

Annual Environmental Management Report - Clyde Transfer Terminal 2018-2019



Quality Information

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Executive Summary

This Annual Environmental Management Report (AEMR) 2018-2019 is the 15th report prepared to detail the environmental performance of the Clyde Transfer Terminal (The Terminal), owned and operated by Veolia Australia and New Zealand (Veolia). This AEMR covers the period of 15 January 2018 to 14 January 2019 (the reporting period).

Veolia has prepared this AEMR in accordance with Consent Condition 58 and 59 of the Development Consent DA 205-08-01 (the Consent) and subsequent modifications, as well as relevant legislative requirements and industry best practices.

This AEMR provides a summary of environmental monitoring conducted at the Terminal, non-compliances against the Consent identified during the 2018-2019 reporting period, as well as the corrective actions, where implemented to address such non-compliances.

An Independent Environmental Audit (IEA), undertaken in accordance with Condition 60 of the Consent, identified three non-compliances against the Conditions of the Consent (hereby referred to as Consent Conditions) during this reporting period which were as follows:

- Condition 98 - A recommendation of an independent odour audit recommended that the discharge velocity from the Terminal's stack be routinely measured. At the time of the IEA, this remained outstanding.
- Condition 117 - During the IEA, the auditor observed ibis and cats on site.
- Condition 119 - Vehicles entered the Terminal by turning right off Parramatta Road.

These non conformances and proposed corrective actions to comply with Consent Conditions 98 and 117 have been reported to the Department of Planning and Environment (DPE). A modification application, submitted by Veolia to DPE in March 2017, requested that Condition 119 be deleted. The assessment of this modification application is currently in progress as discussions are still underway with relevant stakeholders.

In addition to the above, improvements to the environmental performance of the Terminal included an upgrade to the existing stormwater system, which was completed in February 2018.

1. Introduction

1.1. Site Background

The Terminal is located within a portion of the Clyde Rail Yard at 322 Parramatta Road and forms part of Lot 21 of DP10076683 in the Cumberland Council area. A site layout and location plan is provided in **Appendix A**.

The Terminal was granted ministerial approval in 2003 to operate under the Clyde Waste Transfer Terminal (Special Provisions) Act 2003 (assented 8 December 2003). The Consent approves the Terminal to receive up to 500,000 tonnes per annum (TPA) of mixed waste.

Clyde Waste Transfer Terminal commenced operations in 2004, accepting putrescible waste from the Sydney metropolitan area, which is containerised and loaded onto rail wagons for transportation in the Southern Tablelands (approximately 250 kilometres southwest of Sydney) for treatment, recycling and energy recovery.

1.2. Legislative Requirements

The main legislative instruments governing the environmental performance and activities undertaken at the Terminal include the *Environmental Planning and Assessment Act 1979* (EP&A) regulated by the DPE, and the *Protection of the Environment Operations Act 1997* (POEO Act) regulated by the Environment Protection Authority (EPA), as well as their respective associated regulations. The Terminal is also governed under the *Clyde Waste Transfer Terminal (Special Provisions) Act 2003*.

In addition to the Consent, the EPA issued an Environment Protection Licence (EPL) 11763, under the POEO Act, to regulate the operational activities conducted at the Terminal. Conditions of the Consent (hereby referred to as the Consent Conditions) stipulate the requirements that need to be addressed to maintain compliance. Consent Conditions relevant to the preparation of this AEMR are provided in **Table 1.1** below.

Table 1.1 Consent Conditions for the preparation of this AEMR

Relevant Condition	Requirement
GENERAL ENVIRONMENTAL MANAGEMENT	
Environmental Monitoring Program	
58	The Applicant shall include a report on the Environmental Monitoring Program in the Annual Environmental Management Report. The report must: (a) Summarise the results from the Environmental Monitoring Program over the previous year (b) Analyse the results in relation to both past performance, and the relevant standards and performance measures of the development

	(c) Identify any emerging trends in the data over the life of the development (d) Include a copy of the detailed monitoring results as an attachment.
Annual Environmental Management Report	
59	Between twelve and fourteen months after the issue date of an environmental protection licence for the development; and annually thereafter for the duration of the development, the Applicant shall submit an Annual Environmental Management Report to the Secretary, the EPA and the Community Consultative Committee. The report shall be made available to the public on request to the Application. The report combined with the Annual Return required by the environment protection licence to be submitted to the EPA. The report must: (a) Identify all the standards, performance measures, and statutory requirements the development is required to comply with (b) Review the environmental performance of the development to determine whether it is complying with the standards, performance measures and statutory requirements (c) Identify each occasion during the previous year when the standards, performance measures, or statutory requirements have not been complied with (d) where any non-conformance is identified, describe the actions or measures taken to ensure compliance, who is responsible for carrying out the actions, and when the actions were (or will be) implemented (e) include a summary of any complaints made about the development, and indicate the actions taken to address the complaints (f) include a report on the Environmental Monitoring Program as specified in this Consent.

1.3. Responsibilities

The Environmental Management Representative (EMR) for this reporting period was Sara Maddison (Operations Project Manager) as per Consent Condition 55.

Environmental monitoring was undertaken by the NSW Resource Recovery technical support personnel - Sara Maddison (Operations Project Manager) and Constance Georgiou (Graduate Environmental Engineer).

The Odour Unit PTY LTD (TOU) was appointed to conduct bi-annual odour audits. Hydrometric Consulting Services completed quarterly calibrations of the weather station.

Expert Judgement Pest Management Pty Ltd was appointed for pest and vermin control throughout this reporting period and inspections are undertaken on a routine basis. In addition to this, there are routine inspections undertaken by the Terminal's operators, as part of general housekeeping and recorded on relevant Housekeeping and Inspection Checklists.

Jackson Environment and Planning conducted an Independent Environmental Audit (IEA) in December 2018. The audit team associated with this IEA included Dr Mark Jackson, Rylan Loemker and Alan Parsons (Lead Auditor) in accordance with Consent Condition 60.

2. Environmental Monitoring and Management

2.1 Monitoring Requirements

The following sections detail the monitoring undertaken throughout the reporting period in accordance with the Environmental Monitoring Program proposed within the Operational Environmental Management Plan (OEMP).

The Environmental Monitoring Program provides details on all monitoring requirements of the Consent and other appropriate regulations to measure and assess the continuing suitability, adequacy and effectiveness of on-site environmental management measures.

Table 2.1 summarises the environmental monitoring program for the Terminal and a monitoring location plan is provided in **Appendix B**.

Table 2.1 - Summary of the environmental monitoring program for the Terminal

Condition Reference	Type of Monitoring	Frequency	Commentary
Consent Condition 91	Meteorological monitoring	Continuous (15 minute intervals)	Ongoing basis
Consent Condition 49	Dust monitoring	Following receipt of dust complaint, as required	Not triggered
Consent Condition 48 (f)	Odour Audits	Six monthly	Condition satisfied, monitoring conducted on 24 May and 15 November 2018
Consent Condition 50	Traffic monitoring	Monthly	Ongoing basis
Consent Condition 9	Waste volume monitoring	Daily	Ongoing basis
Consent Condition 60	Independent Environmental Audit	Annually	Condition satisfied audit conducted on December 2018
Vermin and Pest Control Plan	Pest and Vermin Inspections	Quarterly	Ongoing basis

2.1.1 Meteorology

Veolia operates an automated onsite weather station (Campbell Scientific Model CR800) to continuously log meteorological data, in accordance with Consent Condition 91. This allows sampling and analysis of the parameters specified in **Table 2.2** below, along with standards and statutory requirements to collect and record this data.

Table 2.2 - Meteorological data parameters and performance measures

Parameter	Performance Measure	Standards	Statutory Requirement
Wind Speed	Data correlated with other environmental monitoring results for Terminal operations and complaint resolution	AM-2 & AM-4	Consent Condition 91
Wind Direction		AM-2 & AM-4	
Sigma Theta		AM-2 & AM-4	
Temperature		AM-4	
Rainfall		AM-4	
Solar Radiation		AM-4	
Evaporation		Standard Type A Plan	

Captured meteorological data provides a general understanding of the ambient air conditions at the Terminal, which in turn allows us to use this data within investigations of potential odour and dust complaints as well as other environmental incidents. Justification for the collection of specific meteorological data is provided below.

Wind Speed, Wind Direction and Sigma Theta

Wind speed, direction and sigma theta (which are used to calibrate turbulence) are logged at 15-minute intervals, the data from which is used to respond to odour and noise complaints, on receipt.

Temperature and Solar Radiation

In combination with wind speed, temperature and sunlight (solar radiation) play an important role in odour and dust emission modelling to predict airflow patterns and atmospheric stability. In the event that a complaint is received, these parameters would be used to conduct assessments to identify whether adverse air quality impacts can be attributed to operations at the Terminal.

Evaporation

Evaporation measures the extent of vaporisation of a liquid into gaseous phase. Water molecules are small and highly polar, and so can bind to many substances including odorous

gases and dust particles. Therefore, evaporation can be used to conduct dispersion modelling in the event of an odour/or dust complaint.

Rainfall

Rainfall data is measured and recorded at 15-minute intervals at the Terminal to provide an understanding of rainfall patterns and to highlight significant rainfall events. Rainfall generally affects the emissions of dust and odours, as it is able to wash particulate matter and dissolves gaseous pollutants out of the atmosphere. Given this, rainfall data is utilised within responses to odour and/or dust complaints.

In addition, the intensity and duration of stormwater events at the Terminal can be used to assess the performance of the stormwater management system.

A summary of monthly rainfall and evaporation rates, as well as minimum and maximum monthly temperatures at the Terminal during this reporting period is presented below in **Figures 2.1** and **2.2** respectively.

Overall, the average rainfall for the Terminal during this reporting period was recorded at 63.15 mm per month.

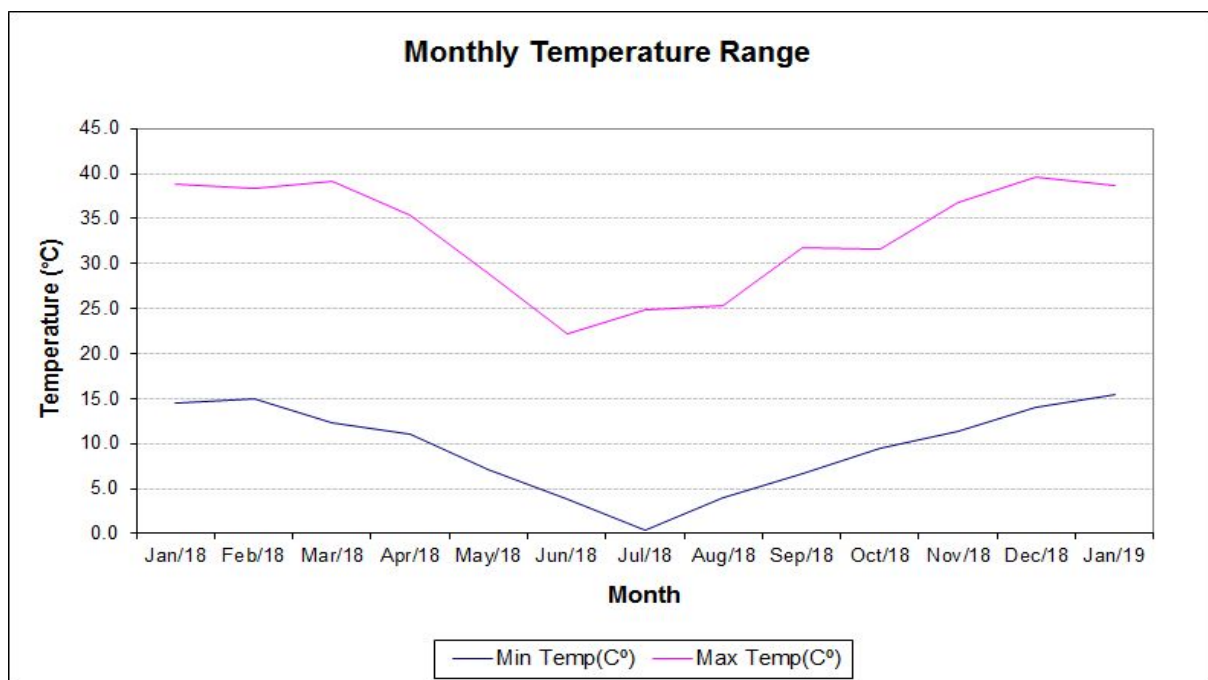


Figure 2.1 - Average Monthly Temperature rates at the Terminal

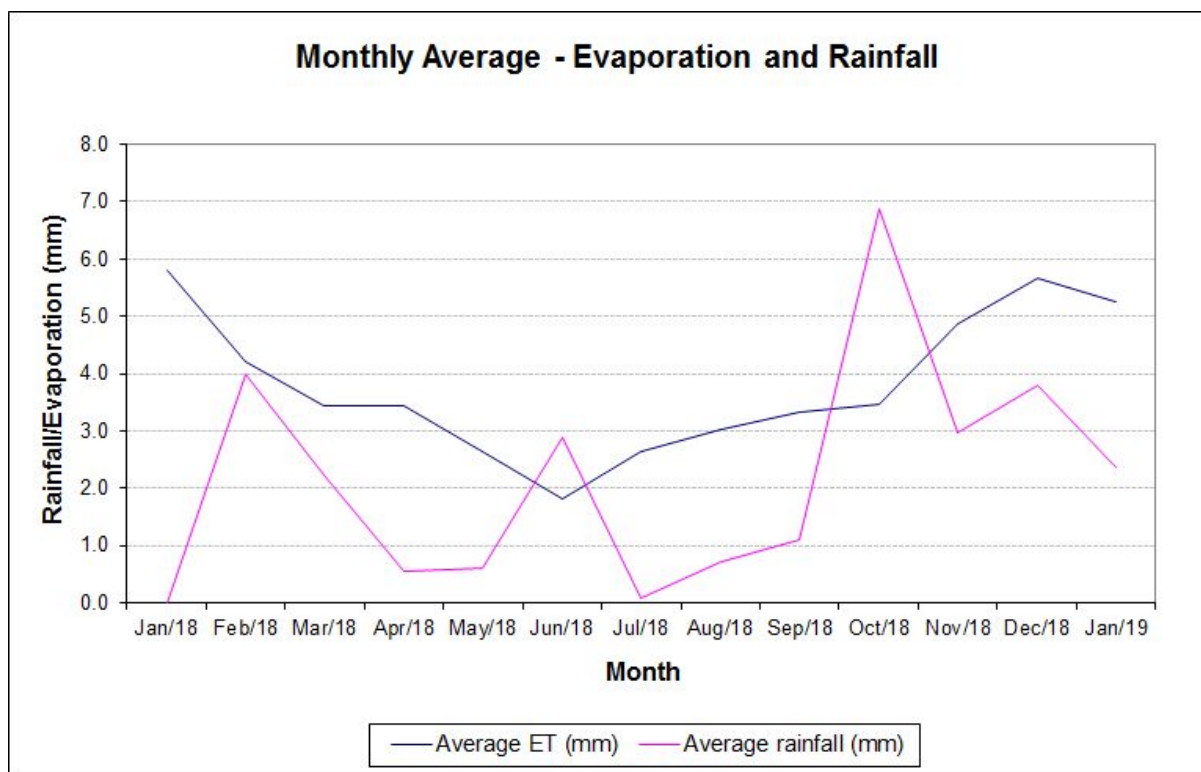


Figure 2.2 - Average Evaporation and Rainfall rates at the Terminal

During the reporting period, no non-compliances relating to the collection of meteorological data occurred.

Servicing and calibration of the meteorological station was carried out quarterly by Hydrometric Consulting Services (HCS). During the 15th August 2018 quarterly servicing and calibration, HCS identified a malfunction of the solar radiation sensor, and the temperature sensor over-registering. HCS advised both units to be replaced.

On 17th October 2018, HCS carried out the successful repair on the Clyde weather station. Calibration and repair records can be found in **Appendix C1**.

2.2 Air Quality

In accordance with the Consent, the Terminal has adopted performance criteria pertaining to dust and odour emissions, which are summarised in **Section 2.2.1** and **Section 2.2.2** respectively.

Air quality monitoring was carried out as required to determine whether activities conducted at the Terminal impacted ambient air quality. Further details regarding air quality monitoring and management practices undertaken at the Terminal are provided in the following sections.

2.2.1 Dust

The air quality for dust emission adopted for this site are provided in **Table 2.3** in accordance with Consent Condition 49.

Table 2.3 - Dust Emissions Performance Criteria

Parameters	Performance Measure	Standards	Statutory Requirement
Total Suspended Particulates (TSP) - Annual Average	90µg/m ³	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW	Consent Condition 49
Deposited Dust (DD) - Residential Areas	4 g/m ² /month		
Deposited Dust (DD) - Commercial and Industrial Areas	5 g/m ² /month		

To prevent any dust related issues Veolia maintain a dust suppression system in the waste shed, which is used as required to minimise dust. Areas surrounding the waste shed, regular use of the road sweeper and general housekeeping is implemented.

Following the receipt of any dust related complaints, further investigations would be undertaken to monitor or implement measures aimed to mitigate identified dust impacts on residential or commercial areas associated with the operation of the Terminal.

No dust complaints were received during this reporting period.

2.2.2 Odour

The requirements of Consent Conditions 48(e) and 77 are to ensure site operations meet the EPA's odour goal of less than 2 odour units (OU) at the nearest sensitive receiver (Refer to **Table 2.4**).

Table 2.4 - Odour Emission Performance Criteria

Parameter	Performance Measure	Standards	Statutory Requirement
Odour Emissions	2 OU	German Standard VDI 3940 "Determination of Odorants in Ambient Air by Field Inspections"	Consent Condition 48E

To achieve this goal, the Terminal operates an air extraction system within the Terminal's building which was designed to both ventilate the building, and capture and disperse odour emissions from within the building. In addition, containers used for the transportation of waste are fitted with activated carbon filtration systems on air exhaust vents.

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In accordance with Consent Condition 48, the performance of the odour control and ventilation equipment is to be assessed by six-monthly odour audits which were conducted by the Odour Unit PTY LTD. Records of the May and November 2018 odour audits are provided in **Appendix C2. Table 2.5** below provides a summary of the odour audit results.

The odour audits were conducted using the ranking scale stipulated within the German Standard VDI 3940 "Determination of Odorants in Ambient Air by Field Inspections". The standard ranking system is based on the following seven-point intensity scale, as follows:

VDI 3940	Intensity Scale
0	Not Detectable
1	Very Weak
2	Weak
3	Distinct
4	Strong
5	Very Strong
6	Extremely Strong

Table 2.5 - Summary of Odour Audit Results 2018/2019

Assessment Location	Wind Direction	24/05/18	Assessment Location	Wind Direction	15/11/18
1 - Onsite (North-West)	E-NE	3	1 - Onsite (North-West)	S	0
2 - Offsite (North-Driveaway Entrance)	E-NE	1	2 - Offsite (North-Driveaway Entrance)	S	0
3 - Offsite (Clyde/Granville Residential)	E-NE	0	3 - Offsite (Clyde/Granville Residential)	S	0
4 - Offsite (Clyde/Granville Residential)	NE	0	4 - Offsite (Clyde/Granville Residential)	S	0
5 - Offsite (Clyde/Granville Residential)	NE	0	5 - Offsite (Clyde/Granville Residential)	S	0
6 - Offsite (Clyde/Granville Residential)	NE	0	6 - Offsite (Clyde/Granville Residential)	S	0

7 - Offsite (Clyde/Granville Residential)	E-SE	0	7 - Offsite (Clyde/Granville Residential)	S	0
8 - Offsite (Clyde/Granville Residential)	E-SE	0	8 - Offsite (Clyde/Granville Residential)	S	0
9 - Offsite (Clyde/Granville Residential)	E-SE	0	9 - Offsite (Clyde/Granville Residential)	S	0
10 - Offsite (Clyde/Granville Residential)	E-SE	0	10 - Offsite (Clyde/Granville Residential)	S	0
11 - Offsite (Clyde/Granville Residential)	NE	0	11 - Offsite (Clyde/Granville Residential)	S	0

During the 24th May odour audit, a reading of 1 (Very Weak) and 3 (Distinct) were detected in the Field Ambient Odour Assessment part of the audit. The odour had an intermittent detection with a slight garbage smell. The auditor has commented that no odours were detected off-site that can be linked back to the Terminal.

The results of the two odour audits indicate the Terminal generally complies with Consent Condition 48(e) which states that odour at the Terminal shall not exceed 2OU at the nearest receiver.

The Terminal continues to meet the requirements of the *Technical framework: assessment and management of odour from stationary sources in NSW (DEC, November 2006)*. Veolia also maintains a thorough housekeeping regime, combined with odour management controls, which help to minimise the likelihood of odour impacts on surrounding neighbours/receivers.

No odour complaints were received during this reporting period.

2.3 Noise Monitoring

Noise monitoring was undertaken at the Terminal to ensure that waste vehicles entering the Terminal are not emitting nuisance noise emissions. **Table 2.6** lists the parameters, respective performance measures, standards and statutory requirements for background noise levels and vehicle emissions limits.

Table 2.6 - Noise Monitoring Requirements

Parameter	Performance Measure (dB(A))	Standards	Statutory Requirement
Day - LAeq (15 minute)	44,40,41	Noise Management	EPL Condition L3.1
Evening - LAeq (15 minute)	38,38,39		

Night - LAeq (15 minute)	39,38,39	NSW Industrial Noise Policy	Consent Condition 108
Night - LA1 (15 minute)	56,54,52		
Vehicle Emissions	89	Australian Design Rule (ADR) 28/01	Consent Condition 112

2.3.1 Truck Noise Monitoring

One round of truck noise monitoring was undertaken on 16th August 2018 in accordance with Consent Condition 112 for this reporting period. Noise levels of 98 truck movements out of a daily total of 282 truck movements were measured, equivalent to 34.75% of truck movements. A summary of the results is illustrated in **Figure 2.3**. Further details regarding truck movements at the site is discussed in **Section 2.4.1**.

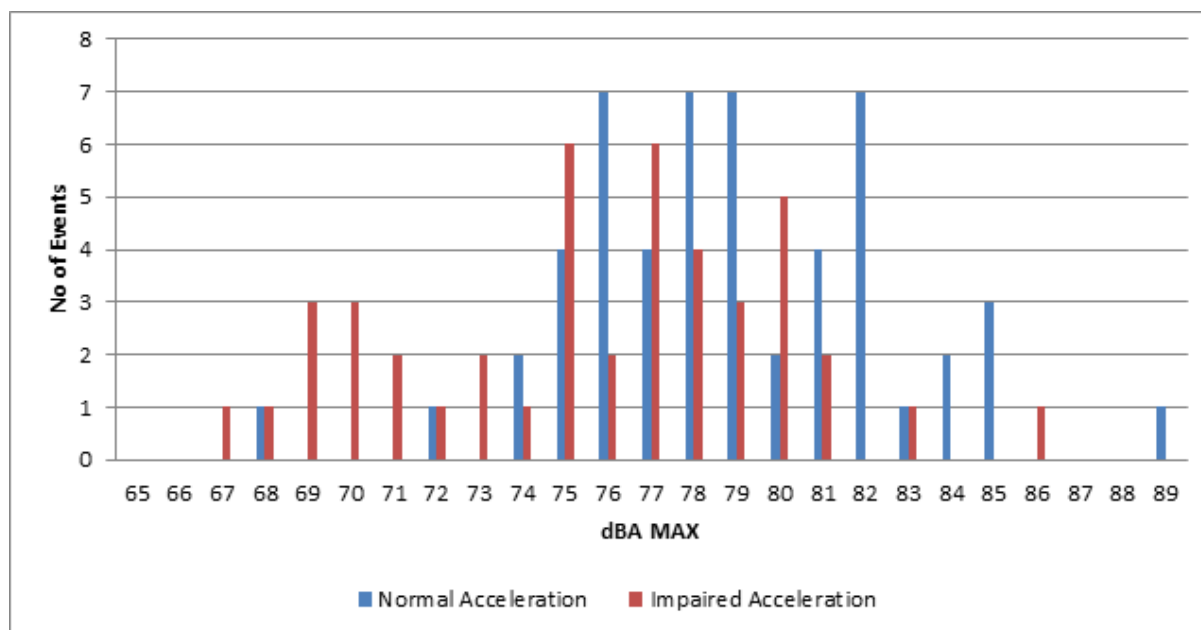


Figure 2.3 - Noise level distribution from Truck Noise Monitoring - 16 August 2018

All trucks monitoring were between 66 dBA to 85.4 dBA, where most fell within or below the thresholds of 81 to 87 dBA for Heavy Goods Vehicles with a GVM > 12 tonne in accordance with the Australian Design Rules (ADR) 28/01, with the exception of one truck that exceeded the noise level criteria. Refer below to **Table 2.7** for the truck noise exceedance recorded.

Table 2.7 - Noise level exceedance truck details

Time	Company	Make	Lift Type	Registration number	LA Max (dBA)	Impeded Movement
08:58	City of Canada Bay Council	IVECO	Side	CE65RY	88.1	No

A notification letter was sent out to the customer, informing them that one of their vehicles registered a noise level exceeding the truck noise level criteria. This exceedance has been noted and updated in the truck noise level exceedance register (**Appendix C3**). A detailed truck noise monitoring report can be found in **Appendix C3** for the 2018-2019 reporting period.

There were no registered noise complaints from either industrial or residential neighbours throughout this reporting period.

2.4 Traffic Monitoring

2.4.1 Traffic Movements

Vehicle movements at the Terminal during this reporting period totalled at 85,660 as summarized in **Table 2.8** below.

Table 2.8 - Traffic movements per month for 2017/2018 & 2018/2019 reporting periods

Monitoring Period	2017/2018 Truck Movements	2018/2019 Truck Movements
15 to 31 January	3,688	3,953
February	6,301	6,629
March	7,433	6,961
April	6,399	6,607
May	7,221	7,007
June	6,514	6,206
July	6,073	6,887
August	6,373	7,048
September	6,127	6,396
October	6,187	7,170
November	6,334	7,016
December	6,944	7,228
1 to 14 January	3,070	3,197
TOTAL	78,664	82,305

No noise or odour complaints were received during this reporting period which demonstrates that the movements of trucks at the Terminal did not contribute to any significant noise/odour impacts to the surrounding environment.

2.4.2 Traffic Infringements

A monitoring and recording program for transport routes in accordance with Consent Conditions 50(b) and 50(d) is described in the OEMP for the Terminal. The measures employed to monitor and record the movement of vehicles that access the site include:

- Spot monitoring of vehicles by the Terminal's operational personnel, as well as video surveillance monitoring of truck movements on site are undertaken, as required;
- Reviewing of any complaints related to transport routes; and
- Follow-up action, including issuing verbal warnings, as required, to drivers committing traffic offences on site; and
- Follow-up action taken by the NSW Sales Manager through direct communication with account holders regarding the Terminal's Consent Conditions.

One non-compliance has been observed, relating to the restriction on waste vehicles turning right from Parramatta Road into the Terminal access road, during this reporting period. As part of Development Modification 5, which is currently under review by the DPE, Veolia have requested that Consent Condition 119 be deleted. In the interim, Veolia have conducted a traffic survey to assess compliance.

2.5 Waste Monitoring

The Waste Management Plan (WMP), which forms part of the OEMP, was prepared for the Terminal in accordance with Consent Condition 47, and 62–69, and details the procedures for the acceptance and management of waste at the Terminal.

All waste received at the Terminal is recorded and maintained in the Systems, Applications and Products in Data Processing (SAP) software. The program records the vehicles registration, date and time of entry and exit, the gross and tare weight of the vehicle, as well as the nature and origin of waste received by each contractor.

Procedures are in place to reject or separate non-conforming waste upon arrival at the site. These procedures include visual assessments of incoming wastes by weighbridge operators assisted by closed circuit television (CCTV), as well as inspecting the waste as it is unloaded onto the tip floor. No records of non-conforming waste were reported during this reporting period.

Furthermore, data is recorded and tracked for the containers and includes container status, container weight comparisons and carbon filter replacement. This information is maintained daily by Terminal personnel.

2.5.1 Waste Volume Monitoring

The amount of waste accepted at the Terminal in the 2018 calendar year totalled 437,501 tonnes as summarised in **Table 2.9** below.

Table 2.9 - Summary tonnage per month during 2017 & 2018

Monitoring Period	Incoming Waste Volumes 2017 (tonnes)	Incoming Waste Volumes 2018 (tonnes)
January	39,253	37,884
February	37,519	35,658
March	45,143	35,325
April	37,159	35,325
May	40,068	36,792
June	36,691	32,900
July	33,133	35,489
August	34,638	36,221
September	33,482	33,545
October	39,924	39,840
November	34,884	38,863
December	34,416	39,659
TOTAL	446,310	437,501

Table 2.8 indicates that during the 2018 calendar year, the Terminal operated within the annual waste limit as stipulated within Consent Condition 10. Therefore, there was a reduction of 8,809 waste tonnages compared to 2017 calendar year. The reduction in waste tonnages was due to the commencement of operations of the Veolia owned Banksmeadow Transfer Terminal (BTT).

Veolia has sought for a modification of Consent Condition 10 to allow the Terminal to accept up to 600,000 TPA. This proposed modification is addressed within the collective modification application as previously mentioned in **Section 2.4.2**. This modification application addresses the demonstrated demand for additional waste processing in Sydney, and provides Veolia's justification in relation to a number of proposed modifications. Potential traffic, air quality and noise impacts associated with the proposed increase in waste throughput at the Terminal have been assessed in detail within the application.

Veolia is currently awaiting response from the DPE regarding the outcome of this proposed modification, as the application is still currently under review.

2.6 Pests and Vermin

Pests and vermin management is undertaken at the Terminal to ensure that the control measures implemented, to minimise the potential for birds, rodents, flies and other pests, remain effective. The primary means of controlling pest and vermin activity is through good housekeeping measures and daily inspections. **Table 2.10** below identifies the housekeeping undertaken at the Terminal to manage pest and vermin.

Table 2.10 - Pest and Vermin Management

Parameter	Performance Measure	Standard	Statutory Requirement
Litter Control	Visual Inspection	Veolia Business Management System	Vermin and Pest Control Plan-Consent Conditions 51, 115-117
Vermin Habitat			

Pest control was undertaken by an external contractor (Expert Judgement Pest Management Pty Ltd) throughout this reporting period. In addition to this, inspections are undertaken on a routine basis by the Terminal's operators, as part of general housekeeping and recorded on relevant Housekeeping and Inspection Checklists.

The inspection form provides a record of the visual monitoring undertaken at the Terminal and provides opportunity to identify where additional corrective actions may need to be applied.

During the routine pest and vermin inspections conducted in this reporting period, the external contractor had noted light rodent activity in the shed area, and light spider activity in an external area. These were areas were treated with Roban rodent bait and Cislin 25 spray respectively. The reports can be found in **Appendix C4**.

During this reporting periods Independent Environmental Audit, a number of Ibis and cats were identified as pests, therefore a non-compliance against Consent Condition 117 (refer to **Table 3.2**).

2.7 Community Consultation

In this reporting periods Independent Environmental Audit (Jackson 2018), the auditors recognised Veolia's issues in re-establishing the Community Consultative Committee (CCC) due to lack of interest from the community, despite steps taken to engage the community.

Veolia have been in contact with Cumberland Council, the DPE and the NSW EPA in regards to establishing the CCC. To progress with setup Veolia took the following key initiatives.

In December 2017, Veolia had handed out letters in order to gain interested for the CCC. In 2018, Veolia continued to consult households and local business via door knocking and letters, in an effort to re-establish the CCC. One event was held, though one person showed up the the

meeting. Following, Veolia has requested from the DPE to assign an external, independent chair to attempt one more time to re-engage the community.

Following, Veolia has also requested to amend Consent Conditions 134, 135 and 136 in the Consent. The modification application is currently under review.

As a result the IEA (Jackson 2018), has found that the recommendations of re-establishing the CCC from the 2017 audit have been complied with, due to Veolia's efforts in re-engaging interest within the community.

3. Environmental Performance

The environmental performance of the Terminal is assessed through the results of environmental monitoring, internal inspections, as well as external environmental audits.

An Independent Environmental Audit (IEA) of the Terminal's environmental performance was carried out on December 2018 by Jackson Environment and Planning. The objective of this IEA was to assess the environmental performance of the Terminal and identify any non-compliances against environmental approvals issued to the Terminal, as required by Schedule 4, Condition 6 of the Consent.

A discussion of the non-compliances identified by the IEA, as well as the corrective actions, where implemented, is provided within this section. A comparison is also made to the non-compliances/regulatory actions and corrective actions implemented in the previous reporting period to present the changes to the environmental performance of the Terminal.

3.1 Previous Non-Compliances in 2017/2018

Non-compliances identified during the 2017-2018 reporting period are detailed in **Table 3.1** below to show that corrective actions to resolve/manage these non-compliances were implemented and completed by this reporting period.

Table 3.1 - Non-compliances reported in the 2017/2018 reporting period

Condition	Non-compliance	Corrective Actions	Status
91	Meteorological data was lost during that reporting period	Implementation of a battery replacement program on a biennial basis.	Commenced February 2018. There have been no issues of lost data this reporting period.
119	Waste vehicles sighted turning right off Parramatta Road into the Terminal	On the basis of the most recent advice from RMS, Veolia has engaged an external consultant to update design drawings for the modification of the traffic island located at the intersection of the access road and Parramatta Road. Veolia has submitted an application to amend the Condition to the DPE.	Application to amend Condition currently under review by the DPE.

134	Veolia has not been successful in facilitating CCC meetings as stipulated in the Consent Conditions.	In response to the submissions received to this proposed modification, Veolia has agreed to maintain the CCC and is now seeking a minor amendment of Condition 134.	Awaiting response from the DPE on the proposed modification of Condition 134.
		Following the findings of the IEA 2017, Veolia has implemented a number of actions to re-establish the CCC. Veolia will continue to liaise with the local community and Council to seek potential members to be part of the CCC. Once the members of the CCC are finalised Veolia will commence the quarterly CCC meetings in accordance with Condition 134.	The Independent Environmental Audit (IEA) has found Veolia to be compliant against this Condition, given the effort taken to re-engage interest from the community.

3.2 Current Non-Compliances in 2018/2019

The non-compliances identified during the 2018-2019 reporting period are detailed in **Table 3.2** below and the status of corrective actions to resolve/manage these non-compliances are also provided.

Table 3.2 - Non-compliances against the Consent in the 2018/2019 reporting period

Consent Condition	Non-compliance	Corrective Action	Status
98	Recommendation of measuring the stack discharge velocity at least once within a 6-month period as part of a routine service visit remains outstanding.	The Odour Consultant (The Odour Unit Pty Ltd) provided a statement of clarification surrounding the interpretation of a recommendation for the measurement of the stack discharge velocity reported in the Clyde Waste Transfer Terminal – Odour Audit XXXII dated December 2018 (the Clyde Audit Report). The statement indicated that “recommendation is to be viewed as a non-mandatory recommendation given the overall positive findings in the Clyde Audit Report and	However Veolia will work with the Odour consultant in the next scheduled Odour Audit to close off this action from IEA-2018. Site Management is currently in process with a contractor for balancing of the plenum, and stack discharge velocity test. This will be completed by end of March.

		the regular preventative maintenance being undertaken on the odour extraction system".	
117	The presence of a number of Ibis and a small number of cats during the onsite audit.	Veolia has looked at the number of practicable measures in the last reporting period to prevent the attraction and infestation of the premises with vermin and pests. Out of short listed ones, bird spikes had been installed in early 2018, but these had limited success. Veolia is now progressing with enhanced Bird Control Program proposal (bird netting and an electric shock system) to be installed in 2019 to mitigate against Ibis.	Veolia will update the Vermin and Pest Management Plan to reflect the additional pests and the Bird Control Program measures that are implemented.
119	Two trucks were observed turning right during the onsite audit.	As part of Development Modification 5, which is currently under review by the DPE, Veolia have requested that condition 119 be deleted.	In the interim, Veolia have conducted a traffic survey to assess compliance.

3.3 Other Regulatory Non-Compliances

No other regulatory non-compliances occurred in this reporting period.

3.4 Complaints

Veolia operates a website which contains contact details for the NSW General Enquiries Line whereby a complaint can be lodged to a specific site. These contact details are also provided onsite via signage.

Complaints (either written or verbal) are documented to record the following:

- Nature and extent of the complaint;
- Method by which the complaint was made;
- Name and address of the person lodging the complaint (the complainant);
- Details of all related factors including location, dates, frequency, duration, site conditions and effects of the complaint; and
- Action taken to address the complaint including follow up contact with the complainant.

No complaints were received during this reporting period.

Details of nominated personnel relevant to the complaints handling process for the Terminal are provided in **Table 3.3** below.

Table 3.3 - Details of the Terminal's nominated personnel

Contacts Name	Position
Ash Turner	Sydney Operations Manager
Rod Jones	Clyde Facility Manager
Sara Maddison	Operations Project Manager / Environmental Management Representative
Sid Afeaki	Site Leading Hand
Sioi Matele	Site Leading Hand

3.5 Conclusion

A review of the non-compliances between the 2017-2018 and 2018-2019 reporting periods demonstrates that traffic movements (right turn off Parramatta road) remains an issue for the Terminal. It should be noted however the non-compliance against Consent Condition 119 is generally influenced by external factors, for instance; traffic infringements carried out by site visitors/clients.

In March 2017, Veolia submitted a modification application to the DPE to modify and/or remove certain Consent Conditions, under section 75W of the EP&A Act 1979. The modifications sought after by Veolia included;

- Increased annual waste input rate from 500,000 TPA to 600,000 TPA.
- Remove restriction of right turn movements from Parramatta Road into the Terminal.
- The need for a community consultative committee.

The status of the modification application is currently under review.

Veolia will continue to review and track its performance against the Consent, as well as introduce measures to better manage environmental performance at the Terminal.

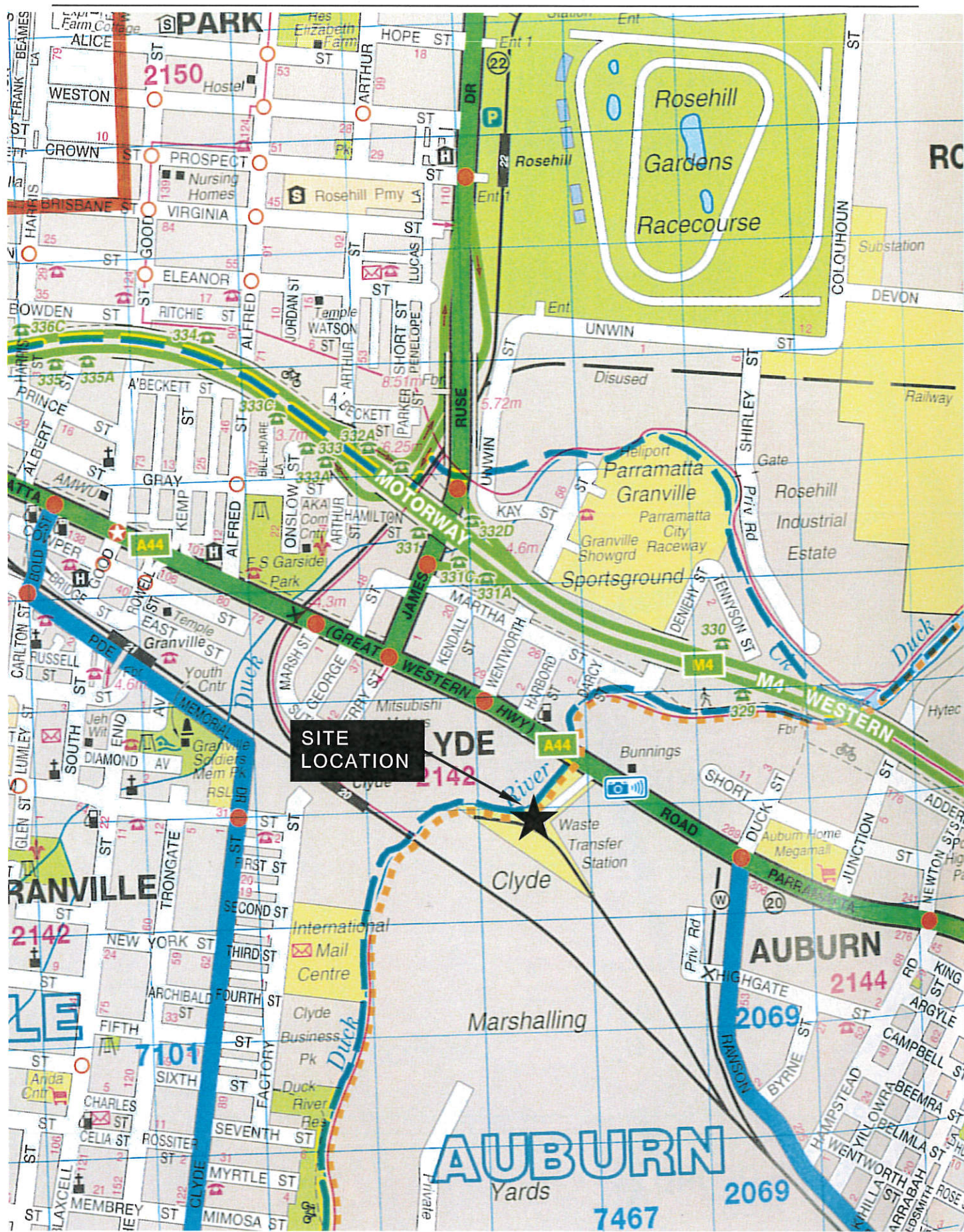
Terms and Definitions

Term	Definition
AEMR	Annual Environmental Management Report
ALS	Australian Laboratory Services PTY LTD
BMS	Veolia's document management system
CTT	Clyde Transfer Terminal
DA	Development Application
DPE	Department of Planning and Environment
EIS	Environmental Impact Statement
EP&A	Environmental Planning and Assessment (Act and Regulations)
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
IEA	Independent Environmental Audit
BMS	Business Management System
OEMP	Operational Environmental Management Plan
OU	Odour unit
PIN	Penalty Infringement Notice
The Consent	Development Consent DA 205-08-01
TOU	The Odour Unit PTY LTD
The Terminal	Clyde Transfer Terminal
The Vault	Veolia's incident and compliance management system
TPA	Tonnes per annum
Veolia	Veolia Australia and New Zealand
WMP	Waste Management Plan

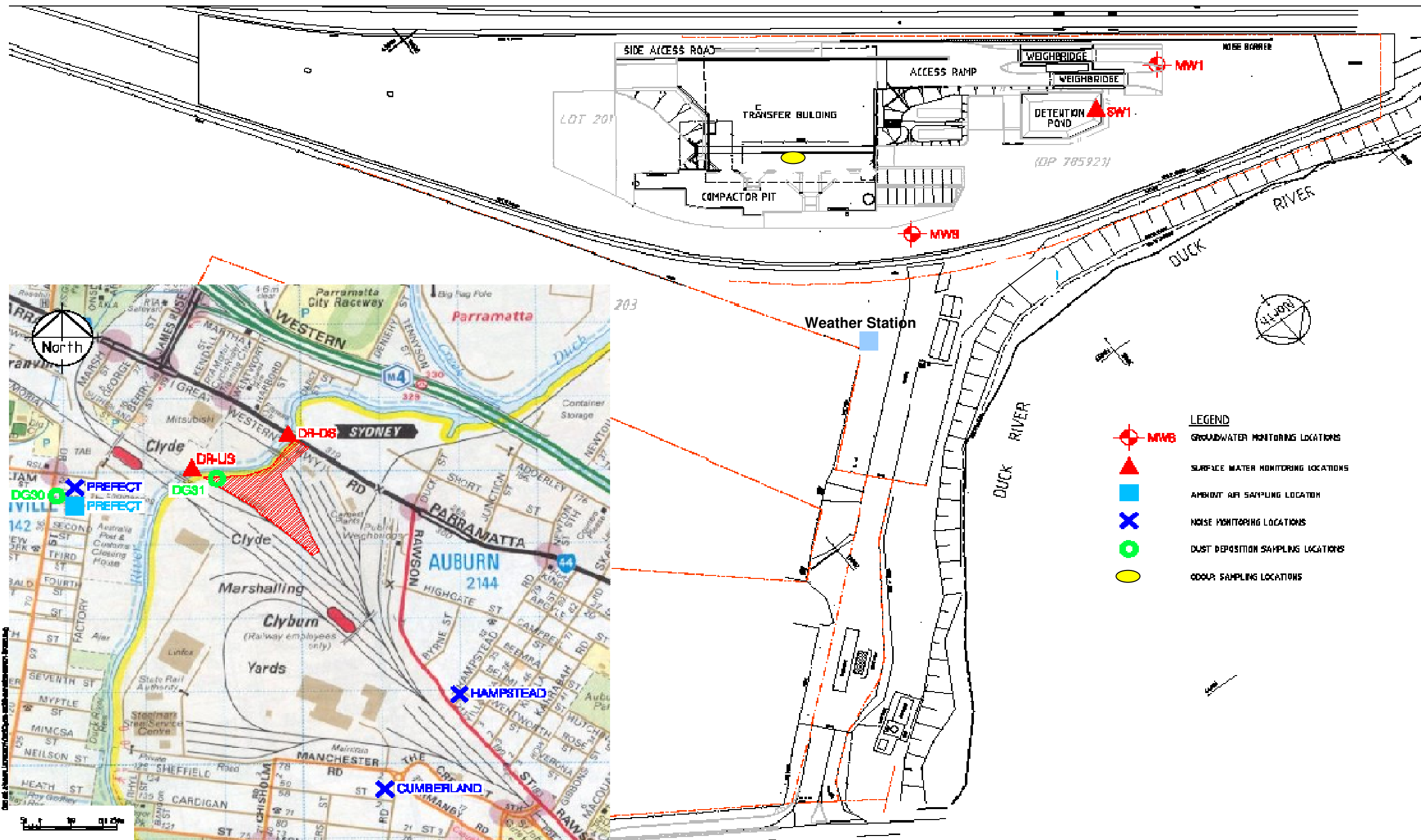
Reference and Related Documents

Document Name
DEC (2006). <i>Technical framework: assessment and management of odour from stationary sources in NSW</i> , Department of Environment and Conservation. November 2006
EPA (2014). <i>NSW Waste Classification Guidelines</i> , NSW Environmental Protection Agency. January 1996.
EPA (2000). <i>NSW Industrial Noise Policy (2000)</i> , NSW Environmental Protection Agency. January 2000.
Jackson Environment and Planning (2018). <i>Clyde Transfer Terminal Independent Environmental Audit 2018 (DRAFT)</i> . Jackson Environ. February 2019
VES (20172018). <i>Clyde Transfer Terminal Annual Environmental Monitoring Report</i> . Veolia. March 2018.

Appendix A - Site Location Plan



Appendix B - Environmental Monitoring Locations Plan



REV	NO	DATE	DESCRIPTION	APPROVED
1	1	2010	ISSUED FOR TENDERS	

Notes concerning the site plan and drawings are contained in the site plan and drawings. The site plan and drawings are provided for information only and are not to be used for any other purpose without the written consent of the author.

Scale: 1:1000

COPYRIGHT			
The design and drawings are the property of MAUNSELL AUSTRALIA PTY LTD and may not be reproduced without the written consent of the author.			
DESIGN	PREPARED	CHECKED	APPROVED
DATE	2010		DATE

Maunsell
Maunsell Australia Pty Ltd
2010

WOODLAWN ALLIANCE

CLYDE TRANSFER TERMINAL CLYDE SITE MONITORING LOCATIONS	
SKETCH	104-07001-SK895 1

Appendix C1 - Meteorological Data

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

22 November 2018

Constance Georgiou
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Constance,

As per our service agreement, on the 20/11/18 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 20/11/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	28	26.1
2m*	28	27
Relative Humidity*	41	40
Wind Speed	2 m/s at ground	3.2 m/s at 10 metres
Wind Direction	24	24
Solar Radiation	1000	900
TBRG	10mm	20 tips
Battery/Solar	13.9	

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

Note 2: Ignore rainfall tips logged at approximately 1140 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 20/11/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	20	19.1
2m*	20	19.3
Relative Humidity*	65	64
Wind Speed	0.8 m/s at ground (poor exposure at ground)	1.1 m/s at 10 metres
Wind Direction	350	340
Solar Radiation	90	100
TBRG	10mm	21 tips
Battery/Solar	13.1	

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

16 February 2018

Sara Maddison
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Sara,

As per our service agreement, on the 14/02/18 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 14/02/18

Sensor	Actual (field)	Logger
Temperature – 10m*	22.4	22.7
2m*	22.4	22.8
Relative Humidity*	81	80.7
Wind Speed	0.5 m/s at ground	0.65 m/s at 10 metres
Wind Direction	270	270
Solar Radiation	15	10
TBRG	10mm	20 tips
Battery/Solar	34.0	

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

Note 2: ignore rainfall tips logged at approximately 0600 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. 12V battery replaced.

Clyde 14/02/18

Sensor	Actual (field)	Logger
Temperature – 10m*	28.5	27.5
2m*	28.5	28.0
Relative Humidity*	60	56
Wind Speed	2.5 m/s at ground (poor exposure at ground)	3.0 m/s at 10 metres
Wind Direction	270	270
Solar Radiation	690	590
TBRG	10mm	20 tips
Battery/Solar	13.4	

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

Note 2: ignore rainfall tips logged at approximately 0930 EST as these were testing.

Additional Items

1. All components cleaned.
2. Installation sprayed for insects.
3. 12V battery replaced.

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

Email glenmurf@ozemail.com.au

www.hydrometric.com.au

* 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.

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

9 May 2018

Sara Maddison
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Sara,

As per our service agreement, on the 9/05/18 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 9/05/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	12.0	12.5
2m*	12.0	11.5(12.3 after cleaning)
Relative Humidity*	73	74
Wind Speed	0.0 m/s at ground	0.42 m/s at 10 metres
Wind Direction	200	200
Solar Radiation	170	160
TBRG	10mm	20 tips
Battery/Solar	14.7	

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

Note 2: ignore rainfall tips logged at approximately 0740 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 9/05/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	18.0	17.3
2m*	18.0	17.1
Relative Humidity*	58	57
Wind Speed	1.5 m/s at ground (poor exposure at ground)	1.9 m/s at 10 metres
Wind Direction	280	280
Solar Radiation	340	340
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 0900 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.

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

16 August 2018

Constance Georgiou
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Constance,

As per our service agreement, on the 15/08/18 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 15/08/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	14.3	14.5
2m*	14.3	14.2
Relative Humidity*	37	41 (36.6 after clean)
Wind Speed	1.6 m/s at ground	2.2 m/s at 10 metres
Wind Direction	352	350
Solar Radiation	250	150
TBRG	10mm	20 tips
Battery/Solar	14.5	

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

Note 2: Ignore rainfall tips logged at approximately 0815 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 15/08/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	25.4	30.0
2m*	25.4	25.0
Relative Humidity*	15	12.2
Wind Speed	6.0 m/s at ground (poor exposure at ground)	9.8 m/s at 10 metres
Wind Direction	270	270
Solar Radiation	580	Fluctuating 30 to 230
TBRG	10mm	20 tips
Battery/Solar	13.6	

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

Note 2: Ignore rainfall tips logged at approximately 1420 EST as these were testing.

Note 3: The solar radiation sensor is malfunctioning and needs to be replaced.

Note 4: The temperature sensor at 10 metres appears to be over-registering and probably should be replaced as it is the original sensor installed on day 1.

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

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Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

17 October 2018

Constance Georgiou
Environmental Engineer
Veolia Australia and New Zealand

Re – Repair of Sensors at Clyde Weather Station

Dear Constance,

On 17 October 2018 Hydrometric Consulting Services (HCS) carried out the following work at the Clyde Weather Station:

- Supplied and installed a new Li Cor Solar radiation sensor located at the top of the mast.
- Supplied and installed a new Model 107 temperature sensor located at the top of the mast.
- Supplied and fitted new bearings in the wind direction and wind speed sensors located at the top of the mast.
- Checked the alignment of the wind direction sensor.
- Checked the accuracy and operation of all sensors and data logger.

The system is fully operational.

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



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Appendix C2 - Odour Monitoring Data



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXI

Final Report

May 2018

THE ODOUR UNIT PTY LTD

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ACN 091 165 061

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EVELEIGH, NSW 2015

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Project Number: N1473L

Report Revision		
Revision Number	Date	Description
Draft report	13.08.2018	Issued for internal review
Final report	14.08.2018	Final report issued to 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 XXXI		

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1 INTRODUCTION

The Odour Unit Pty Ltd (**TOU**) was commissioned by Veolia (Australia) Pty Ltd (**Veolia**) to undertake the thirty-first (**XXXI**) Odour Audit at the Clyde Transfer Terminal (**the Site**) on 24 May 2018. The visit for this Odour Audit was undertaken by TOU's Senior Engineer & Consultant, Michael Assal, and is the twenty-first (21st) 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 XXXI covers the 6-month period from 17 November 2017 to 4 June 2018 (**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 XXXI 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;
- Inspection of the container packing area and site access roads;
- Inspection of the complaint register;
- Review of the on-site meteorological data log and equipment maintenance/calibration;
- Review of relevant documentation relating to odour management; and

- 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 predominately light (0.5 m/s to 2 m/s) wind speeds with the local wind direction oscillating between the east-north-easterly and east-south-easterly. The skies were partly cloudy and the ambient temperature during the Odour Audit visit was approximately 18°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 was approximately 300 to 400 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 – Waste on-floor as found on 24 May 2018

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 C** for Field Ambient Odour Assessment Survey results). It appeared during the Odour Audit visit that just a single compactor was operating, with the other undergoing maintenance. The general house-keeping around this area was observed to be of high quality, with no evidence to suggest otherwise. The condition of the compactor area as found on 24 May 2018 is shown in **Photo 2.2** and **Photo 2.3**.

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 – Compactor area as found on 24 May 2018 (1 of 2)



Photo 2.3 – Compactor area as found on 24 May 2018 (2 of 2)

2.1.2.1 Container Management and Maintenance

Based on verbal discussions with the Veolia team and observations made during the Odour Audit visit, the 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 (hereafter referred to as **the February 2010 OMP**) for the Site, following the compaction of waste, all filled containers are completely 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 Audit finds that this continues to be current practice at the Site.

2.1.4 Odour Extraction System Maintenance

Service documentation for the maintenance of the odour extraction system was supplied and reviewed as part of the Odour Audit (refer **Appendix A**). Service logs were provided covering the period between 17 November 2017 and 4 June 2018.

Each service log provided to the Audit indicated that the required maintenance was taking place 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 undertaken.

The service logs indicated that the stack discharge velocity was not measured during any of the service visits conducted between 17 November 2017 and 4 June 2018. However, 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 is likely that the required 19.5 m/s discharge velocity is being achieved. Notwithstanding this, it is recommended that the stack discharge velocity is measured at least once within a 6-month period as part of a routine service visit for the odour extraction system. This was not completed in the previous odour audits in May 2017 and November 2017 and should now be completed.

Overall, no significant issues with the mechanical performance of the fan extraction system were identified in the Odour Audit.

2.1.5 Odour Management Procedures/Plan

The Odour Management Procedures (formerly known as the Odour Minimising Procedures) continue to be regularly reviewed at Tool Box 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 in the process of being reviewed and updated as required.

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 offsite. 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 in-tact and in good condition (see **Photo 2.4**).



Photo 2.4 –Truck entrance plastic strips as found on 24 May 2018

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. For the Odour Audit visit, an additional smoke testing point outside of the truck entrance was completed to assist with the observations made from smoke testing within the TTB (discussed in **Section 2.1.8.1**). **Figure 2.1** shows the three points where the smoke was released within the TTB. **Photo 2.5** and **Photo 2.6** shows smoke testing at one of the test locations (Smoke Testing Point #2) and outside of the truck entrance as occurred on 24 May 2018.

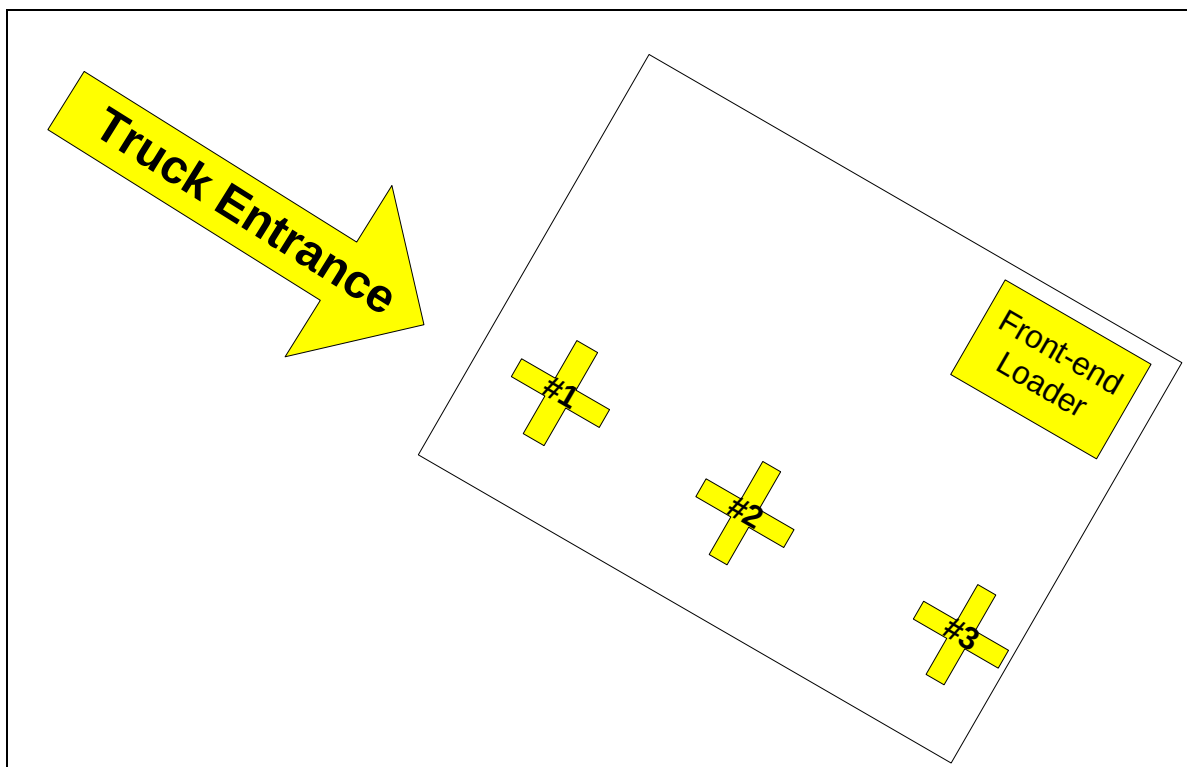


Figure 2.1 - Smoke testing release points within the TTB on 24 May 2018



Photo 2.5 – Smoke testing within the TTB on 24 May 2018



Photo 2.6 – Smoke testing at the truck entrance of the TTB on 24 May 2018

2.1.8.1 Smoke Testing Results

Smoke Testing Point #1

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. It was observed that there was preferential flow to some of the overhead capture points. This suggests that the louvres may need to be adjusted and optimised and stack exit velocity verified.

Smoke Testing Point #2

Smoke released at this point revealed a similar result to smoke testing point #1.

Smoke Testing Point #3

Smoke released at this point revealed a similar result to smoke testing point #1.

Outside of truck entrance

Smoke released at this point was found to be clearly extracted through the truck entrance door (see **Photo 2.6**), indicating that the performance of the odour extraction system is satisfactory and that there is minimal risk of fugitive emission release from the TTB. This is a good result.

2.1.9 **Stormwater Retention Pond**

The auditor observed that there was no effluent in this pond at the time of the Odour Audit visit. Moreover, there was no odour detectable during the Odour Audit visit that could be linked directly back to the stormwater retention pond. **Photo 2.7** shows the state of the pond as found on 24 May 2018.



Photo 2.7 – Stormwater retention pond as found on 24 May 2018

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 for the period between 18 November 2017 and 24 May 2018 was inspected and found to be in good order. As found in previous Odour Audits, the observations were recorded in 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 as required.

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 24 May 2018 between 1640 hrs and 1733 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 a few 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, observer may consider moving from the area
Extremely Strong	6	Odour is sufficiently over-powering that assessor moves from area

2.3.1 Field Ambient Odour Assessment - Results

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. It is noted that garbage odour was intermittently detectable within the boundary of the Site at measurement points 1 & 2. This observation is not problematical in the context off-site impacts, given the results obtained at all other assessed locations during the FAOA survey and absence of odour complaints. Nevertheless, this observation is noted and will be followed-up as part of the next audit.

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

3 RECOMMENDATIONS/FOLLOW-UP ACTIONS

3.1 PREVIOUS AUDIT ACTION

The previous November 2017 odour audit documented the following audit action:

- **Previous Audit Action 1:** *Inspect and repair/replacement all metal plates that are responsible for the sealing of the TTB breezeways.*

Status: Complete (see **Section 2.1.6**).

- **Previous Audit Action 2:** *The stack discharge velocity should be measured at least once within a 6-month period as part of a routine service visit.*

Status: Outstanding (see **Section 3.4**).

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

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 offsite. 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 house-keeping 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 2017 odour audit are being adequately undertaken, and the odour extraction system is operating as required.

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

- **Action 1 - The stack discharge velocity should be measured at least once within a 6-month period as part of a routine service visit.**

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 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 2 – Veolia to continue its review and update of the OMP for the Site as required.**

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 2018.**



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXI

Appendices

May 2018



Appendix A –

Odour Extraction System Service Report

(17 November 2017 – 4 June 2018)

Triple M - NSW - Service Docket

Record: 152260	
Time Start	Thu Dec 21 2017 10:28:34 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	BIKRAM SINGH
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1077685
Fault 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	Travel Job safety analysis Carry out check on mechanical extraction system Exh fan 1:Amps 76.4,45hz,133477kwh Exh fan 2:Amps 77.4,45hz,63942kwh
Parts, Materials?	No
Ancillaries	Consumables
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	AJ
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	152260
Record Location	Latitude:-33.837315, Longitude:151.021665, Altitude:11.297085, Speed:0.000000, Horizontal Accuracy:5.000000, Vertical Accuracy:3.000000, Time:10:40:18 am AEDT
Total Hrs	0
Time Completed	2017-12-21 10:28:34

Job Safety Analysis

Job/Service Call Number	1077685
Work to be done.	CLYDE WASTE - PM December L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Long Sleeve Shirt, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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
Is it safe for you to proceed with your job.	Yes
Technician's Signature	
Forwarding Email	ash.taylor@veolia.com

Triple M - NSW - Service Docket

Record: 155767	
Time Start	Wed Jan 24 2018 08:13:44 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	BIKRAM SINGH
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1084966
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	Carry out pm as required,vsd operation status Extraction fan 2:79.8 Amps 45hz 34052kwh Extraction fan 1:75.8 Amps 45hz 95067kwh Tension all damper position retainers nuts Clean as required belts ok Grease next pm
Parts, Materials?	No
Ancillaries	Consumables
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Warren
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	155767
Record Location	Latitude:-33.837481, Longitude:151.021553, Altitude:3.273342, Speed:0.400000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:8:59:54 am AEDT
Total Hrs	0
Time Completed	2018-01-24 08:13:44

Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1084966
Work to be done.	CLYDE WASTE - PM January L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, Mask - Mechanical Filter, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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
Is it safe for you to proceed with your job.	Yes
Technician's Signature	

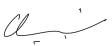
Triple M - NSW - Service Docket

Record: 160888	
Time Start	Wed Mar 07 2018 09:51:50 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1094051
Fault Description	CLYDE WASTE - PM February L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Travel to site Check dust extraction system operation Fan 1:75.7amps,45Hz,72341kwh Fan 2:77.5amps,45Hz,133869kwh All ok.
Parts, Materials?	No
Ancillaries	Consumables
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Ash
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	160888
Record Location	Latitude:-33.837352, Longitude:151.021575, Altitude:7.259304, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:11:57:51 am AEDT
Total Hrs	0
Time Completed	2018-03-07 09:51:50

Mobile Data Capture Report

Job Safety Analysis	
Are you an Apprentice?	No
Job/Service Call Number	1094051
Work to be done.	CLYDE WASTE - PM February L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Long Sleeve Shirt, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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
Comments / additional control measures.	2 way radio
Is it safe for you to proceed with your job.	Yes
Technician's Signature	
PPE Title	Long Pants, Long Sleeve Shirt, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 164062	
Time Start	Wed Mar 28 2018 11:23:34 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1103331
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	Travel to site Carry out pm on dust extraction system Motor 1:72.4amps,45hz,91640kwh Motor 2:75.2amps,45hz,23383kwh All ok
Parts, Materials?	No
Ancillaries	Tolls
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Ash
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	164062
Record Location	Latitude:-34.074812, Longitude:150.797409, Altitude:93.817467, Speed:-1.000000, Horizontal Accuracy:65.000000, Vertical Accuracy:10.000000, Time:1:34:23 pm AEDT
Total Hrs	0
Time Completed	2018-03-28 11:23:34

Mobile Data Capture Report

Job Safety Analysis	
Are you an Apprentice?	No
Job/Service Call Number	1103331
Work to be done.	CLYDE WASTE - PM March L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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	
Forwarding Email	warren.cassidy@violia.com
PPE Title	Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 168244

Time Start	Thu May 03 2018 06:51:01 GMT+1000 (AEST)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1111720
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	Required on site to carryout monthly service on exhaust fans as per our procedure.
Parts, Materials?	No
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Warren cassidy
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-RAC
Technician Name	RAJNESH CHAND
Iforms Record ID	168244
Record Location	Latitude:-33.837283, Longitude:151.021806, Altitude:8.425564, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:10:49:41 am AEST
Total Hrs	0
Time Completed	2018-05-03 06:51:01

Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1111720
Work to be done.	CLYDE WASTE - PM April L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Long Sleeve Shirt, 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?	No
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	Yes
Tools & equipment are fit for purpose.	1
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
Electrical tools & equipment being used?	Yes
Tools&equipment are fit for purpose.	1
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, Long Sleeve Shirt, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 172186

Time Start	Mon Jun 04 2018 09:50:30 GMT+1000 (AEST)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1119387
Fault Description	CLYDE WASTE - PM May 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, conducted maintenance and proceeded to do a full service on fans
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-GDN
Technician Name	BRYCE GARDINER
Iforms Record ID	172186
Record Location	Latitude:-33.850267, Longitude:150.898749, Altitude:56.635537, Speed:0.000000, Horizontal Accuracy:5.000000, Vertical Accuracy:3.000000, Time:9:52:16 am AEST
Total Hrs	0
Time Completed	2018-06-04 09:50:30

Job Safety Analysis

Are you an Apprentice?	Yes
Is this an Electrical task or are you using Refrigerants?	No
Job/Service Call Number	1119387
Work to be done.	CLYDE WASTE - PM May L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Long Sleeve Shirt, 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?	No
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?	No
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	Long Pants, Long Sleeve Shirt, Safety Boots/Shoes



APPENDIX B –

WEATHER DATA CALIBRATION REPORTS

(17 NOVEMBER 2017 – 24 MAY 2018)

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

16 February 2018

Sara Maddison
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Sara,

As per our service agreement, on the 14/02/18 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 14/02/18

Sensor	Actual (field)	Logger
Temperature – 10m*	22.4	22.7
2m*	22.4	22.8
Relative Humidity*	81	80.7
Wind Speed	0.5 m/s at ground	0.65 m/s at 10 metres
Wind Direction	270	270
Solar Radiation	15	10
TBRG	10mm	20 tips
Battery/Solar	34.0	

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

Note 2: ignore rainfall tips logged at approximately 0600 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. 12V battery replaced.

Clyde 14/02/18

Sensor	Actual (field)	Logger
Temperature – 10m*	28.5	27.5
2m*	28.5	28.0
Relative Humidity*	60	56
Wind Speed	2.5 m/s at ground (poor exposure at ground)	3.0 m/s at 10 metres
Wind Direction	270	270
Solar Radiation	690	590
TBRG	10mm	20 tips
Battery/Solar	13.4	

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

Note 2: ignore rainfall tips logged at approximately 0930 EST as these were testing.

Additional Items

1. All components cleaned.
2. Installation sprayed for insects.
3. 12V battery replaced.

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

Email glenmurf@ozemail.com.au

www.hydrometric.com.au

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

9 May 2018

Sara Maddison
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Sara,

As per our service agreement, on the 9/05/18 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 9/05/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	12.0	12.5
2m*	12.0	11.5(12.3 after cleaning)
Relative Humidity*	73	74
Wind Speed	0.0 m/s at ground	0.42 m/s at 10 metres
Wind Direction	200	200
Solar Radiation	170	160
TBRG	10mm	20 tips
Battery/Solar	14.7	

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

Note 2: ignore rainfall tips logged at approximately 0740 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 9/05/18](#)

Sensor	Actual (field)	Logger
Temperature – 10m*	18.0	17.3
2m*	18.0	17.1
Relative Humidity*	58	57
Wind Speed	1.5 m/s at ground (poor exposure at ground)	1.9 m/s at 10 metres
Wind Direction	280	280
Solar Radiation	340	340
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 0900 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.

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

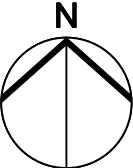
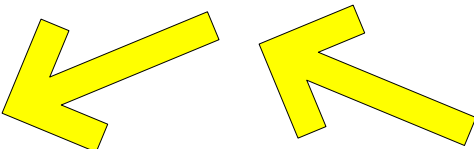
Email glenmurf@ozemail.com.au

www.hydrometric.com.au



APPENDIX C –
FIELD AMBIENT ODOUR ASSESSMENT PLOT
AND FIELD LOG SHEETS
(24 MAY 2018)



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: 24 May 2018 Survey Time Period: 1640 hrs to 1733 hrs	
	THE ODOUR UNIT PTY LTD Bay 4 Suite 3011 Australian Technology Park 2 Locomotive Street EVELEIGH, NSW 2015 Phone: (02) 9209 4420 – Fax: (02) 9209 4421 www.odourunit.com.au	DRAWN BY	M.ASSAL 10/08/2018	<u>Odour Audit XXXI</u> Field Ambient Odour Assessment Survey	Plot No. N1473-XXXI
		CHECKED	J.SCHULZ 14/08/2018		Job No. N1473L
		APPROVED	M.ASSAL 14/08/2018		
		Local wind direction 		Local wind conditions Calm (< 0.5 m/s) to light (0.5 m/s – 2 m/s), with winds oscillating between east-north-easterly and east-south-easterly wind directions. No rainfall observed. Refer to FAOA Logsheet N1473L-XXXI for details on recorded odour detections	



THE ODOUR UNIT PTY LTD

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

Field Ambient Odour Assessment Log Sheet

Date: 24 May 2018

Assessor: M. Assal

Weather Conditions: light (0.5 m/s to 2 m/s) wind speeds oscillating between the east-north-easterly & east-south-easterly wind directions.

Survey Reference Plot No: N1473L-XXXI

GRIF REF. POSITION	TIME (hrs)	WIND DIRECTION	WIND SPEED (m/s)	ODOUR PRESNT (Y/N)	ODOUR CHARACTER	VDI 3940 INTENSITY SCALE 0-6	COMMENTS
1	1640	ENE	0.5 – 2 m/s	Y	garbage	3	Intermittent detection
2	1645	ENE	0.5 – 2 m/s	Y	garbage	1	Intermittent detection
3	1655	ENE	0.5 – 2 m/s	N	--	0	--
4	1700	NE	0.5 – 2 m/s	N	--	0	--
5	1705	NE	0.5 – 2 m/s	N	--	0	--
6	1710	NE	0.5 – 2 m/s	N	--	0	--
7	1715	E/SE	0.5 – 2 m/s	N	--	0	--
8	1723	E/SE	0.5 – 2 m/s	N	--	0	--
9	1728	E/SE	0.5 – 2 m/s	N	--	0	--
10	1733	ENE	0.5 – 2 m/s	N	--	0	--



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXII

Final Report

December 2018

THE ODOUR UNIT PTY LTD

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Project Number: N1473L**Report Revision**

Revision Number	Date	Description
Draft report	23.01.2019	Issued for internal review
Final report	24.01.2019	Final report issued to 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 XXXII	

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1 INTRODUCTION

The Odour Unit Pty Ltd (**TOU**) was commissioned by Veolia (Australia) Pty Ltd (**Veolia**) to undertake the thirty-second (**XXXII**) Odour Audit at the Clyde Transfer Terminal (**the Site**) on 15 November 2018. The visit for this Odour Audit was undertaken by a TOU Consultant, James Schulz, and is the twenty-second (22nd) 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 XXXI covers the 6-month period from 4 June 2018 to 18 December 2018 (**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 XXXII 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;
- Inspection of the container packing area and site access roads;
- Inspection of the complaint register;
- Review of the on-site meteorological data log and equipment maintenance/calibration;
- Review of relevant documentation relating to odour management; and

- 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 predominately light (0.5 m/s to 2 m/s) wind speeds with the local wind direction blowing predominately from the south. The skies were partly cloudy, and the ambient temperature during the Odour Audit visit was approximately 22°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 was approximately 350 to 450 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 – Waste on-floor as found on 15 November 2018

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 C** for Field Ambient Odour Assessment Survey results). It appeared during the Odour Audit visit that both compactors were in operation. The general house-keeping around this area was observed to be of high quality, with no evidence to suggest otherwise. The condition of the compactor area as found on 15 November 2018 is shown in **Photo 2.2** and **Photo 2.3**.

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.

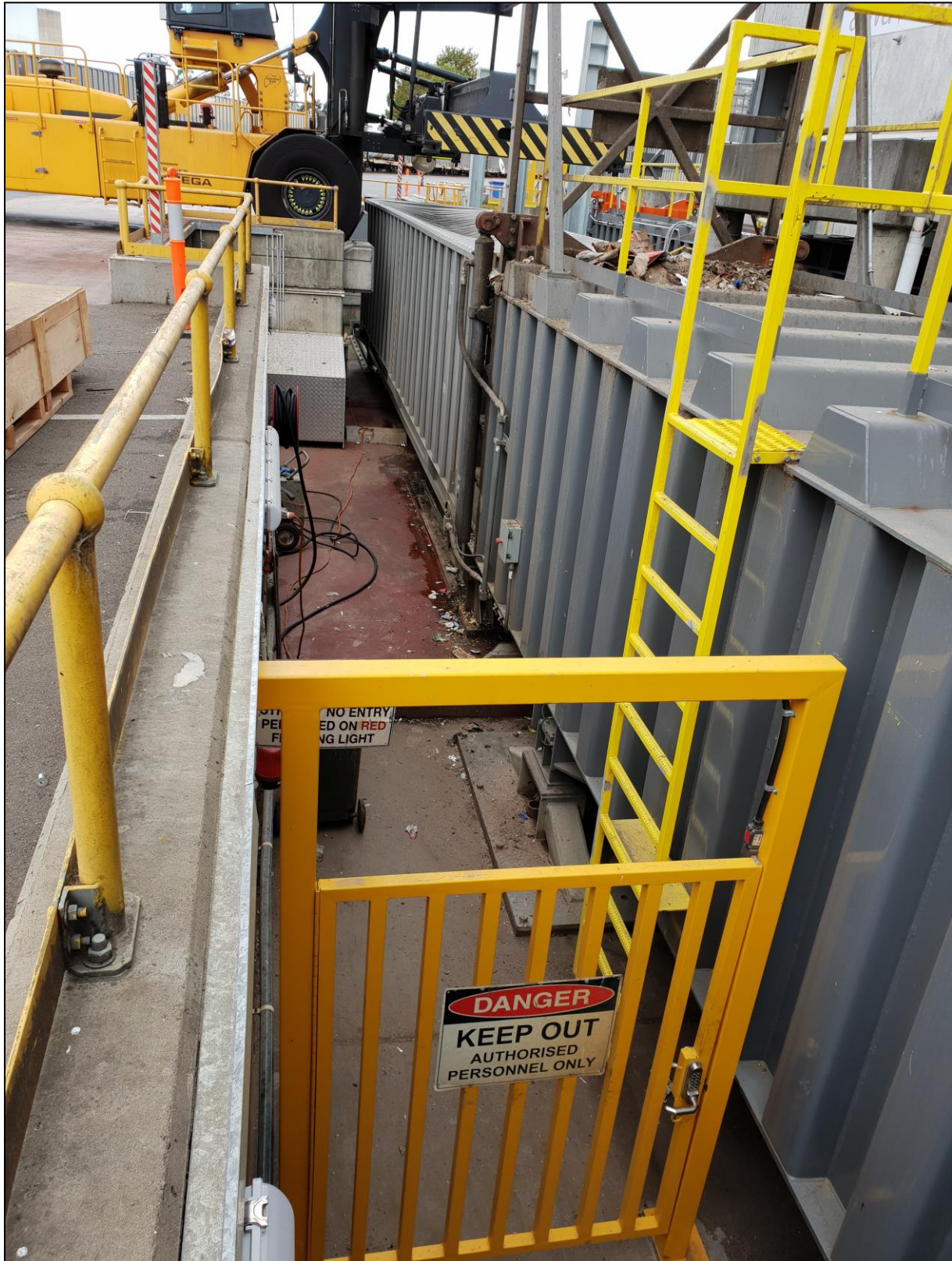


Photo 2.2 – Compactor area as found on 15 November 2018 (1 of 2)



Photo 2.3 – Compactor area as found on 15 November 2018 (2 of 2)

2.1.2.1 Container Management and Maintenance

Based on verbal discussions with the Veolia team and observations made during the Odour Audit visit, the 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 (hereafter referred to as **the February 2010 OMP**) for the Site, following the compaction of waste, all filled containers are completely 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 Audit finds that this continues to be current practice at the Site.

2.1.4 Odour Extraction System Maintenance

Service documentation for the maintenance of the odour extraction system was supplied and reviewed as part of the Odour Audit (refer **Appendix A**). Service logs were provided covering the period between 4 June 2018 and 18 December 2018.

Each service log provided to the Audit indicated that the required maintenance was taking place 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 undertaken.

The service logs indicated that the stack discharge velocity was not measured during any of the service visits conducted between 4 June 2018 and 18 December 2018. However, 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 is likely that the required 19.5 m/s discharge velocity is being achieved. Notwithstanding this, it is recommended that the stack discharge velocity is measured at least once within 6 months as part of a routine service visit for the odour extraction system. This was not completed in the previous odour audits in May 2017, November 2017 or May 2018, and should now be completed.

2.1.4.1 Outstanding odour extraction system maintenance items

The service logs indicated the following conditions that appear to be outstanding at the time of writing of the Odour Audit:

- On 5 October 2018, a section of the internal structure of the air chamber was found to be partially collapsed. It is unclear if this has been rectified; and
- The pulley on Fan 1 is worn and replacement has been recommended by the fan maintenance service provider. It is unclear if this has been completed.

2.1.5 Odour Management Procedures/Plan

The Odour Management Procedures (formerly known as the Odour Minimising Procedures) continue to be regularly reviewed at Tool Box 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 offsite. 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**).



Photo 2.4 –Truck entrance plastic strips as found on 15 November 2018

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 one of the test locations (Smoke Testing Point #2) as occurred on 15 November 2018.

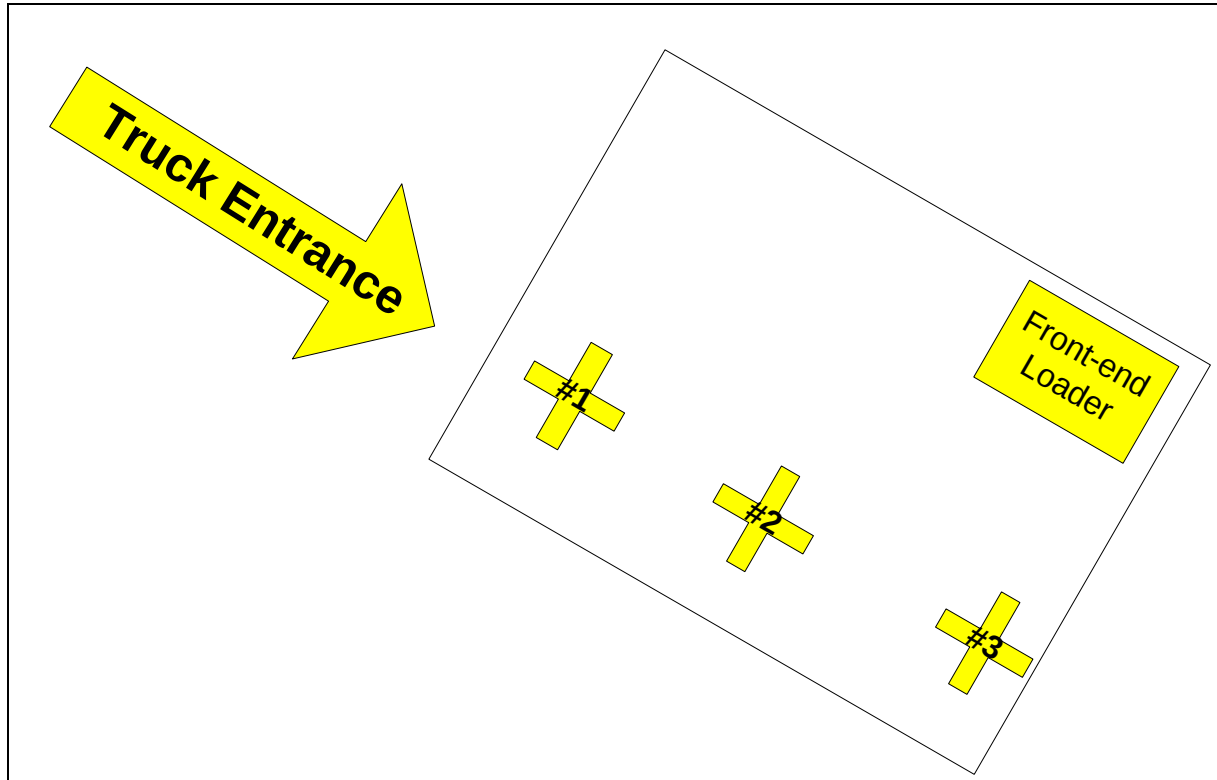


Figure 2.1 - Smoke testing release points within the TTB on 15 November 2018



Photo 2.5 – Smoke testing within the TTB on 15 November 2018

2.1.8.1 Smoke Testing Results

Smoke Testing Point #1

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.

Smoke Testing Point #2

Smoke released at this point revealed a similar result to smoke testing point #1.

Smoke Testing Point #3

Smoke released at this point revealed a similar result to smoke testing point #1.

2.1.9 Stormwater Retention Pond

The auditor observed that there was a very low level of effluent in this pond at the time of the Odour Audit visit. Notwithstanding this observation, there was no odour detectable during the Odour Audit visit that could be linked directly back to the stormwater retention pond. **Photo 2.6** and **Photo 2.7** shows the state of the pond as found on 15 November 2018.



Photo 2.6 – Stormwater retention pond as found on 15 November 2018



Photo 2.7 – Stormwater retention pond as found on 15 November 2018

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 for the period between 24 May 2018 and 15 November 2018 was inspected and found to be in good order. As found in previous Odour Audits, the observations were recorded in 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 as required. It is noted that a repair of the sensors was undertaken on 17 October 2018 by HCS.

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 15 November 2018 between 1245 hrs and 1417 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, observer may consider moving from the area
Extremely Strong	6	Odour is sufficiently over-powering that assessor moves from area

2.3.1 Field Ambient Odour Assessment - Results

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.

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

3 RECOMMENDATIONS/FOLLOW-UP ACTIONS

3.1 PREVIOUS AUDIT ACTION

The previous May 2018 odour audit documented the following audit action:

- **Previous Audit Action 1:** *The stack discharge velocity should be measured at least once within a 6-month period as part of a routine service visit.*

Status: Outstanding (see **Section 3.4**).

- **Previous Audit Action 2:** *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 offsite. 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 house-keeping 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 May 2018 odour audit are being adequately undertaken, and the odour extraction system is operating as required. However, there are a few outstanding maintenance related issues that need to be addressed as outlined in

Section 2.1.4.1, as they can have an impact on the odour extraction system performance if left unattended.

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

- **Action 1 – Complete the outstanding maintenance works as required by the fan maintenance service provider; and**
- **Action 2: The stack discharge velocity should now be measured before the next audit and 6-monthly thereafter as part of a routine service visit.**

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 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 **May 2019**.



VEOLIA (AUSTRALIA) PTY LTD

Clyde Waste Transfer Terminal

Odour Audit XXXII

Appendices

December 2018



Appendix A –

Odour Extraction System Service Report

(4 June 2018 – 18 December 2018)

Triple M - NSW - Service Docket

Record: 178751

Time Start	Tue Jul 31 2018 07:48:56 GMT+1000 (AEST)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1131429
Fault Description	CLYDE WASTE - PM July L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_ MONTHLY _Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Travel to site Check operation status on extraction system and any mechanical issues. Fan 1:Amps 75.2 56024kWh 45Hz Fan 2:Amps 77.8 5303 kWh 45Hz All running ok Fan housing requires works Pulleys require alignment fan 2
Part/Material Description(s)	
Parts, Materials?	Yes
Ancillaries	Tolls
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Ash
Forwarding Email	ash.turner@veolia.com
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	178751
Record Location	Latitude:-33.837394, Longitude:151.021673, Altitude:10.174770, Speed:0.700000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:10:04:59 am AEST
Total Hrs	0
Time Completed	2018-07-31 07:48:56

Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1131429
Work to be done.	CLYDE WASTE - PM July L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, 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?	No
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?	No
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
Is it safe for you to proceed with your job.	Yes
Technician's Signature	
Forwarding Email	ash.turner@veolia.com
PPE Title	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 178877

Time Start	Thu Aug 02 2018 08:19:12 GMT+1000 (AEST)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1131429
Fault Description	CLYDE WASTE - PM July 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 Assisted Paul with all works
Refrigerant Used?	No
Job Status	Not Comp
Job Status Comments	.
Technician's Signature	
Forwarding Email	dmaybury@triple-m.com.au
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-DYM
Technician Name	Dylan Maybury
Iforms Record ID	178877
Record Location	Latitude:-33.769736, Longitude:150.671190, Altitude:37.334988, Speed:0.000000, Horizontal Accuracy:5.000000, Vertical Accuracy:6.000000, Time:8:21:03 am AEST
Total Hrs	0
Time Completed	2018-08-02 08:19:12

Job Safety Analysis

Are you an Apprentice?	Yes
Is this an Electrical task or are you using Refrigerants?	Yes
ARE YOU BEING SUPERVISED	Yes
Job/Service Call Number	1131429
Work to be done.	CLYDE WASTE - PM July L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Long Sleeve Shirt, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	Yes
Does your work involve Mechanical works?	Yes
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?	No
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, Long Sleeve Shirt, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 185087

Time Start	Fri Oct 05 2018 09:36:49 GMT+1000 (AEST)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1138262
Fault Description	CLYDE WASTE - PM August L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Carry out pm as required Clean down louvers and lights NOTE:the air chamber has collapsed and getting worse.
Parts, Materials?	Yes
Ancillaries	Tolls
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	L
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	185087
Record Location	Latitude:-33.745367, Longitude:150.689087, Altitude:25.953457, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:12.000000, Time:9:34:25 am AEDT
Total Hrs	0
Time Completed	2018-10-05 09:36:49

Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1138262
Work to be done.	CLYDE WASTE - PM August L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, 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?	No
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?	No
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
Is it safe for you to proceed with your job.	Yes
Technician's Signature	
Forwarding Email	warren.cassidy@veolia.com
PPE Title	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes

Post Photos?

Job Number

1138262

Photo



Location Description

Indoor Location

Location Title

Indoor Location

Post Photos?

Job Number

1138262

Photo



Location Description

Indoor Location

Location Title

Indoor Location

Triple M - NSW - Service Docket

Record: 185090

Time Start	Fri Oct 05 2018 10:34:18 GMT+1000 (AEST)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1147030
Fault Description	CLYDE WASTE - PM September L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Carry out pm as required Fan 1 vee belts require attention All grease nipples to be changed and capped Fan 1-75.6 Amps 45Hz Fan 2-77.2 Amps 45Hz
Parts, Materials?	Yes
Ancillaries	Tolls
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	Adel
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	185090
Record Location	Latitude:-33.837243, Longitude:151.021868, Altitude:13.345425, Speed:0.000000, Horizontal Accuracy:5.000000, Vertical Accuracy:3.000000, Time:11:13:19 am AEST
Total Hrs	0
Time Completed	2018-10-05 10:34:18

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1147030
Work to be done.	CLYDE WASTE - PM September L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, Hearing Protection - Single, High Visibility Garments, Face/Dust mask, 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?	No
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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
Is it safe for you to proceed with your job.	Yes
Technician's Signature	
PPE Title	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, Hearing Protection - Single, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 185102

Time Start	Tue Oct 30 2018 06:31:22 GMT+1100 (AEDT)
Client Details	CLYDE WASTE
Address	322 Parramatta Rd Clyde NSW 2142
Site Contact Name	Ash Turner
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1153359
Fault Description	CLYDE WASTE - PM October L1 - MONTHLY
Asset List	EQUIP-M Whole of Site - Mech MONTHLY Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Travel Carry out monthly checks on extraction fans Found pulley on motor worn on fan 1 causing belts to slip Recommend change vee belts and pulley
Parts, Materials?	Yes
Ancillaries	Consumables, Tolls
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Forwarding Email	rod.jones@veolia.com
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	185102
Record Location	Latitude:-33.837471, Longitude:151.021841, Altitude:9.498989, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:9:29:28 am AEDT
Total Hrs	0
Time Completed	2018-10-30 06:31:22

Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1153359
Work to be done.	CLYDE WASTE - PM October L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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	
Forwarding Email	rod.jones@veolia.com
PPE Title	Gloves, Long Pants, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Electrical Test Equipment, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 187371

Time Start	Tue Oct 30 2018 08:41:08 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	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1153359
Fault Description	CLYDE WASTE - PM October 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 -Carried out maintenance as scheduled -signed out and left site
Parts, Materials?	No
Refrigerant Used?	No
Job Status	Not Comp
Job Status Comments	Refer to tradepersons docket.
Technician's Signature	
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-ZBN
Technician Name	ZACHARY JAMES BROWN
Iforms Record ID	187371
Record Location	Latitude:-33.802241, Longitude:150.881764, Altitude:73.704100, Speed:0.000000, Horizontal Accuracy:10.000000, Vertical Accuracy:4.000000, Time:10:37:14 am AEDT
Total Hrs	0
Time Completed	2018-10-30 08:41:08

Job Safety Analysis

Are you an Apprentice?	Yes
Is this an Electrical task or are you using Refrigerants?	No
Job/Service Call Number	1153359
Work to be done.	CLYDE WASTE - PM October 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?	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, Face/Dust mask, Electrical Test Equipment, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 192516

Time Start	Tue Dec 18 2018 06:35:48 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	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1153359
Fault Description	CLYDE WASTE - PM October L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_ MONTHLY _Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Wastewrong docket sent
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Client Signature	
Signature Name	.
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	192516
Record Location	Latitude:-33.837424, Longitude:151.021693, Altitude:8.767239, Speed:0.180000, Horizontal Accuracy:10.000000, Vertical Accuracy:3.000000, Time:8:27:08 am AEDT
Total Hrs	0
Time Completed	2018-12-18 06:35:48

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1153359
Work to be done.	CLYDE WASTE - PM October L1 - MONTHLY
Protective Equipment to be Used During Works	Long Pants, Long Sleeve Shirt, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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, Long Sleeve Shirt, Safety Boots/Shoes

Triple M - NSW - Service Docket

Record: 192663

Time Start	Tue Dec 18 2018 08:30:05 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	7100025017
Type of Service	Preventative Maintenance - PM
Job / Service Call Number	1158034
Fault Description	CLYDE WASTE - PM November L1 - MONTHLY
Asset List	EQUIP-M_Whole of Site - Mech_MONTHLY_Qty:1
Job Safety Analysis Completed	YES
Description of Work Done	Travel to site Carry out pm as required all working ok Pulley worn fan 1,
Refrigerant Used?	No
Job Status	Completed
Technician's Signature	
Normal Hours	0
Time and a Half	0
Double Time	0
User ID	TMS-HUD
Technician Name	PAUL HUDSON
Iforms Record ID	192663
Record Location	Latitude:-33.792133, Longitude:150.998287, Altitude:24.595882, Speed:0.470000, Horizontal Accuracy:30.000000, Vertical Accuracy:4.000000, Time:3:15:36 pm AEDT
Total Hrs	0
Time Completed	2018-12-18 08:30:05

Mobile Data Capture Report

Job Safety Analysis

Are you an Apprentice?	No
Job/Service Call Number	1158034
Work to be done.	CLYDE WASTE - PM November L1 - MONTHLY
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, Hearing Protection - Single, Face/Dust mask, 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
Will your work impact general public/vehicle control?	No
Does your task involve Electrical works?	No
Does your work involve Mechanical works?	Yes
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?	No
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	
Forwarding Email	rod.jones@veolia.com
PPE Title	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, Hearing Protection - Single, Face/Dust mask, Safety Boots/Shoes



APPENDIX B –

WEATHER DATA CALIBRATION REPORTS

(4 JUNE 2018 – 15 NOVEMBER 2018)

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

16 August 2018

Constance Georgiou
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Constance,

As per our service agreement, on the 15/08/18 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 15/08/18

Sensor	Actual (field)	Logger
Temperature – 10m*	14.3	14.5
2m*	14.3	14.2
Relative Humidity*	37	41 (36.6 after clean)
Wind Speed	1.6 m/s at ground	2.2 m/s at 10 metres
Wind Direction	352	350
Solar Radiation	250	150
TBRG	10mm	20 tips
Battery/Solar	14.5	

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

Note 2: Ignore rainfall tips logged at approximately 0815 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 15/08/18

Sensor	Actual (field)	Logger
Temperature – 10m*	25.4	30.0
2m*	25.4	25.0
Relative Humidity*	15	12.2
Wind Speed	6.0 m/s at ground (poor exposure at ground)	9.8 m/s at 10 metres
Wind Direction	270	270
Solar Radiation	580	Fluctuating 30 to 230
TBRG	10mm	20 tips
Battery/Solar	13.6	

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

Note 2: Ignore rainfall tips logged at approximately 1420 EST as these were testing.

Note 3: The solar radiation sensor is malfunctioning and needs to be replaced.

Note 4: The temperature sensor at 10 metres appears to be over-registering and probably should be replaced as it is the original sensor installed on day 1.

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

Email glenmurf@ozemail.com.au

www.hydrometric.com.au

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

17 October 2018

Constance Georgiou
Environmental Engineer
Veolia Australia and New Zealand

Re – Repair of Sensors at Clyde Weather Station

Dear Constance,

On 17 October 2018 Hydrometric Consulting Services (HCS) carried out the following work at the Clyde Weather Station:

- Supplied and installed a new Li Cor Solar radiation sensor located at the top of the mast.
- Supplied and installed a new Model 107 temperature sensor located at the top of the mast.
- Supplied and fitted new bearings in the wind direction and wind speed sensors located at the top of the mast.
- Checked the alignment of the wind direction sensor.
- Checked the accuracy and operation of all sensors and data logger.

The system is fully operational.

Should you require any further information 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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www.hydrometric.com.au

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

22 November 2018

Constance Georgiou
Environmental Engineer
Veolia Australia and New Zealand

Re – Quarterly service of weather stations

Dear Constance,

As per our service agreement, on the 20/11/18 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 20/11/18

Sensor	Actual (field)	Logger
Temperature – 10m*	28	26.1
2m*	28	27
Relative Humidity*	41	40
Wind Speed	2 m/s at ground	3.2 m/s at 10 metres
Wind Direction	24	24
Solar Radiation	1000	900
TBRG	10mm	20 tips
Battery/Solar	13.9	

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

Note 2: Ignore rainfall tips logged at approximately 1140 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 20/11/18

Sensor	Actual (field)	Logger
Temperature – 10m*	20	19.1
2m*	20	19.3
Relative Humidity*	65	64
Wind Speed	0.8 m/s at ground (poor exposure at ground)	1.1 m/s at 10 metres
Wind Direction	350	340
Solar Radiation	90	100
TBRG	10mm	21 tips
Battery/Solar	13.1	

* 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.

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



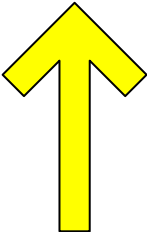
APPENDIX C –

FIELD AMBIENT ODOUR ASSESSMENT PLOT

AND FIELD LOG SHEETS

(15 NOVEMBER 2018)



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: 15 November 2018 Survey Time Period: 1245 hrs to 1417 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	M.ASSAL 23/01/2019	Odour Audit XXXII Field Ambient Odour Assessment Survey	Plot No. N1473-XXXII
			CHECKED	J.SCHULZ 23/01/2019		Job No. N1473L
			APPROVED	M.ASSAL 23/01/2019		
N 		Local wind direction 		Local wind conditions Light (0.5 m/s – 2 m/s), with winds blowing from the south. No rainfall observed.		
				Refer to FAOA Logsheet N1473L-XXXII 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: 15 November 2018

Assessor: J. Schulz

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

Survey Reference Plot No: N1473L-XXXII

GRIF REF. POSITION	MEASUREMENT TIME PERIOD (hrs)	WIND DIRECTION	WIND SPEED (m/s)	ODOUR PRESENT (Y/N)	ODOUR CHARACTER	VDI 3940 INTENSITY SCALE 0-6	COMMENTS
1	1245 - 1250	S	0.5 – 2 m/s	N	--	0	--
2	1253 – 1258	S	0.5 – 2 m/s	N	--	0	--
3	1305 – 1310	S	0.5 – 2 m/s	N	--	0	--
4	1313 – 1318	S	0.5 – 2 m/s	N	--	0	--
5	1322 – 1327	S	0.5 – 2 m/s	N	--	0	--
6	1331 – 1336	S	0.5 – 2 m/s	N	--	0	--
7	1339 - 1344	S	0.5 – 2 m/s	N	--	0	--
8	1349 – 1354	S	0.5 – 2 m/s	N	--	0	--
9	1358 – 1403	S	0.5 – 2 m/s	N	--	0	--
10	1412 - 1417	S	0.5 – 2 m/s	N	--	0	--

Appendix C3 - Noise Monitoring Data

Appendix C4 - Pest & Vermin Reports

SERVICE REPORT

24/01/2019

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

ABN 63 081 548 861

Property Detail:

Veolia Environmental Services (Australia) Pty Ltd
Clyde Transfer Terminal
322 Parramatta Road
AUBURN NSW 2144

Service Details:

A quarterly routine pest control service to internal and external areas for cockroaches, ants, spiders and rodents.

Inspected and treated internal areas, kitchen, staff rooms and toilets by using Goliath cockroach gel and Cislin 25 spray.

Inspected and treated external areas, shed area and pit area by using Roban rodent bait and Cislin 25 spray.

Spider and ant activity found in external area and treated by using Cislin 25 spray.

ONSITE SERVICE REPORT

Date: 24/1/19

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

Fax: (02) 9715 5370

ABN 63 081 548 861

An invoice will be sent for payment within 7 days of this service.

Property Detail:

Clyde Transfer Terminal
322 Pennant Hills rd.
Anytown

Service Provided:

To all areas

SERVICE REPORT:

Inspected and treated shed area,
pit & external areas by using Cishin 25
spray & Roban rodent bait. Treated kitchen
staff room & toilets by using Gelibath
Codroch gel & Cishin 25 spray.
spider & ants activity found at
external areas, treated by using
Cishin 25 spray.

[Signature]
Customer Signature

[Signature]
Serviceman Signature

EXPERT JUDGEMENT PEST MANAGEMENT PTY LTD

PESTICIDES APPLICATION RECORD SHEET

Owner's name:

Clyde Trussford Terwind

Owner's address:

322 Garna-athg rd.

Owner's contact details:

Auburn

Date, start and finish times	Operator details.	Type of equipment used.	Name of pesticides used.	Amount of concentrated product used.	Total quantity applied.	Estimated wind speed.
24/1/19	Fady	Sprayer	Cybin 25	50/5.2	3.2	0
12:15 p-			Golvath Cockroach gel		10g	0
1:50 p-			Roban roach bait		500g	0

Speed:

SERVICE REPORT

26/10/2018

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

Fax: (02) 9715 5370

ABN 63 081 548 861

Property Detail:

Veolia Environmental Services (Australia) Pty Ltd
Clyde Transfer Terminal
322 Parramatta Road
AUBURN NSW 2144

Service Details:

A quarterly routine pest control service to internal and external areas for cockroaches, ants, spiders and rodents.

Inspected and treated internal areas, kitchen, staff rooms and toilets by using Goliath cockroach gel.

Inspected and treated external area, shed area and pit area by using Roban rodent bait.

Light rodent activity found in shed area and treated by using Roban rodent bait.

Light spider activity found in external area and treated by using Cislin 25 spray.

SERVICE REPORT

Date:

26/10/18

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

Fax: (02) 9715 5370

ABN 63 081 548 861

An invoice will be sent for payment within 7 days of this service.

Property Detail:

Clyde Transfer Terminal
322 Pannacatta rd.
Auburn

Service Provided:

Quarterly pest control
Service

SERVICE REPORT:

Inspected and treated all areas
as required

Light rodent activity in shed area
light spider activity at external areas

Customer Signature

Serviceman Signature

SERVICE REPORT

20/07/2018

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

Fax: (02) 9715 5370

ABN 63 081 548 861

Property Detail:

Veolia Environmental Services (Australia) Pty Ltd
Clyde Transfer Terminal
322 Parramatta Road
AUBURN NSW 2144

Service Details:

A quarterly routine pest control service to internal and external areas for cockroaches, ants, spiders and rodents.

Inspected and treated internal areas, kitchen, staff rooms and toilets by using Goliath cockroach gel.

Inspected and treated external area, shed area and pit area by using Roban rodent bait.

Light Rodent activity found in shed area and treated by using Rodent rodent bait.

SERVICE REPORT

Date: 20/7/18

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

Fax: (02) 9715 5370

ABN 63 081 548 861

An invoice will be sent for payment within 7 days of this service.

Property Detail:

Slide Transfer Terminal
322 Fanna-atta rd.
Auburn

Service Provided:

To all areas

SERVICE REPORT:

Inspected and treated staff rooms
kitchen & toilets by using Gelbath
Codrinach gel. Treated shed area, Pitt
area & internal areas by using Roban
rodent bait.
Light Rodent activity found at shed
area, treated by using Roban
rodent bait

f S Benkh

Customer Signature

[Signature]

Serviceman Signature

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PESTICIDES APPLICATION RECORD SHEET

Owner's name:

Slyde Transfer Terminal

Owner's address:

322 Ferrea - Alta rd.

Owner's contact details:

Audrey

Date, start and finish times	Operator details.	Type of equipment used.	Name of pesticides used.	Amount of concentrated product used.	Total quantity applied.	Estimated wind speed.
20/7/18	Fady		Roban rodent bait		400g	0
1:40 p -			Goliatu cockroach gel		5g	0
3:00 p -						
						Speed:

SERVICE REPORT

Date: 30/4/18

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

Fax: (02) 9715 5370

ABN 63 081 548 861

An invoice will be sent for payment within 7 days of this service.

Property Detail:

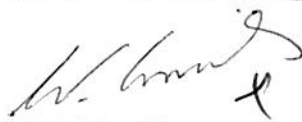
Clyde transfer terminal
322 Panna-atta rd.
Auburn

Service Provided:

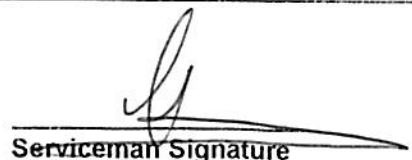
To office, staff room
external areas

SERVICE REPORT:

Treated internal areas, kitchen &
laundry by using Gelicath Cockroach gel
Treated shed & pit area by using
Roban rodent bait. Treated external
areas by using Gelicath 25 spray &
Roban rodent bait.



Customer Signature



Serviceman Signature