



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXV

Final Report

May 2020

THE ODOUR UNIT PTY LTD


ABN 53 09 116 5061
ACN 091 165 061

Level 3, 12/56 Church Avenue
MASCOT NSW 2020

E: info@odourunit.com.au
W: www.odourunit.com.au

This document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. This document should not be used or copied without written authorisation from **THE ODOUR UNIT PTY LTD** or **VEOLIA (AUSTRALIA) PTY LTD**.

Project Number: N1473L

Report Revision		
Revision Number	Date	Description
Draft report	24.06.2020	Issued for internal review
Final report Rev 1	06.07.2020	Final report issued to the client
Report Preparation		
Report Prepared By: J. Schulz & M. Assal		Approved By: M. Assal 
Report Title: Veolia (Australia) Pty Ltd Clyde Waste Transfer Terminal – Odour Audit XXXV		

CONTENTS

1	INTRODUCTION	1
1.1	Odour Audit Period.....	1
1.2	Odour Audit Requirements	1
1.3	Prevailing Weather Conditions During The Odour Audit Visit	2
2	ODOUR AUDIT FINDINGS	3
2.1	Assessment of General Housekeeping	3
2.1.1	Transfer Terminal Building.....	3
2.1.2	Container Packing Area and Site Roadways	3
2.1.3	Odour Management Plan.....	5
2.1.4	Odour Extraction System Maintenance.....	5
2.1.5	Odour Management Procedures/Plan.....	6
2.1.6	Transfer Terminal Building.....	6
2.1.7	Truck Entrance Plastic Strips.....	6
2.1.8	Smoke Testing.....	6
2.1.9	Stormwater Retention Pond.....	8
2.2	Odour Complaints Handling and Meteorological Data	9
2.2.1	Odour Complaints Handling.....	9
2.2.2	Meteorological Data.....	9
2.3	Field Ambient Odour Assessment Methodology	10
2.3.1	Field Ambient Odour Assessment - Results.....	11
3	RECOMMENDATIONS/FOLLOW-UP ACTIONS	12
3.1	Previous Audit Actions	12
3.2	Transfer Terminal Building	12
3.3	Compactor Area	12
3.4	Odour Extraction System	12
3.5	Weather Station	13
3.6	Field Ambient Odour Assessment Survey	13
3.7	Odour Management Procedures/Plan	13
3.8	Concluding Remark.....	13

FIGURES, PHOTOS & TABLES

FIGURES

Figure 2.1 - Smoke testing release points within the TTB on 6 May 2020.....	8
---	---

PHOTOS

Photo 2.1 – TTB waste on-floor as found on 6 May 2020.....	3
Photo 2.2 – A view of the container compacting/packing area as found on 6 May 2020	4
Photo 2.3 – A view of the container area as found on 6 May 2020	5
Photo 2.4 – A view of the truck entrance plastic strips as found on 6 May 2020	7
Photo 2.5 – A view of the truck entrance plastic strips during smoke testing on 6 May 2020	7
Photo 2.6 – Stormwater retention pond as seen on 6 May 2020	9

TABLES

Table 2.1 - VDI 3882 Odour Intensity Categories	10
---	----

APPENDICES

APPENDIX A: Odour Extraction System Service Reports (28 November 2019 - 25 May 2020)

APPENDIX B: Weather Data Calibration Reports (28 November 2019 – 25 May 2020)

APPENDIX C: Field Ambient Odour Assessment Plot and Field Sheets (6 May 2020)

LIST OF ABBREVIATIONS AND DEFINITIONS

FAOA	Field Ambient Odour Assessment
HCS	Hydrometric Consulting Services
the February 2010 OMP	Odour Management Plan dated February 2010
the Odour Audit	Odour Audit XXX covering the six months between 28 November 2019 to 6 May 2020
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-fifth (**XXXV**) Odour Audit at the Clyde Transfer Terminal (**the Site**) on Wednesday, 6 May 2020. The visit for this odour audit was undertaken by a TOU Senior Engineer & Consultant and is the twenty-fifth (25th) 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 XXXV covers the six months between 28 November 2019 and 25 May 2020 (**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 XXXV 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 DURING THE ODOUR AUDIT VISIT

At the time of the Odour Audit visit, it was light (0.5 metres per second (**m/s**) to 2 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 22 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 250 to 300 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 6 May 2020

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 (see **Photo 2.2**). 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 C** for Field Ambient Odour Assessment Survey results). It appeared during the Odour Audit visit that both compactors were in operation. 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.

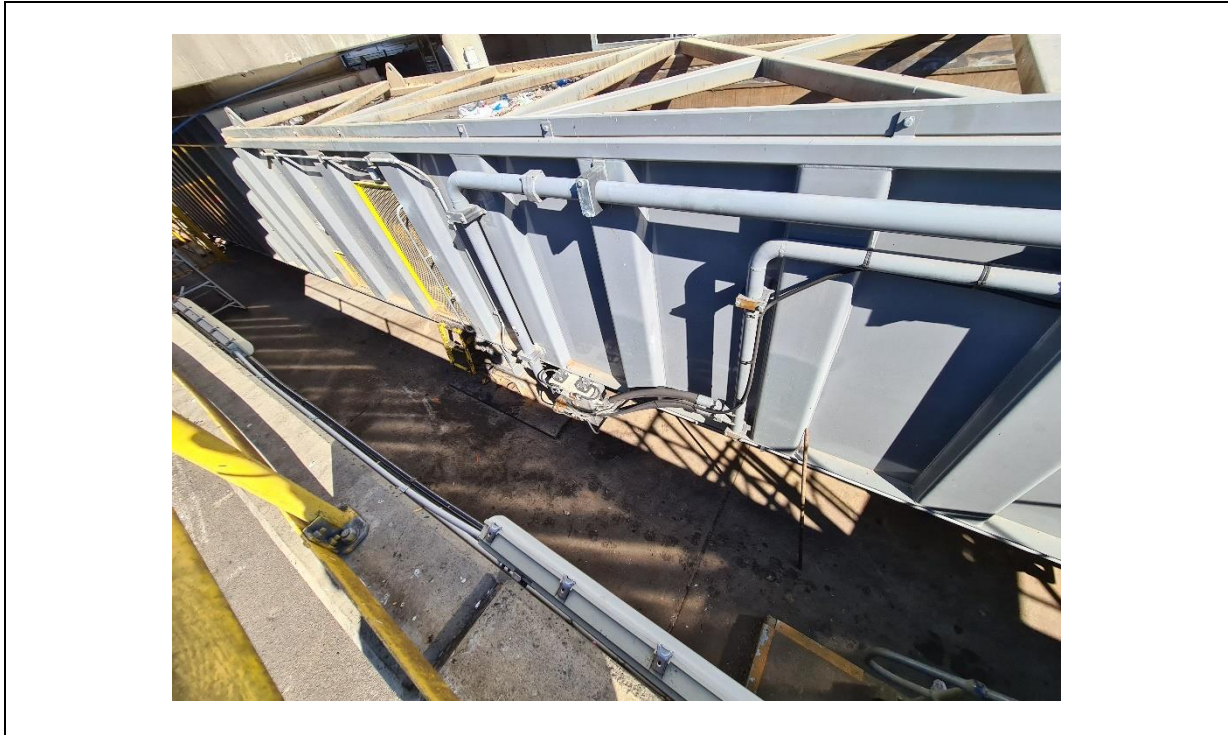


Photo 2.2 – A view of the container compacting/packing area as found on 6 May 2020

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 compactor area as found on 6 May 2020 is shown in **Photo 2.3**.

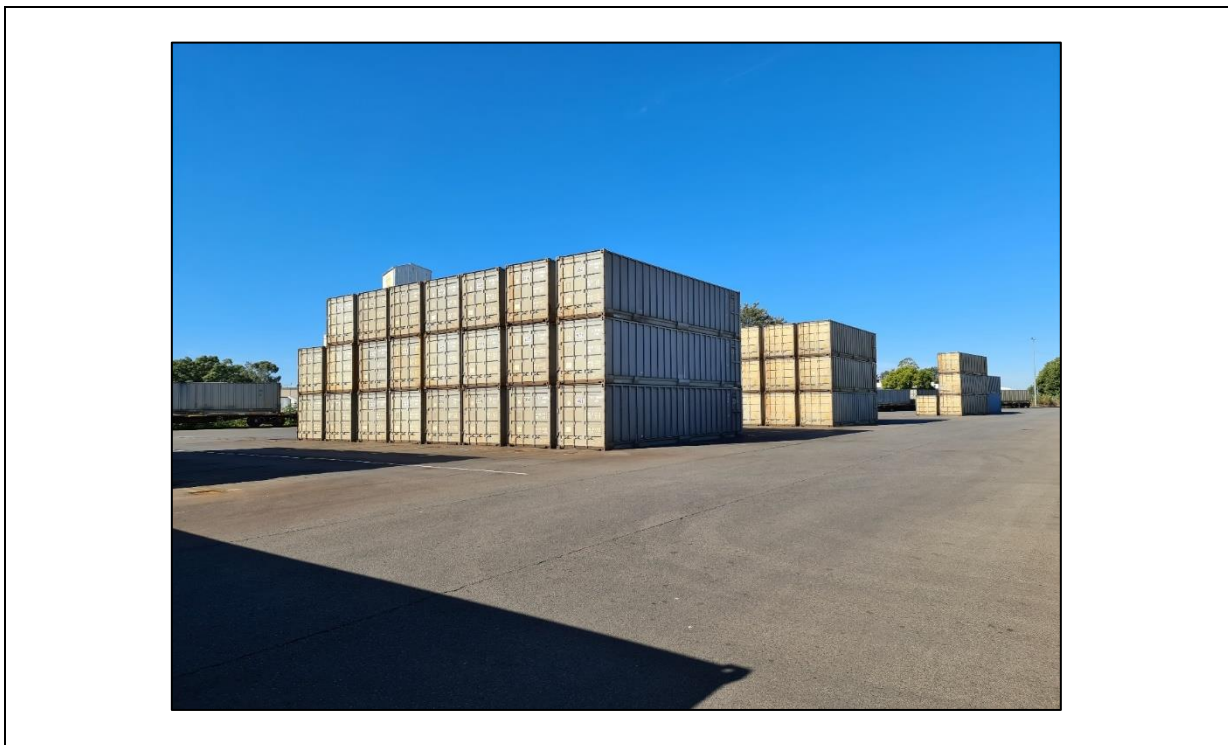


Photo 2.3 – A view of the container area as found on 6 May 2020

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 28 November 2019 to 25 May 2020.

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. However, as stated in previous audits, it is recommended that the discharge stack velocity is regularly reported in future service logs (see **Section 3.4**).

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.

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 (see **Photo 2.4**).

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 2.5** 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 2.4 – A view of the truck entrance plastic strips as found on 6 May 2020



Photo 2.5 – A view of the truck entrance plastic strips during smoke testing on 6 May 2020

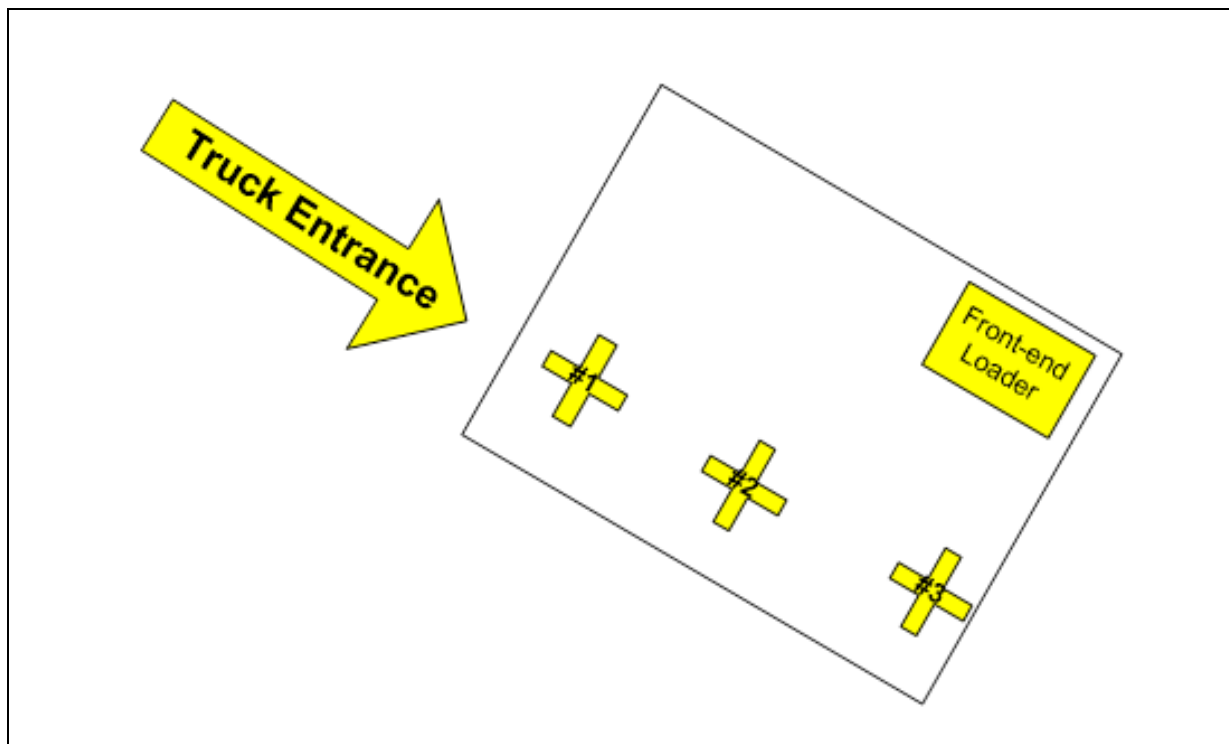


Figure 2.1 - Smoke testing release points within the TTB on 6 May 2020

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 2.5**). However, TOU did visibly observe a slight bias in distribution at the overhead capture points closet to the truck entrance door compared with the other overhead capture points, suggesting that the balance for the odour extraction system may require checking, cleaning and balancing.

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.

2.1.9 **Stormwater Retention Pond**

The auditor observed that there was effluent in this pond at the time of the Odour Audit visit. **Photo 2.6** shows the state of the pond as found on 6 May 2020.



Photo 2.6 – Stormwater retention pond as seen on 6 May 2020

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 28 November 2019 and 6 May 2020, 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 6 May 2020 between 1426 hrs and 1520 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.

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 2019 odour audit actions and status as of the Odour Audit:

- **Previous Audit Action 1:** *Action 1 – All stack discharge velocity and airflow measurements collected during a service visit should be reported in future service logs.*

Status: Outstanding (see **Section 3.4** for more details).

- **Previous Audit Action 2:** *Action 2 - Future datasets should be provided in 15-minute increments, as with previous odour audits.*

Status: Complete (see **Section 2.2.2**).

- **Previous Audit Action 3 -** *Veolia to continue its review and update of the OMP for the Site.*

Status: Outstanding (see **Section 3.7**).

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 2019 odour audit have been adequately

undertaken, and the odour extraction system is operating in a satisfactory condition. However, it is recommended that the discharge stack velocity is regularly reported in future service logs.

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

- **Action 1 – All stack discharge velocity and airflow measurements collected during a service visit should be reported in future service logs; and**
- **Action 2 - The odour extraction system to be checked, cleaned and balanced.**

3.5 WEATHER STATION

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.**

3.6 FIELD AMBIENT ODOUR ASSESSMENT SURVEY

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.

3.7 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. Veolia has advised the Odour Audit that the February 2010 OMP is in the process of being reviewed and updated.

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

- **Action 3 – Veolia to continue its review and update of the OMP for the Site.**

3.8 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 2020**.



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXV

Appendices

May 2020



APPENDIX A:

ODOUR EXTRACTION SYSTEM SERVICE REPORT (28 NOVEMBER
2019 – 25 MAY 2020)

Triple M - NSW - Service Docket

ID 222692

Time Start Tue Dec 03 2019 08:08:41 GMT+1100 (AEDT)

Client Details CLYDE WASTE

Address 322 Parramatta Rd Clyde NSW 2142

Site Contact Name Ash Turner

Site Contact Telephone Number 2 02 8868 7401

Customer Ref Number 7100156359

Type of Service Preventative Maintenance - PM

Job / Service Call Number 1237433

Fault Description CLYDE WASTE - PM November L1 - MONTHLY

Asset List EQUIP-M_Whole of Site - Mech_MONTHLYQty:1

Job Safety Analysis Completed YES

Description of Work Done
Attended site to carry out maintenance. Cleaned the dampers and lights and brushed down the vds. found that on EF no 2 the belts were starting the crack and will need replacing.
Noted down belt size to order in.

Parts, Materials? No

Refrigerant Used? No

Job Status Completed

Technician's Signature



Forwarding Email rod.jones@veolia.com

Normal Hours 0

Time and a Half 0

Double Time 0

User ID TMS-ZBN

ID	222692
Technician Name	ZACHARY JAMES BROWN
IFORMS Record ID	222692
Record Location	Latitude:-33.775782, Longitude:150.917147, Altitude:58.313778, Speed:0.000000, Horizontal Accuracy:5.000000, Vertical Accuracy:4.000000, Time:12/03/2019 12:20:48 AEDT
Total Hrs	0
Time Completed	2019-12-03 08:08:41

SECURE

BSA | Maintain

bsa[®]
think build connect maintain

Triple M - NSW - Service Docket


ID	226214
Time Start	Thu Jan 09 2020 08:14:33 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number 2	02 8868 7401
Customer Ref Number	7100156359
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1243337
Ult Description	CLYDE WASTE - PM December L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1]
Job Safety Analysis Completed	YES
Description of Work Done	Arrived on site and signed in, isolated the extraction fans. Dusted down the VSDs and the Dampers. Removed belt cover to check belts, belts on extraction fan 2 are cracking and have been approved for replacement. Dusted down all the lights in the room. Tested the fan alarm to ensure it was working correctly.
Parts, Materials?	No
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Rod jones
Forwarding Email	rod.jones@veolia.com
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-ZBN
Technician Name	ZACHARY JAMES BROWN
Forms Record ID	226214
Record Location	Latitude:-33.837524, Longitude:151.021837, Altitude:3.515408, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:01/09/2020 11:56:19 AEDT
Total Hrs	0
Time Completed	2020-01-09 08:14:33

SECURE

BSA | Maintain

bsa[®]
think. build. connect. maintain.

Triple M - NSW - Service Docket

ID	227132
Time Start	Thu Jan 16 2020 13:48:27 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	CLYDE WASTE 322 Parramatta Rd Clyde 2142
Site Contact Name	MICHAEL LYE
Site Contact Telephone Number 2	0403 262 785
Customer Ref Number	
Type of Service	Quoted Call - QC
Job / Service Call Number	1250776
Ult Description	REPLACE BELTS ON FAN
Job Safety Analysis Completed	YES
Asset Type Affected	EXTRACTION SYSTEM
Description of Work Done	Arrived on site and completed quoted works of supplying and installing new belts on extraction fan 2. Removed fan covers and removed the belts, installed new belts and put the cover back together. Tested to make sure the system was running and packed up.
Parts, Materials?	No
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Od Jones
Forwarding Email	rod.jones@veolia.com
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-ZBN
Technician Name	ZACHARY JAMES BROWN
Iforms Record ID	227132
Record Location	Latitude:-33.837567, Longitude:151.021434, Altitude:6.709927, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:01/16/2020 13:52:43 AEDT
Total Hrs	0
Time Completed	2020-01-16 13:48:27

Job Safety Analysis

ID	S227132
Are you an Apprentice?	Yes

Job Safety Analysis

ID	S227132
Is this an Electrical task or are you using Refrigerants?	No
Job/Service Call Number	1250776
Work to be done.	REPLACE BELTS ON FAN
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Electrical Test Equipment, Safety Boots/Shoes
Is there clear access to the work area equipment & free from trips, slips & fall hazards?	Yes
Are weather conditions appropriate for the commencement of works?	Yes
Is there a potential risk of disturbing asbestos during the works you are undertaking today?	No
Does your task involve working on the roof?	No
Will your task involve Manual Handling?	Yes
Change the work process so that the loads do not have to be lifted or moved by hand.	1
Use and maintain correct posture.	1
Minimize distance the load is to be moved/lifted.	1
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Does your task involve working from heights (not including roof work) & are there adequate fall prevention controls in place?	No
Working from a step ladder?	Yes
Ladder secured.	1
Barrier(s) installed around work area.	1
Electrical tools & equipment being used?	No
Will you be using chemicals during your task?	No
Will you be working in area's that produce excessive noise?	No
Using HazMat?	No
Will you be welding or oxy cutting.	No
Will you be working in or near Cooling towers?	No
Handling refrigerant?	No
Are you working by yourself?	No
Is it safe for you to proceed with your job.	Yes

Technician's Signature



PPE Title

Gloves, Long Pants, Safety Glasses, Electrical Test Equipment, Safety Boots/Shoes

TMP Work Order No

Email Report



BSA Mobile Business Technologies, a Division of BSA Ltd

SECURE

BSA | Maintain

bsa[®]
think.build.connect.maintain

Triple M - NSW - Service Docket

ID	229577
Time Start	Mon Feb 10 2020 14:33:27 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number 2	02 8868 7401
Customer Ref Number	7100156359
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1250269
Fault Description	CLYDE WASTE - PM January L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Carried out maintenance on the 2 extraction fans and dusted down all dampers, lights and vsds. Tested the fan alarm aswell.
Parts, Materials?	No
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Rod Jones.
Forwarding Email	rod.jones@veolia.com
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-ZBN
Technician Name	ZACHARY JAMES BROWN
Forms Record ID	229577
Record Location	Latitude:-33.837221, Longitude:151.022596, Altitude:-10.393859, Speed:0.000000, Horizontal Accuracy:400.000000, Vertical Accuracy:28.964931, Time:02/10/2020 14:36:11 AEDT
Total Hrs	0
Time Completed	2020-02-10 14:33:27

Job Safety Analysis

ID	S229577
Are you an Apprentice?	Yes
Is this an Electrical task or are you using Refrigerants?	No

Job Safety Analysis

ID	S229577
Job/Service Call Number	1250269
Work to be done.	CLYDE WASTE - PM January L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Electrical Test Equipment, Safety Boots/Shoes
Is there clear access to the work area equipment & free from trips, slips & fall hazards?	Yes
Are weather conditions appropriate for the commencement of works?	Yes
Is there a potential risk of disturbing asbestos during the works you are undertaking today?	No
Does your task involve working on the roof?	No
Will your task involve Manual Handling?	Yes
Change the work process so that the loads do not have to be lifted or moved by hand.	1
Use and maintain correct posture.	1
Minimize distance the load is to be moved/lifted.	1
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	No
Does your task involve working from heights (not including roof work) & are there adequate fall prevention controls in place?	No
Working from a step ladder?	Yes
Ladder secured.	1
Barrier(s) installed around work area.	1
Electrical tools & equipment being used?	No
Will you be using chemicals during your task?	No
Will you be working in area's that produce excessive noise?	No
Using HazMat?	No
Will you be welding or oxy cutting.	No
Will you be working in or near Cooling towers?	No
Handling refrigerant?	No
Are you working by yourself?	No
Is it safe for you to proceed with your job.	Yes

Technician's Signature



PPE Title

Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Electrical Test Equipment, Safety Boots/Shoes



TMP Work Order No

Email Report

BSA Mobile Business Technologies, a Division of BSA Ltd


Triple M - NSW - Service Docket

Record: 232784

Time Start	Thu Mar 12 2020 11:12:54 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	CLYDE WASTE 322 Parramatta Rd Clyde 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number 2	02 8868 7401
Customer Ref Number	7100211700
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1264888
Fault Description	CLYDE WASTE - PM March L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Carried out maintenance as scheduled on the 2 extraction fans and dusted lights and dampers.
Parts, Materials?	No
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Rod jone
Forwarding Email	rod.jones@veolaa.com
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-ZBN
Technician Name	ZACHARY JAMES BROWN
Iforms Record ID	232784
Record Location	Latitude:-33.837499, Longitude:151.022216, Altitude:8.687649, Speed:0.210000, Horizontal Accuracy:30.000000, Vertical Accuracy:4.000000, Time:03/12/2020 11:14:27 AEDT
Total Hrs	0
Time Completed	2020-03-12 11:12:54



Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	Yes
Is this an Electrical task or are you using Refrigerants?	No
Job/Service Call Number	1264888
Work to be done.	CLYDE WASTE - PM March L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Electrical Test Equipment, Safety Boots/Shoes
Is there clear access to the work area equipment & free from trips, slips & fall hazards?	Yes
Are weather conditions appropriate for the commencement of works?	Yes
Is there a potential risk of disturbing asbestos during the works you are undertaking today?	No
Does your task involve working on the roof?	No
Will your task involve Manual Handling?	Yes
Change the work process so that the loads do not have to be lifted or moved by hand.	1
Use and maintain correct posture.	1
Minimize distance the load is to be moved/lifted.	1
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Does your task involve working from heights (not including roof work) & are there adequate fall prevention controls in place?	No
Working from a step ladder?	Yes
Ladder secured.	1
Barrier(s) installed around work area.	1
Electrical tools & equipment being used?	No
Will you be using chemicals during your task?	No
Will you be working in area's that produce excessive noise?	No
Using HazMat?	No
Will you be welding or oxy cutting.	No
Will you be working in or near Cooling towers?	No
Handling refrigerant?	No
Are you working by yourself?	Yes
Sign in & out of your worksite.	1
Keep in regular contact with your supervisor/coordinator (arriving/leaving site).	1
Is it safe for you to proceed with your job.	Yes
Technician's Signature	
PPE Title	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Electrical Test Equipment, Safety Boots/Shoes
TMP Work Order No	


Triple M - NSW - Service Docket

Record: 236383

Time Start	Tue Apr 21 2020 14:41:34 GMT+1000 (AEST)
Client Details	CLYDE WASTE
Address	CLYDE WASTE 322 Parramatta Rd Clyde 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number 2	02 8868 7401
Customer Ref Number	7100211700
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1272452
Fault Description	CLYDE WASTE - PM April L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Carried out maintenance of 2 extraction fans checking pulleys and belts. Dusted the dampers and VSDs and swept up the floor near the extraction fans.
Parts, Materials?	No
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Rod Jones
Forwarding Email	rod.jones@veolia.com
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-ZBN
Technician Name	ZACHARY JAMES BROWN
Forms Record ID	236383
Record Location	Latitude:-33.835808, Longitude:151.023416, Altitude:18.173058, Speed:-1.000000, Horizontal Accuracy:2613.961836, Vertical Accuracy:17.111671, Time:04/21/2020 14:44:14 AEST
Total Hrs	0
Time Completed	2020-04-21 14:41:34

Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	Yes
Is this an Electrical task or are you using Refrigerants?	No
Job/Service Call Number	1272452
Work to be done.	CLYDE WASTE - PM April L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Electrical Test Equipment, Safety Boots/Shoes
Is there clear access to the work area equipment & free from trips, slips & fall hazards?	Yes
Are weather conditions appropriate for the commencement of works?	Yes
Is there a potential risk of disturbing asbestos during the works you are undertaking today?	No
Does your task involve working on the roof?	No
Will your task involve Manual Handling?	Yes
Change the work process so that the loads do not have to be lifted or moved by hand.	1
Use and maintain correct posture.	1
Minimize distance the load is to be moved/lifted.	1
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Does your task involve working from heights (not including roof work) & are there adequate fall prevention controls in place?	No
Working from a step ladder?	Yes
Prior to use, ladder to be inspected.	1
Barrier(s) installed around work area.	1
Extension ladders to be pitched a slope of 4:1, on a firm level surface.	1
Extension ladder to extend at least 1 metre over the landing.	1
Extension ladder to be tied or footed.	1
Do not work on the top 3 rungs of a step or A frame ladder.	1
Maintain 3 points of contact.	1
Electrical tools & equipment being used?	No
Will you be using chemicals during your task?	No
Will you be working in area's that produce excessive noise?	No
Using HazMat?	No
Will you be welding or oxy cutting.	No
Will you be working in or near Cooling towers?	No
Handling refrigerant?	No
Are you working by yourself?	No
Is it safe for you to proceed with your job.	Yes
Technician's Signature	
PPE Title	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Electrical Test Equipment, Safety Boots/Shoes
TMP Work Order No	



APPENDIX B:

**WEATHER DATA CALIBRATION REPORTS (28 NOVEMBER 2019 – 25
MAY 2020)**

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

25 May 2020

Mary Wong
Veolia Environmental Services (Australia) Pty Ltd

Re – Quarterly service of weather stations

Dear Mary,

As per our service agreement, on the 21/05/20 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 21/05/20

Sensor	Actual (field)	Logger
Temperature – 10m*	14.6	14.4
2m*	14.6	14.6
Relative Humidity*	87	100
Wind Speed	0 m/s at ground	0 m/s at 10 metres
Wind Direction	100	100
Solar Radiation	40	41
TBRG	10mm	20 tips
Battery/Solar	13.2	

* 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.
4. The relative humidity sensor is faulty and needs to be replaced.

Clyde 21/05/20

Sensor	Actual (field)	Logger
Temperature – 10m*	16.0	15.5
2m*	16.0	15.3
Relative Humidity*	84	85
Wind Speed	0 m/s at ground (poor exposure at ground)	0.95 m/s at 10 metres
Wind Direction	270	270
Solar Radiation	40	41
TBRG	No calibration	Raining
Battery/Solar	12.6	

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

Note 2: No Rain Gauge Calibration - raining

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.

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

Glen Murphy

Hydrometric Consulting Services Pty Ltd

PO Box 3332

Putney NSW 2112

Mob 0402 134 092

Email glenmurf@ozemail.com.au



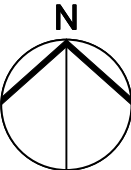
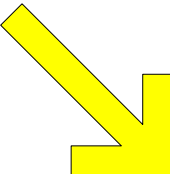
www.hydrometric.com.au



APPENDIX C:

**FIELD AMBIENT ODOUR ASSESSMENT PLOT AND FIELD SHEETS (6
MAY 2020)**



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: 06 May 2020 Survey Time Period: 1426 hrs to 1520 hrs		
	THE ODOUR UNIT PTY LTD Level 3, 12/56 Church Avenue MASCOT, NSW 2020 Phone: (02) 9209 4420 – Fax: (02) 9209 4421 www.odourunit.com.au		DRAWN BY	J.SCHULZ 13/05/2020	Odour Audit XXXII Field Ambient Odour Assessment Survey	Plot No. N1473-XXXV
			CHECKED	M.ASSAL 15/05/2020		Job No. N1473L
			APPROVED	M.ASSAL 15/05/2020		
		Local wind direction 		Local wind conditions Light to moderate (0.5 m/s – 2 m/s), with winds blowing from the north-west. No rainfall observed. Refer to FAOA Logsheet N1473L-XXXV for details on recorded odour detections		



THE ODOUR UNIT PTY LTD

Level 3, 12/56 Church Avenue
MASCOT NSW 2020

Phone: +61 2 9209 4420
Facsimile: +61 2 9209 4421
Email: info@odourunit.com.au
Internet: www.odourunit.com.au
ABN: 53 091 165 061

Field Ambient Odour Assessment Log Sheet

Date: 6 May 2020

Assessor: J. Schulz

Weather Conditions: Light to moderate (0.5 m/s to 2 m/s) wind speeds blowing from the north-west. No rainfall observed.

Survey Reference Plot No: N1473L-XXXV

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	1426 – 1431	WNW	1 – 2	N	-	0	-
2	1435 – 1440	NW – NNW	1	N	-	0	-
3	1445 – 1450	NW	1 – 2	N	-	0	-
4	1453 – 1458	NW	1 - 2	N	-	0	-
5	1503 – 1508	NW – NNW	1 – 2	N	-	0	-
6	1515 – 1520	NW – NNW	1 – 2	N	-	0	-