the Code. This position paper served to inform the VCMC submission to EPA on the draft ERA. Developing model simulations to make clear the implications of adopting the broiler

shed emission rate characterisation and the ERA methodology proposed..

Wyndham City Council - Environmental Audit and Buffer Study:

GHD is currently engaged by Wyndham City to complete an environmental audit to determine appropriate buffer distances around existing and proposed quarry, landfill and organic treatment sites in the Wyndham Vale and Werribee West area. Determined directional buffer assessment and dispersion modelling for odorous emissions using Ausplume for normal operations and to predict an appropriate buffer distance. Client consultation source emission measurement and technical report writing.

Veolia Environmental Services Pty Ltd

Odour Assessment to Support Works Approval Application for Bulla In-vessel Composting Facility: Synthesis.. Direct measurement of windrow emissions via temporary 'greenhouse' enclosure and ventilation by variable speed axial fan. Dispersion modelling for odour using the CALPUFF dispersion model in support of a works approval application. GIS mapping, report writing/compilation.

Hazeldene's Chicken Farms Pty Ltd:

Odour Impact and Buffer Study: Odour impact assessment to determine appropriate buffer distances for proposed expansion of Murchison Broiler Farm. Broiler shed odour emission rate measurements were conducted to determine the effect of ventilation rate and ambient temperature. Default and directional buffer assessment and dispersion modelling for odorous emissions using Ausplume for normal operations and ERA to predict an appropriate buffer distance. Client consultation, emission testing design and technical report writing.

Terminals Pty Ltd - Bitumen Import and Dispatch Facility, Port Botany, Air Quality Assessment:



Compilation of an emissions inventory including emissions from bulk storage tanks. Synthesis and validation of a meteorological data file. Dispersion modelling using EPA approved Ausplume. GIS mapping, client consultation and technical report writing.

## Australian Paper

Development of a process-specific directional buffer for the Maryvale Kraft Pulp Mill. Fugitive odour sources were characterised by TRS transects conducted on the downwind boundary. Modelling using CALMET / CALPUFF was adopted to take account

## Boral Resources Pty Ltd - Temporary Asphalt Plant, Peninsula Link:

Air Quality Assessment: Compilation of an emissions inventory for an asphalt plant including fugitive odour emissions during loadout. Synthesis and validation of a meteorological data file. Dispersion modelling using EPA approved model Ausplume. GIS mapping, client consultation and technical report writing.

## Papers and Presentations

- Pollock, T. J. (1997). 'Dispersion modelling to predict off-site impact of odour sources', *Proceedings of the National Workshop on Odour Measurement Standardisation*, UNSW, Sydney. UNSW, Sydney (pp. 95-104).
- Pollock, T., & Friebel, F. (2000). 'Odour dispersion modeling for broiler farms' *Environ 2000-odour conference*, Sydney.
- Edgar, G., Pollock, T., & O'Shea, J. (2002). 'Validation of the AUSPLUME model for predicting downwind odour concentrations from a piggery', *Enviro 2002 Conference Proceedings*, Melbourne, Australia.
- Clarey, P. R., Pollock, T. J., & Myers, S. (2003). 'A proposed system for buffer distance determinations', *Linking Air Pollution Science, Policy and Management*.
- Mueller G, Pollock T, Sichlau B, (2009) 'A proposed methodology for Environmental Risk Assessment', *Air Quality and Climate Change*, Volume 43 Issue 3.

- Pollock T, Braun H, (2009) 'Windrows of Opportunity', *Waste Management and Environment*, Volume 20, Issue 11.

## Related areas of interest

- Expert Witness at Planning Panels and VCAT.
- Modelling the effect of local meteorology on buffer distances
- Air Dispersion modelling
- Odour flux surveys
- WWTP odour assessments
- Waste transfer station assessments
- Compost facility odour assessments
- Broiler farm odour assessments
- Buffer constraint assessments
- Site based assessments and air dispersion modelling
- Odour sampling and odour survey assessment
- Source emission rate measurement
- Environmental Impact and risk Assessment
- Reporting