



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXVII

Final Report

June 2021

THE ODOUR UNIT PTY LTD

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LIST OF ABBREVIATIONS AND DEFINITIONS

FAOA	Field Ambient Odour Assessment
HCS	Hydrometric Consulting Services
the Draft OEMP	The draft version of the <i>Operational Environmental Management Plan</i> dated 6 November 2020
the February 2010 OMP	Odour Management Plan dated February 2010
the Odour Audit	Odour Audit XXXVII covering the six months between 19 November 2020 to 13 May 2021
the September 2017 Container Preparation Document	Waste container preparation requirements for the Site
the September 2017 NSW RR Container Document	<i>NSW Resource Recovery – Container Maintenance</i> dated 15 September 2017
the Site	Veolia Clyde Transfer Terminal
TOU	The Odour Unit Pty Ltd
TTB	Transfer Terminal Building
Veolia	Veolia (Australia) Pty Ltd

UNITS OF MEASUREMENTS

°C	degrees Celsius
m/s	metres per second

1 INTRODUCTION

The Odour Unit Pty Ltd (**TOU**) was commissioned by Veolia (Australia) Pty Ltd (**Veolia**) to undertake the thirty-seventh (**XXXVII**) Odour Audit at the Clyde Transfer Terminal (**the Site**) on Thursday, 13 May 2021. The visit for this odour audit was undertaken by a TOU Odour Consultant and is the thirty-seventh (37th) to be carried out since the commissioning of the forced air extraction system within the waste transfer terminal.

1.1 ODOUR AUDIT PERIOD

Odour Audit XXXVII covers the six months between 19 November 2020 and 13 May 2021 (**the Odour Audit**).

1.2 ODOUR AUDIT REQUIREMENTS

The Odour Audit requirements originate from the *Conditions of Consent – 48(f)* and are outlined below:

“48. The Odour Management Plan must address, but is not necessarily limited to, the following issues:

(f) An odour audit program which provides for a comprehensive odour audit of the premises and nearby commercial and residential areas, by an independent, appropriately qualified and experienced person, to be conducted 3-monthly for the initial 24 months of receiving un-containerised waste at the terminal, 3-monthly for the 12 months following commissioning the odour control system subject to MOD-133-11-2006, and 6-monthly thereafter, unless otherwise approved in writing by the Director-General.”

As with previous Odour Audits, Odour Audit XXXVII focused on issues relating to general housekeeping, fugitive odour emissions from the transfer building, ground level odour impacts, meteorological monitoring, complaints handling, and actions on past odour audit recommendations. Specifically, the Odour Audit approach included:

- A general inspection and smoke testing of the transfer building;
- The inspection of the container packing area and site access roads;
- The examination of the complaint register;
- The review of the on-site meteorological data log and equipment maintenance/calibration;
- The analysis of relevant documentation relating to odour management; and
- The undertaking of an off-site downwind Field Ambient Odour Assessment (**FAOA**) survey.

1.3 PREVAILING WEATHER CONDITIONS

At the time of the Odour Audit visit, it was moderate (2.0 metres per second (**m/s**) to 3.0 m/s) wind speeds with the local wind direction blowing predominately from the north-west. The skies were clear and the ambient temperature during the Odour Audit visit was approximately 20 degrees Celsius (**°C**).

No rainfall was observed during the Odour Audit visit.

2 ODOUR AUDIT FINDINGS

2.1 ASSESSMENT OF GENERAL HOUSEKEEPING

2.1.1 Transfer Terminal Building

During the Odour Audit visit, there were approximately 120-150 tonnes of waste on the floor. This tonnage is considered to be within the normal operating range of the Transfer Terminal Building (TTB). The TTB floor area not covered by waste material was observed to be reasonably clean, with little evidence of leachate or aged material. General housekeeping procedures of the TTB were good, as found during several truck-unloading sequences. It was also observed that the TTB's front-end loaders cleared the floor area of waste on a regular basis, minimising the exposed area of waste.

As with previous audits, and consistent with TOU's experience at other waste transfer stations, there was a weak to distinct level of odour observed within the TTB. A photo of the waste on the floor as found during the Odour Audit visit is shown in Photo 2.1.

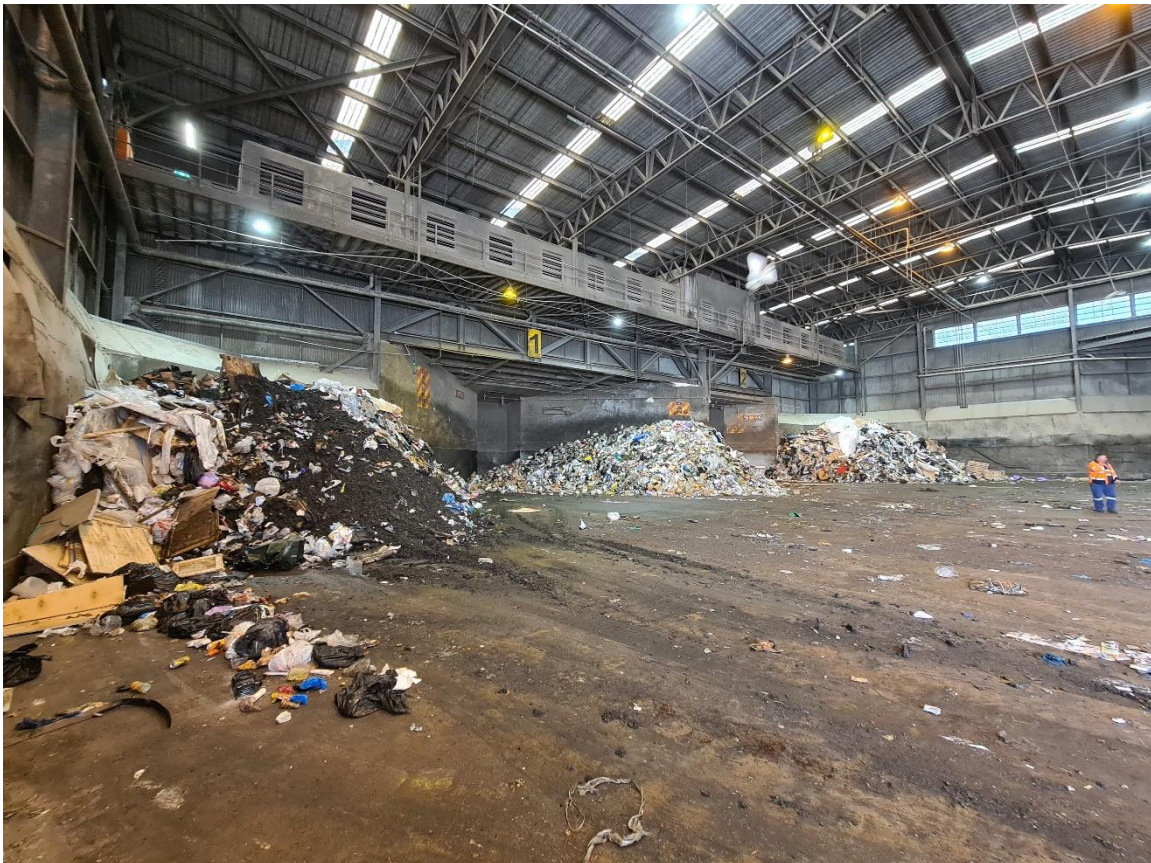


Photo 2.1 – TTB waste on-floor as found on 13 May 2021

2.1.2 Container Packing Area and Site Roadways

The container packing area and site roadways were found to be clean and well managed with no evidence of waste or exposed leachate. Like previous odour audits, the container compacting/train packing area had a weak to distinct odour that was intermittently detectable but was confined to this area only (see **Appendix B** for Field Ambient Odour Assessment Survey results). TOU was advised by a Veolia personnel that one of the two compactors were in operation at the time of the Odour Audit visit. The general housekeeping around this area was observed to be of high quality, with no evidence to suggest otherwise.

As with previous Odour Audits, the containers are cleaned off-site at Veolia's Woodlawn Bioreactor Facility before being returned to the Site. The weight of each container is monitored to determine if there is any waste that has not been removed completely from each container, which in turn reduces the likelihood of the containers contributing to the Site's odour levels.

2.1.2.1 Container Management and Maintenance

Based on previous verbal discussions with the Veolia team and observations made during the visit, the Odour Audit finds that Veolia continues to implement the policies and procedures as outlined in the following documents:

- The container management and maintenance procedures titled *NSW Resource Recovery – Container Maintenance* dated 15 September 2017 (**the September 2017 NSW RR Container Document**), which details the following:
 - The design of the containers;
 - The maintenance and management of the activated carbon filter retrofitted to the containers;
 - The container management procedure; and
 - The container maintenance procedure.
- The waste container preparation requirements for the Site (**the September 2017 Container Preparation Document**), which details the following:
 - The inspections and actions to be undertaken by operators to enable containers to be prepared to an acceptable standard;
 - The steps to be undertaken should a damaged container be identified; and
 - The steps to be undertaken should a leaking container be identified.

2.1.3 Odour Management Plan

As per the Odour Management Plan dated February 2010 (**the February 2010 OMP**) for the Site, following the compaction of waste, all filled containers are entirely sealed and remain so while at the Site. All containers used are required to be in good condition, and unused/returned containers adequately clean. The Odour Audit finds that this continues to be current practice at the Site. A view of the condition of the container area as found on 13 May 2021 is shown in **Photo 2.2**.



Photo 2.2 – A view of the container area as found on 13 May 2021

2.1.4 Odour Extraction System Maintenance

The service documentation for the maintenance of the odour extraction system was supplied and reviewed as part of the Odour Audit (refer to **Appendix A**). The service logs were provided covering the period between 4 January 2021 to 28 May 2021.

Each service log provided to the Odour Audit indicated that the required inspection and maintenance works were taking place by a suitable service contractor, and the odour extraction system overall was operating efficiently. The service logs during this period noted that all the necessary support works such as checking the fan belts and unit operations, greasing bearings, and other routine preventative maintenance works were being inspected and undertaken.

Given the above and based on the positive results obtained for the smoke testing, odour complaints register, and the FAOA survey conducted as part of the Odour Audit visit, it appears that the current operation of the odour extraction system is satisfactory.

2.1.5 Odour Management Procedures/Plan

The Odour Management Procedures (formerly known as the Odour Minimising Procedures) continue to be regularly reviewed at toolbox meetings, and contemporary issues/recommendations are raised with all staff members at these meetings.

Veolia has advised The Odour Audit that the February 2010 OMP is still in the process of being reviewed and updated. However, TOU was provided a copy of the draft *Operational Environmental Management Plan* for the Site dated 6 November 2020 (the **Draft OEMP**). Upon finalisation of the Draft OEMP and consolidation of all referenced documents, the Odour Audit will review this document in its entirety. Nevertheless, the annual review and commitment to continuous improvement to the operational and environmental management procedures and practices at the Site is endorsed by the Odour Audit.

2.1.6 Transfer Terminal Building

The Odour Audit inspected the fixed metal plates retrofitted along the TTB breezeways in December 2013. All metal plates were found to be intact and in good condition around the TTB. All doors and roller shutters of the TTB were found to be shut at the time of the Odour Audit, reducing the likelihood of odour impacts detected off-site. The louvres on the end walls of the TTB were observed to be permanently shut.

2.1.7 Truck Entrance Plastic Strips

The truck entrance plastic strips of the TTB, used to reduce odour escaping through the opening, were found to be intact and in good condition (refer to **Photo 2.3**).

2.1.8 Smoke Testing

As per previous audits, smoke testing was carried out within the TTB to assist in determining the effectiveness of the forced air extraction system, as well as the extent to which the TTB has been sealed from leaks. As per previous audits, smoke was released from within the TTB at three points within the TTB. **Figure 2.1** shows the three points where the smoke was released within the TTB. **Photo 2.4** shows smoke testing at the truck entrance of the TTB, which reflects an additional test location to the normal smoke testing release points shown in **Figure 2.1**.



Photo 2.3 – A view of the truck entrance plastic strips as found on 13 May 2021



Photo 2.4 – A view of the truck entrance plastic strips during smoke testing on 13 May 2021

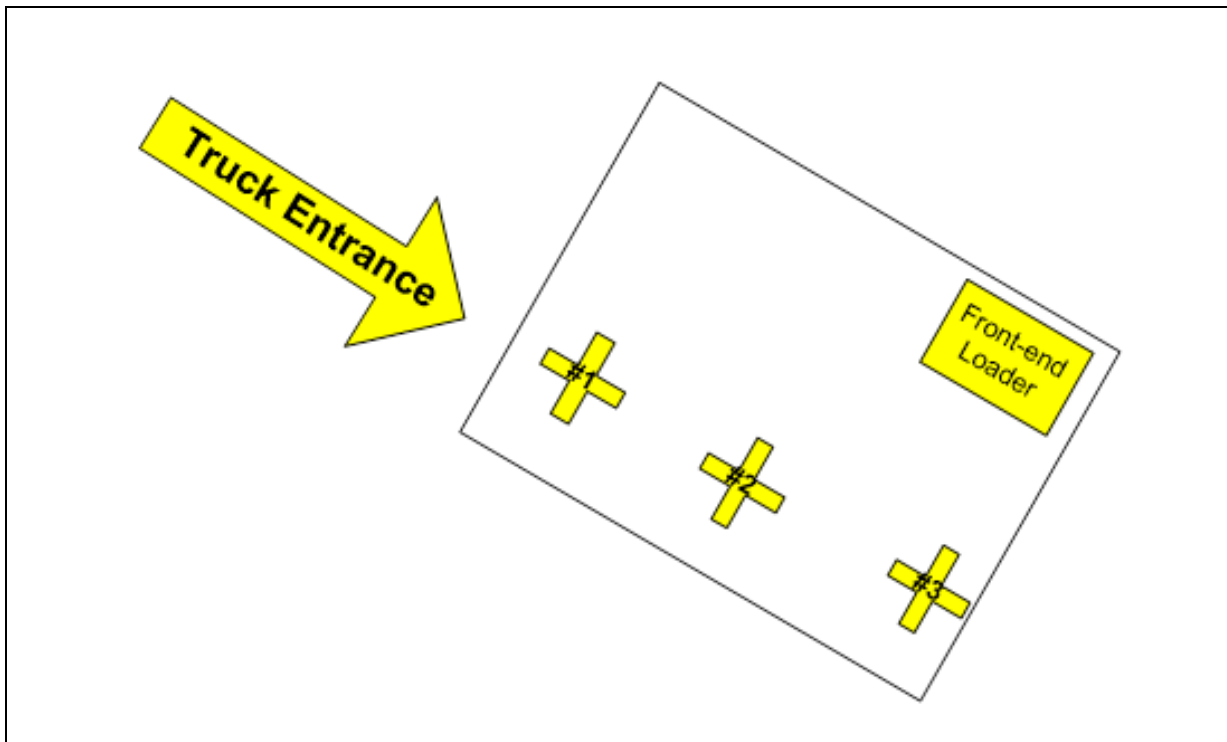


Figure 2.1 – Smoke testing release points within the TTB on 13 May 2021

2.1.8.1 Smoke Testing Results

Smoke Testing Point #1

The smoke released at this point initially rose gradually moving towards the truck entrance before rising to the roof and moving slowly towards the extraction system. Visible smoke extraction at the overhead capture points was evident during the smoke testing at this point. Any smoke that continued towards the truck entrance was drawn back into the building (see shown in **Photo 2.4**).

Smoke Testing Point #2

The smoke released at this point revealed a similar result to that documented for smoke testing point #1.

Smoke Testing Point #3

The smoke released at this point revealed a similar result to that documented for smoke testing point #1.

2.2 ODOUR COMPLAINTS HANDLING AND METEOROLOGICAL DATA

2.2.1 **Odour Complaints Handling**

As advised by Veolia personnel, there have been no complaints recorded in the Site's complaints register since March 2012.

2.2.2 Meteorological Data

The meteorological data provided to the Odour Audit, covering the period of between November 2020 and May 2021, was inspected and found to be in good order. As found in previous Odour Audits, the observations were provided in daily 15-minute intervals and included all parameters necessary to develop a meteorological dataset for odour dispersion modelling.

As indicated via service records completed by Hydrometric Consulting Services (**HCS**) supplied by Veolia to the Odour Audit, the weather station continues to remain located in an accessible area with the solar panel and components regularly cleaned, and installation sprayed periodically for insects and trimming of nearby vegetation as required to ensure no overgrowth immediately around the weather station pole. Overall, HCS indicated that the weather stations were operating well, and any identified issues were rectified.

The weather data calibration and service reports by HCS are appended as **Appendix B**.

2.3 FIELD AMBIENT ODOUR ASSESSMENT METHODOLOGY

At present, no Australian Standard exists for field-based ambient odour assessment surveys. Consequently, TOU utilises a method for assessing the ground-level impacts of odour emissions using a modified version of the German Standard VDI 3940 (1993) – ‘*Determination of Odorants in Ambient Air by Field Inspections*’.

Field-based ambient odour surveys are considered a valuable odour impact assessment tool as previous experience with ambient odour sampling and subsequent olfactometry testing suggests that accurate and useful ambient odour concentration data is difficult to obtain. Therefore, TOU has adopted a more practical approach based on the field measurement of odour intensity. With this method, calibrated and experienced odour specialists traverse the downwind surrounds of odour sources in a strategically mapped pattern, assessing the presence, character and intensity of any odours encountered and recording these observations along with wind speed and direction.

An ambient odour assessment was performed on 13 May 2021 between 1400 hrs and 1447 hrs. The FAOA survey was undertaken at strategic locations, both on-site and off-site. The ambient odour assessment focus was off-site, as required by the Conditions of Consent on “.....*nearby commercial and residential areas*.....” (Section 48 (f)). The TOU assessor firstly determined the wind direction using a Kestrel 4500 Pocket Weather Tracker Anemometer and then assessed locations of the TTB downwind.

The assessors spent approximately five minutes at each assessment location to gauge the effects of any odour impact. If an odour was detected at a location, the assessors attempted to characterise it. The general aim was to determine the extent of the impact of odours off-site and rank their intensity. The ranking scale for the German Standard VDI 3940 ‘*Determination of Odorants in Ambient Air by Field Inspections*’ was used for

the intensity assessments. The standard's ranking system is based on the following seven-point intensity scale, as shown in Table 2.1 below.

Table 2.1 – VDI 3882 Odour Intensity Categories		
Odour Strength	Intensity Rank (code)	TOU Interpretation (meaning)
Not detectable	0	No odour detected
Very weak	1	Odour detected but not strong enough to be characterised
Weak	2	Odour is weak but just able to be characterised
Distinct	3	Odour is distinct and easily characterised
Strong	4	Strong odour detectable
Very Strong	5	If offensive, the observer may consider moving from the area
Extremely Strong	6	Odour is sufficiently over-powering that assessor moves from the area

2.3.1 Field Ambient Odour Assessment - Results

The results of the FAOA survey conducted during the Odour Audit found that whilst intermittent odours were detected on-site, no odours were detectable off-site that could be linked back to the Site and its activities. This is a good outcome and reflects the findings from previous odour audits.

The field log sheets and visual survey plot are appended as **Appendix C**.

3 RECOMMENDATIONS/FOLLOW-UP ACTIONS

3.1 PREVIOUS AUDIT ACTIONS

The following list provides an outline of the last November 2020 odour audit actions and status as of the Odour Audit:

- **Previous Audit Action 1:** *Action 1 – Continue with the on-going review and commitment to continuous improvement of the Draft OEMP and referenced documents*
- **Status:** On-going and will be reassessed in the next audit.

3.2 TRANSFER TERMINAL BUILDING

All metal plates were found to be intact and in good condition around the TTB. All doors and roller shutters of the TTB were found to be shut at the time of the Odour Audit, reducing the likelihood of odour impacts detected off-site. The louvres on the end walls of the TTB were observed to be permanently shut. Overall, the TTB was found to be well managed.

Based on the findings in the Odour Audit, the following action is recommended:

- **No further action is required at this stage.**

3.3 COMPACTOR AREA

The general housekeeping around the compactor area was observed to be of high quality, with no evidence to suggest otherwise. As with previous Odour Audits, the container compacting/train packing area had a weak to distinct odour that was intermittently detectable but was found to be confined to this area only.

Based on the findings in this Odour Audit, the following action is recommended:

- **No further action is required at this stage.**

3.4 ODOUR EXTRACTION SYSTEM

The service logs indicate that all required maintenance works on the odour extraction system since the previous November 2020 odour audit have been adequately undertaken, and the odour extraction system is operating in a satisfactory condition.

Based on the findings in the Odour Audit, the following action is recommended:

- **No further action is required at this stage.**

3.5 WEATHER STATION

The dataset obtained from the weather station was found to be adequate. Moreover, the calibration and service reports from HCS indicate that all maintenance to the weather station and required calibrations were carried out as needed.

Based on the findings in the Odour Audit, the following action is recommended:

- **No further action is required at this stage.**

The results of the FAOA survey conducted during the Odour Audit found that no odours were detectable off-site that could be linked back to the Site and its activities.

3.6 ODOUR MANAGEMENT PROCEDURES/PLAN

At the timing of the writing of the Odour Audit, the February 2010 OMP was last updated over seven years ago. Given the previous update, it is suggested that as part of good practice that Veolia reviews and update the February 2010 OMP to ensure it continues to reflect the odour management procedures implemented and followed at the Site. TOU was provided a copy of the Draft OEMP. Upon finalisation of the Draft OEMP and consolidation of all referenced documents, the Odour Audit will review this document in its entirety. Nevertheless, the annual review and commitment to continuous improvement to the operational and environmental management procedures and practices at the Site is endorsed by the Odour Audit.

Based on the findings in this Odour Audit, the following action/s is recommended:

- **Action 1 – Continue with the on-going review and commitment to continuous improvement of the Draft OEMP and referenced documents.**

3.7 CONCLUDING REMARK

Overall, this Odour Audit found that the operation and maintenance of the odour management system at the Site was satisfactory. There was no evidence to suggest that significant fugitive odour emission release from the Site is occurring.

The next Odour Audit is due in **November 2021**.



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXVII

Appendices

June 2021



APPENDIX A:
ODOUR EXTRACTION SYSTEM SERVICE REPORTS
(JANUARY 2021 – MAY 2021)

Service Docket: 00072931

Company	VEOLIA ENVIRONMENTAL SERVICES
Contract	124-001
Category	CLYDE - MAINTENANCE
Property Address	CLYDE WASTE322 Parramatta Rd, CLYDE, NSW, 2142
Property Description	Whole of Site Mechanical Monthly 1/12/2020
Property Notes	11-Jan-21 - Zachary Brown - SA-114914 - Carried out maintenance on both extraction fans checking belts pullies and general operation.
Book ID	
Completion Date	11-Jan-21 <i>ACTUALLY 4TH JAN.</i>

Defect Type	Barcode	Level	Location	Result	Defect ID	Defect Description	Defect Type
Site - Mechanical	124-001			Passed			

Service Docket: 00080087

Customer	VEOLIA ENVIRONMENTAL SERVICES				
Contract	124-001				
Property	CLYDE - MAINTENANCE				
Property Address	322 Parramatta Rd, CLYDE, NSW, 2142				
Activity Description	Whole of Site Mechanical Monthly 1/1/2021				
Activity Notes	20-Jan-21 - Zachary Brown - SA-124108 - Maintenance complete on both extractor fans. Cleaned out the motor fins and dust off dampers.				
Log Book ID					
Completion Date	20-Jan-21				

Equipment Type	Barcode	Level	Location	Result	Defect ID	Defect Description	Defect Type
Whole of Site - Mechanical	124-001			Passed			

Thursday, 9 April 2020

Service Docket: 00086449

Customer	VEOLIA ENVIRONMENTAL SERVICES				
Contract	124-001				
Property	CLYDE - MAINTENANCE				
Property Address	322 Parramatta Rd, CLYDE, NSW, 2142				
Activity Description	Whole of Site Mechanical Monthly 1/2/2021				
Activity Notes	01-Mar-21 - Zachary Brown - SA-131796 - Attended site signed in and carried out jsa. Completed maintenance on both extractor fans checking operation and cleaned the dust out of the motor fins.				
Log Book ID					
Completion Date	02-Mar-21				

Equipment Type	Barcode	Level	Location	Result	Defect ID	Defect Description	Defect Type
Whole of Site - Mechanical	124-001			Passed			

Thursday, 9 April 2020

Service Docket: 00104522

Customer	VEOLIA ENVIRONMENTAL SERVICES
Contract	124-001
Property	CLYDE - MAINTENANCE
Property Address	322 Parramatta Rd, CLYDE, NSW, 2142
Activity Description	Whole of Site Mechanical Monthly 1/4/2021
Activity Notes	30-Apr-21 - Zachary Brown - SA-153377 - Attended site, signed in, completed permit to work and carried out JSA. Gained access into plant room and isolated and tagged out both fans. Greased up both motors and cleaned dust out of the fins. Checked condition of belts and pulleys. Dusted down the dampers and turned the fans back on. Signed out of site and permit.
Log Book ID	
Completion Date	30-Apr-21

Equipment Type	Barcode	Level	Location	Result	Defect ID	Defect Description	Defect Type
Whole of Site - Mechanical	124-001			Passed			

Safety Date	Safety Questions	Service Appointment	Service Resource	Result
31-Mar-2021	Hold induction & PPE for contract?	SA-153377	Zachary Brown	
31-Mar-2021	Hold induction & PPE Notes	SA-153377	Zachary Brown	
31-Mar-2021	Performing Electrical Work?	SA-153377	Zachary Brown	No
31-Mar-2021	Performing Electrical Work Notes	SA-153377	Zachary Brown	
31-Mar-2021	Clear access to work area and equipment?	SA-153377	Zachary Brown	Yes
31-Mar-2021	Clear access Notes	SA-153377	Zachary Brown	
31-Mar-2021	Weather appropriate to commence work?	SA-153377	Zachary Brown	Yes
31-Mar-2021	Weather appropriate Notes	SA-153377	Zachary Brown	
31-Mar-2021	Potential risk of disturbing asbestos?	SA-153377	Zachary Brown	No
31-Mar-2021	Risk of disturbing asbestos Notes	SA-153377	Zachary Brown	
31-Mar-2021	Tasks involves working at heights?	SA-153377	Zachary Brown	No
31-Mar-2021	Involves working at heights Notes	SA-153377	Zachary Brown	
31-Mar-2021	Task involves mobile Plant & Equipment?	SA-153377	Zachary Brown	
31-Mar-2021	Mobile Plant & Equipment Notes	SA-153377	Zachary Brown	
31-Mar-2021	Will work impact Pedestrians/Vehicle?	SA-153377	Zachary Brown	No
31-Mar-2021	Work impact Pedestrians/Vehicle Notes	SA-153377	Zachary Brown	
31-Mar-2021	Involves contact with energy source?	SA-153377	Zachary Brown	No
31-Mar-2021	Contact with energy source Notes	SA-153377	Zachary Brown	
31-Mar-2021	Task involves using Chemical/Substances?	SA-153377	Zachary Brown	No
31-Mar-2021	Chemical/Substances Notes	SA-153377	Zachary Brown	
31-Mar-2021	Will your task involve Manual Handling?	SA-153377	Zachary Brown	No
31-Mar-2021	Task involve Manual Handling Notes	SA-153377	Zachary Brown	
31-Mar-2021	Necessary permits obtained/approved?	SA-153377	Zachary Brown	N/A
31-Mar-2021	Necessary permits obtained/approved Note	SA-153377	Zachary Brown	
31-Mar-2021	Equipped for Hygiene & Social Distancing	SA-153377	Zachary Brown	N/A
31-Mar-2021	Hygiene & Social Distancing Notes	SA-153377	Zachary Brown	
31-Mar-2021	Reviewed task/environment? Is it Safe?	SA-153377	Zachary Brown	Yes
31-Mar-2021	Task/environment Safety Notes	SA-153377	Zachary Brown	

Service Docket: 00110575

Customer	VEOLIA ENVIRONMENTAL SERVICES
Contract	124-001
Property	CLYDE - MAINTENANCE
Property Address	322 Parramatta Rd, CLYDE, NSW, 2142
Activity Description	Whole of Site Mechanical Monthly 1/5/2021
Activity Notes	24-May-21 - Zachary Brown - SA-168986 - Attended site, signed in and completed JSA. Isolated fans and carried out maintenance. Greased the motors and checked belts, pulley and general operation. Dusted down the motor fins and vsd. Signed out of site.
Log Book ID	
Completion Date	28-May-21

Equipment Type	Barcode	Level	Location	Result	Defect ID	Defect Description	Defect Type
Whole of Site - Mechanical	124-001			Passed			

Safety Date	Safety Questions	Service Appointment	Service Resource	Result
20-Apr-2021	Hold induction & PPE for contract?	SA-159064	Jake Hobbs	
20-Apr-2021	Hold induction & PPE Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Performing Electrical Work?	SA-159064	Jake Hobbs	No
20-Apr-2021	Performing Electrical Work Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Clear access to work area and equipment?	SA-159064	Jake Hobbs	Yes
20-Apr-2021	Clear access Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Weather appropriate to commence work?	SA-159064	Jake Hobbs	Yes
20-Apr-2021	Weather appropriate Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Potential risk of disturbing asbestos?	SA-159064	Jake Hobbs	No
20-Apr-2021	Risk of disturbing asbestos Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Tasks involves working at heights?	SA-159064	Jake Hobbs	No
20-Apr-2021	Involves working at heights Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Task involves mobile Plant & Equipment?	SA-159064	Jake Hobbs	
20-Apr-2021	Mobile Plant & Equipment Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Will work impact Pedestrians/Vehicle?	SA-159064	Jake Hobbs	No
20-Apr-2021	Work impact Pedestrians/Vehicle Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Involves contact with energy source?	SA-159064	Jake Hobbs	No
20-Apr-2021	Contact with energy source Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Task involves using Chemical/Substances?	SA-159064	Jake Hobbs	No
20-Apr-2021	Chemical/Substances Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Will your task involve Manual Handling?	SA-159064	Jake Hobbs	No
20-Apr-2021	Task involve Manual Handling Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Necessary permits obtained/approved?	SA-159064	Jake Hobbs	N/A
20-Apr-2021	Necessary permits obtained/approved Note	SA-159064	Jake Hobbs	
20-Apr-2021	Equipped for Hygiene & Social Distancing	SA-159064	Jake Hobbs	N/A
20-Apr-2021	Hygiene & Social Distancing Notes	SA-159064	Jake Hobbs	
20-Apr-2021	Reviewed task/environment? Is it Safe?	SA-159064	Jake Hobbs	Yes
20-Apr-2021	Task/environment Safety Notes	SA-159064	Jake Hobbs	
21-May-2021	Hold induction & PPE for contract?	SA-168986	Zachary Brown	
21-May-2021	Hold induction & PPE Notes	SA-168986	Zachary Brown	
21-May-2021	Performing Electrical Work?	SA-168986	Zachary Brown	No
21-May-2021	Performing Electrical Work Notes	SA-168986	Zachary Brown	
21-May-2021	Clear access to work area and equipment?	SA-168986	Zachary Brown	Yes
21-May-2021	Clear access Notes	SA-168986	Zachary Brown	
21-May-2021	Weather appropriate to commence work?	SA-168986	Zachary Brown	Yes

Safety Date	Safety Questions	Service Appointment	Service Resource	Result
21-May-2021	Weather appropriate Notes	SA-168986	Zachary Brown	
21-May-2021	Potential risk of disturbing asbestos?	SA-168986	Zachary Brown	No
21-May-2021	Risk of disturbing asbestos Notes	SA-168986	Zachary Brown	
21-May-2021	Tasks involves working at heights?	SA-168986	Zachary Brown	No
21-May-2021	Involves working at heights Notes	SA-168986	Zachary Brown	
21-May-2021	Task involves mobile Plant & Equipment?	SA-168986	Zachary Brown	
21-May-2021	Mobile Plant & Equipment Notes	SA-168986	Zachary Brown	
21-May-2021	Will work impact Pedestrians/Vehicle?	SA-168986	Zachary Brown	No
21-May-2021	Work impact Pedestrians/Vehicle Notes	SA-168986	Zachary Brown	
21-May-2021	Involves contact with energy source?	SA-168986	Zachary Brown	No
21-May-2021	Contact with energy source Notes	SA-168986	Zachary Brown	
21-May-2021	Task involves using Chemical/Substances?	SA-168986	Zachary Brown	No
21-May-2021	Chemical/Substances Notes	SA-168986	Zachary Brown	
21-May-2021	Will your task involve Manual Handling?	SA-168986	Zachary Brown	No
21-May-2021	Task involve Manual Handling Notes	SA-168986	Zachary Brown	
21-May-2021	Necessary permits obtained/approved?	SA-168986	Zachary Brown	N/A
21-May-2021	Necessary permits obtained/approved Note	SA-168986	Zachary Brown	
21-May-2021	Equipped for Hygiene & Social Distancing	SA-168986	Zachary Brown	N/A
21-May-2021	Hygiene & Social Distancing Notes	SA-168986	Zachary Brown	
21-May-2021	Reviewed task/environment? Is it Safe?	SA-168986	Zachary Brown	Yes
21-May-2021	Task/environment Safety Notes	SA-168986	Zachary Brown	



APPENDIX B:
WEATHER DATA CALIBRATION REPORTS
(NOVEMBER 2020 – MAY 2021)

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

17 November 2020

Mary Wong
Veolia Environmental Services (Australia) Pty Ltd

Re – Quarterly service of weather stations

Dear Mary,

As per our service agreement, on the 16/11/20 HCS undertook the service, calibration and maintenance of the weather stations located at the Horsley Park and Clyde sites. Field readings were obtained by a combination of a Kestral 3500, compass, Monitor Solar Radiation field unit and HS TBRG calibration device. Details are as follows:

Horsley Park 16/11/20

Sensor	Actual (field)	Logger
Temperature – 10m*	22.4	22
2m*	22.4	22.3
Relative Humidity*	67	67.8
Wind Speed	0.0 m/s at ground	0.3 m/s at 10 metres
Wind Direction	300	298
Solar Radiation	230	220
TBRG	10mm	19 tips
Battery/Solar	14.0	

* Note 1: Field reading is not inside the radiation shield.

Note 2: Ignore rainfall tips logged at approximately 0800 EST as these were testing.

Additional Items

1. Solar panel and components cleaned. All components were very dirty.
2. Installation sprayed for insects.
3. Guy wires checked.

Clyde 16/11/20

Sensor	Actual (field)	Logger
Temperature – 10m*	32	31
2m*	32	31
Relative Humidity*	37	34
Wind Speed	0.7 m/s at ground (poor exposure at ground)	1.4 m/s at 10 metres
Wind Direction	80	80
Solar Radiation	1000	1100
TBRG	10mm	20 tips
Battery/Solar	13.0	

* Note 1: Field reading is not inside the radiation shield.

Note 2: Ignore rainfall tips logged at approximately 1020 EST as these were testing.

Additional Items

1. All components cleaned.
2. Installation sprayed for insects.
3. Hedge trimmed.

Both sites are now polled weekly by HCS and data is downloaded and available on the HCS website.

Should you require any further information on this report please do not hesitate to contact me on 0402 134 092.

A handwritten signature in black ink, reading 'Glen Murphy' in a cursive style.

Glen Murphy

Hydrometric Consulting Services Pty Ltd

PO Box 3332

Putney NSW 2112

Mob 0402 134 092

Email glenmurf@ozemail.com.au

www.hydrometric.com.au

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

15 February 2021

Mary Wong
Veolia Environmental Services (Australia) Pty Ltd

Re – Quarterly service of weather stations

Dear Mary,

As per our service agreement, on the 10/02/21 HCS undertook the service, calibration and maintenance of the weather stations located at the Horsley Park and Clyde sites. Field readings were obtained by a combination of a Kestral 3500, compass, Monitor Solar Radiation field unit and HS TBRG calibration device. Details are as follows:

Horsley Park 10/02/21

Sensor	Actual (field)	Logger
Temperature – 10m*	18.0	18.5
2m*	18.0	17.6
Relative Humidity*	80	82
Wind Speed	0.4 m/s at ground	0.9 m/s at 10 metres
Wind Direction	230	230
Solar Radiation	300	280
TBRG	10mm	20 tips
Battery/Solar	14.3	

* Note 1: Field reading is not inside the radiation shield.

Note 2: Ignore rainfall tips logged at approximately 0700 EST as these were testing.

Additional Items

1. Solar panel and components cleaned. All components were very dirty.
2. Installation sprayed for insects.
3. Guy wires checked.

Clyde 10/02/21

Sensor	Actual (field)	Logger
Temperature – 10m*	21.1	21.5
2m*	21.1	21.3
Relative Humidity*	63	62.8
Wind Speed	0.0 m/s at ground (poor exposure at ground)	0.0 m/s at 10 metres
Wind Direction	240	240
Solar Radiation	380	410
TBRG	10mm	21 tips
Battery/Solar	13.2	

* Note 1: Field reading is not inside the radiation shield.

Note 2: Ignore rainfall tips logged at approximately 0830 EST as these were testing.

Additional Items

1. All components cleaned.
2. Installation sprayed for insects.
3. Hedge trimmed.
4. New logger program uploaded for new phone numbers.

Both sites are now polled weekly by HCS and data is downloaded and available on the HCS website.

Should you require any further information on this report please do not hesitate to contact me on 0402 134 092.

A handwritten signature in black ink, appearing to read 'Glen Murphy'.

Glen Murphy

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Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

27 May 2021

Mary Wong
Veolia Environmental Services (Australia) Pty Ltd

Re – Quarterly service of weather stations

Dear Mary,

As per our service agreement, on the 26/05/21 HCS undertook the service, calibration and maintenance of the weather stations located at the Horsley Park and Clyde sites. Field readings were obtained by a combination of a Kestral 3500, compass, Monitor Solar Radiation field unit and HS TBRG calibration device. Details are as follows:

[Horsley Park 26/05/21](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	13.4	14.1
2m*	13.4	13.2
Relative Humidity*	78.7	79.1
Wind Speed	0.9 m/s at ground	1.6 m/s at 10 metres
Wind Direction	170	170
Solar Radiation	21	20
TBRG	10mm	20 tips
Battery/Solar	12.9	

* Note 1: Field reading is not inside the radiation shield.

Note 2: Ignore rainfall tips logged at approximately 0720 EST as these were testing.

Additional Items

1. Solar panel and components cleaned. All components were very dirty.
2. Installation sprayed for insects.
3. Guy wires checked.

[Clyde 26/05/21](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	17.0	17.7
2m*	17.0	16.7
Relative Humidity*	58	52
Wind Speed	1.3 m/s at ground (poor exposure at ground)	1.5 m/s at 10 metres
Wind Direction	190	195 Fluctuating
Solar Radiation	340	355
TBRG	10mm	21 tips
Battery/Solar	13.2	

* Note 1: Field reading is not inside the radiation shield.

Note 2: Ignore rainfall tips logged at approximately 0845 EST as these were testing.

Additional Items

1. All components cleaned.
2. Installation sprayed for insects.

Both sites are now polled weekly by HCS and data is downloaded and available on the HCS website.

Should you require any further information on this report please do not hesitate to contact me on 0402 134 092.



Glen Murphy

Hydrometric Consulting Services Pty Ltd

PO Box 3332

Putney NSW 2112

Mob 0402 134 092



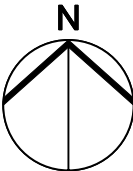
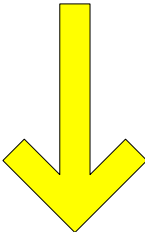
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APPENDIX C:
FIELD AMBIENT ODOUR ASSESSMENT PLOT AND FIELD SHEETS
(13 MAY 2021)



DESCRIPTION Field Ambient Odour Assessment Survey Modified German Standard VDI 3940		LEGEND German Intensity Scale VDI3882 0 Not detectable 1 Very weak 2 Weak 3 Distinct 4 Strong 5 Very strong 6 Extremely strong		 Veolia (Australia) Pty Ltd Clyde Transfer Terminal, Clyde, NSW Field Ambient Odour Assessment Survey Survey Date: 13 May 2021 Survey Time Period: 1400 hrs to 1447 hrs		
	THE ODOUR UNIT PTY LTD Level 3, 12/56 Church Avenue MASCOT, NSW 2020 Phone: (02) 9209 4420 www.odourunit.com.au		DRAWN BY	I.FARRUGIA 09/06/2021	<u>Odour Audit XXXVI</u> Field Ambient Odour Assessment Survey	Plot No. N1473-XXXVII
			CHECKED	J.SCHULZ 11/06/2021		Job No. N1473L
			APPROVED	J.SCHULZ 11/06/2021		
		Local wind direction 		Local wind conditions Calm to light (0 – 0.5 m/s), with winds blowing from the north. No rainfall observed. Refer to FAOA Logsheet N1473L-XXXVII for details on recorded odour detections		



THE ODOUR UNIT PTY LTD

Level 3, 12/56 Church Avenue
MASCOT NSW 2020

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Internet: www.odourunit.com.au
ABN: 53 091 165 061

Field Ambient Odour Assessment Log Sheet

Date: 13 May 2021

Assessor: J. Schulz

Weather Conditions: Calm to light (0 – 0.5 m/s) wind speeds blowing from the north. No rainfall observed.

Survey Reference Plot No: N1473L-XXXVII

GRIF REF. POSITION	MEASUREMENT TIME PERIOD (hrs)	WIND DIRECTION	WIND SPEED (m/s)	ODOUR PRESNT (Y/N)	ODOUR CHARACTER	VDI 3940 INTENSITY SCALE 0-6	COMMENTS
1	1400 – 1405	N	0 – 0.5 m/s	N	--	0	--
2	1407 – 1412	N	0.5 m/s	N	--	0	--
3	1416 – 1421	N	0.5 m/s	N	--	0	--
4	1425 – 1430	N	0.5 m/s	N	--	0	--
5	1433 – 1438	N	0 – 0.5 m/s	N	--	0	--
6	1442 – 1447	N	0 – 0.5 m/s	N	--	0	--