

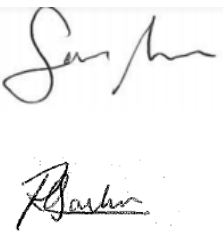



Annual Environmental Management Report - Banksmeadow Transfer Terminal 2020 - 2021



Name of operation	Banksmeadow Transfer Terminal
Name of operator	Veolia Environmental Services (Australia) Pty Ltd
Development consent / project approval #	SSD 5585
Name of holder of development consent / project approval	Veolia Environmental Services (Australia) Pty Ltd
Mining lease #	N/A
Name of holder of mining lease	N/A
Water licence #	N/A
Name of holder of the water licence	N/A
MOP/RMP start date	N/A
MOP/RMP end date	N/A
Annual Review start date	29th of April 2020
Annual Review end date	28th of April 2021
<p>I, Mary Wong, certify that this audit report is a true and accurate record of the compliance status of Banksmeadow Transfer Terminal for the period 2020-2021 and that I am authorised to make this statement on behalf of Veolia.</p> <p><i>Note:</i></p> <p>a) The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</p> <p>b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).</p>	
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Title of authorised reporting officer	Graduate Environmental Engineer
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Executive Summary

This Annual Environmental Management Report (AEMR) 2020 - 2021 is the 6th report prepared to detail the environmental performance of the Banksmeadow Transfer Terminal (the Terminal), owned and operated by Veolia Australia and New Zealand (Veolia). This AEMR covers the period of 29 April 2020 to 28 April 2021 (2020 - 2021 reporting period).

Veolia has prepared this AEMR in accordance with Schedule 4, Condition 8 of the State Significant Development Consent (SSD) 5585 (the Consent) for the Terminal, as well as relevant legislative requirements and industry best practices.

This AEMR provides a summary of environmental monitoring conducted at the Terminal, if any non-compliances or other findings have been identified against the Consent during the 2020-2021 reporting period, and the corrective actions assigned.

No non-compliances were identified against the Conditions of Consent (Consent Conditions) during this reporting period. Further details are provided in Section 3 of this AEMR.

Section 1 - Introduction

1.1 Site Background

The Terminal is located at 14 Beauchamp Road and 34-36 McPherson Street, Banksmeadow and is identified as Lots: A & B, DP 366725 and Lot 1, DP 435497 owned by Keith Engineering (34-36 McPherson Street); and part of Lot 2, DP 100686 (14 Beauchamp Road) owned by Asciano (Pacific National). A site layout and location plan is provided in **Appendix A**.

The Terminal was granted approval under Section 89E of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 28 April 2015 as a SSD, and is approved under the Consent to receive up to 500,000 tonnes per annum (TPA) of waste from the Sydney Metropolitan Area.

The Terminal commenced operations in September 2016, accepting putrescible waste from the Sydney Metropolitan Area, which is containerised and loaded onto rail wagons for transportation to the Woodlawn Eco Precinct (owned and operated by Veolia) in the Southern Tablelands (approximately 250 kilometres southwest of Sydney) for treatment, recycling and energy recovery. During this reporting period, the Terminal received a total of 292,297 tonnes per annum (TPA) of General Solid Waste (Putrescible) and General Solid Waste (Non Putrescible) as classified in the *Waste Classification Guidelines Part 1: Classifying Waste* (NSW Environment Protection Authority, November 2015). This equated to approximately 136 waste collection truck movements per day.

1.2 Legislative Requirements

The key legislative requirements governing the environmental performance and activities undertaken at the Terminal include the *EP&A Act*, regulated by the NSW Department of Planning, Industry and Environment (DPIE), and the *Protection of the Environment Operations Act 1997* (POEO Act) regulated by the NSW Environment Protection Authority (EPA), as well as their respective associated regulations.

Consent Conditions stipulate the requirements that need to be addressed to maintain compliance at the Terminal as detailed in **Appendix B**. This AEMR has been prepared in accordance with the requirements of Schedule 4, Condition 8, as shown in Table 1.1.

In addition to the Consent, the Terminal also operates under the requirement of Environment Protection Licence (EPL) 20581, issued by the EPA under the POEO Act.

Table 1.1 - Consent Condition for the preparation of the AEMR

Relevant Condition	Requirement
SCHEDULE 4 - ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING	
Annual Review	
8	<p>Within one (1) year of the date of this consent, and every year thereafter, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:</p> <ul style="list-style-type: none"> (a) Describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; (b) Include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against; <ul style="list-style-type: none"> • The relevant statutory requirements, limits or performance measures/criteria • The monitoring results of previous years; and • The relevant predictions in the EIS; (c) Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; (d) Identify any trends in the monitoring data over the life of the development (e) Identify any discrepancies between predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (f) Describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.

1.3 Responsibilities

- Environmental monitoring during the operational stage of the Terminal was undertaken and/or supervised by Sydney Resource Recovery Facilities technical support personnel - Mary Wong (Graduate Environmental Engineer) and Sara Maddison (Operations Project Manager).
- Analyses of samples were performed at a NATA accredited laboratory, Australian Laboratory Services PTY LTD (ALS).
- The Odour Unit PTY LTD (TOU) was appointed to conduct odour audits for the Terminal.

Section 2 - Environmental Monitoring & Management

2.1 Terminal Monitoring Requirements

The following sections detail the monitoring undertaken throughout the reporting period in accordance with the Environmental Monitoring Program as detailed within the *Operational Environmental Management Plan* (OEMP, 2016) for the Terminal.

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 conducted at the Terminal as per the Environmental Monitoring Program.

Table 2.1 - Operational Monitoring Requirements

Reference	Type of Monitoring	Frequency	Commentary
Schedule 3 Conditions 36, 38, 40, 41	Meteorological Monitoring	Continuous	Ongoing basis
Air Quality Management Plan (AQMP)	Meteorological Monitoring - Wind	Continuous	Ongoing basis
Schedule 3 Condition 36	Visual Dust Monitoring	Daily or as required	Ongoing basis
AQMP	Odour - Site Inspections	Daily or as required	Ongoing basis
Schedule 3 Condition 34	Odour Audits	Six monthly	Audits completed on: 1 October 2020 14 May 2021
Soil, Water and Leachate	Stormwater Discharge Monitoring	Daily during any discharge	Ongoing

Management Plan (SWLMP)			
Schedule 3 Condition 10	Groundwater Monitoring	Six monthly	Monitoring completed on: 04 November 2020 30 April 2021
Schedule 3 Condition 10	Leachate Monitoring	As required	Leachate monitoring is to ensure requirements of the disposal facility are met. Not triggered as it was not required by the disposal facility
Schedule 3 Condition 27	Waste Volume Monitoring	Daily	Ongoing basis
Schedule 3 Condition 27	Traffic Monitoring (Traffic flow and congestions)	As required	Ongoing basis
Schedule 3 Condition 27	Traffic Spot Monitoring (On-site truck routes and driver management)	Weekly	Ongoing basis
Schedule 3 Condition 38	Visual Site Inspection and Housekeeping	Weekly	Ongoing basis
Schedule 3 Condition 21	Pest and Vermin Inspections and Placement of bait stations	Quarterly	Ongoing basis

2.1.1 Meteorology

Monitoring meteorological data during this reporting period provided an understanding of the ambient air (such as dust and odour) and rainfall conditions at the Terminal, which was utilised to manage environmental performance, as well as investigate potential impact to nearby sensitive receivers.

Meteorological data is downloaded from the public weather station situated at the Bureau of Meteorology (BoM) Sydney Airport site (Station ID:066037), provided in 30-minute intervals. During this reporting period, meteorological conditions such as wind speed, wind direction and rainfall were monitored on an ongoing basis and/or when any odour complaints were received.

A summary of daily wind speeds and wind directions at 9AM and 3PM at the nearby BoM weather station is presented in Figures 2.1 and 2.2.

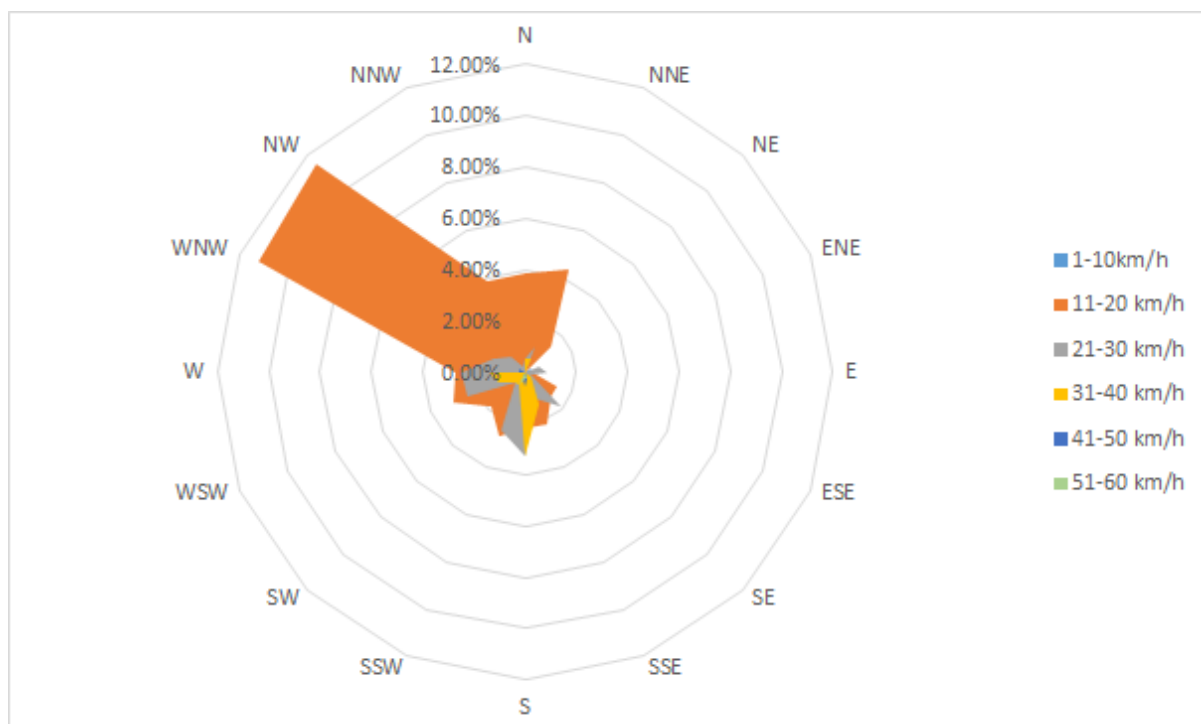


Figure 2.1 - Wind direction and speed data by percentage for 9AM this reporting period

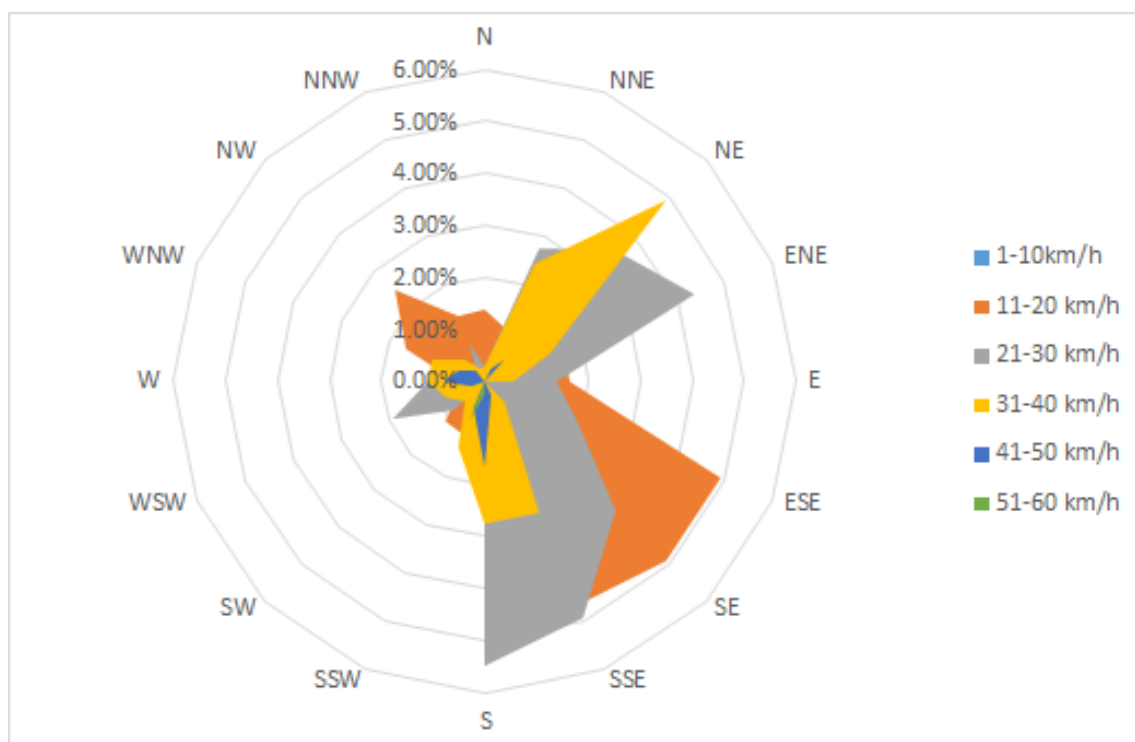


Figure 2.2 - Wind direction and speed data by percentage for 3PM this reporting period

During this reporting period, between 9AM and 3PM the prevailing wind directions were Northwestly and Southerly. Wind speeds at 9AM were most frequent (approximately 11.5%) within the 11-20 km/hr range, whereas wind speeds at 3PM were most frequent (approximately 5.5%) within the 21-30 km/hr range.

Wind speed and wind direction data was used to investigate and respond to odour complaints in this reporting period (refer to Section 2.8) by determining the source and spread of potential odours travelling off-site, if generated from the Terminal.

Ongoing rainfall data was monitored to supplement stormwater system operation and collection of samples from the discharge point, as well as for general housekeeping management such as inspection and maintenance for stormwater pits. This is to ensure the operation of the Terminal is not causing any off-site impacts.

A summary of rainfall data at the Terminal during the reporting period is presented in Figure 2.3 Overall, the average rainfall for the Terminal during the reporting was approximately 88.6 mm per month.

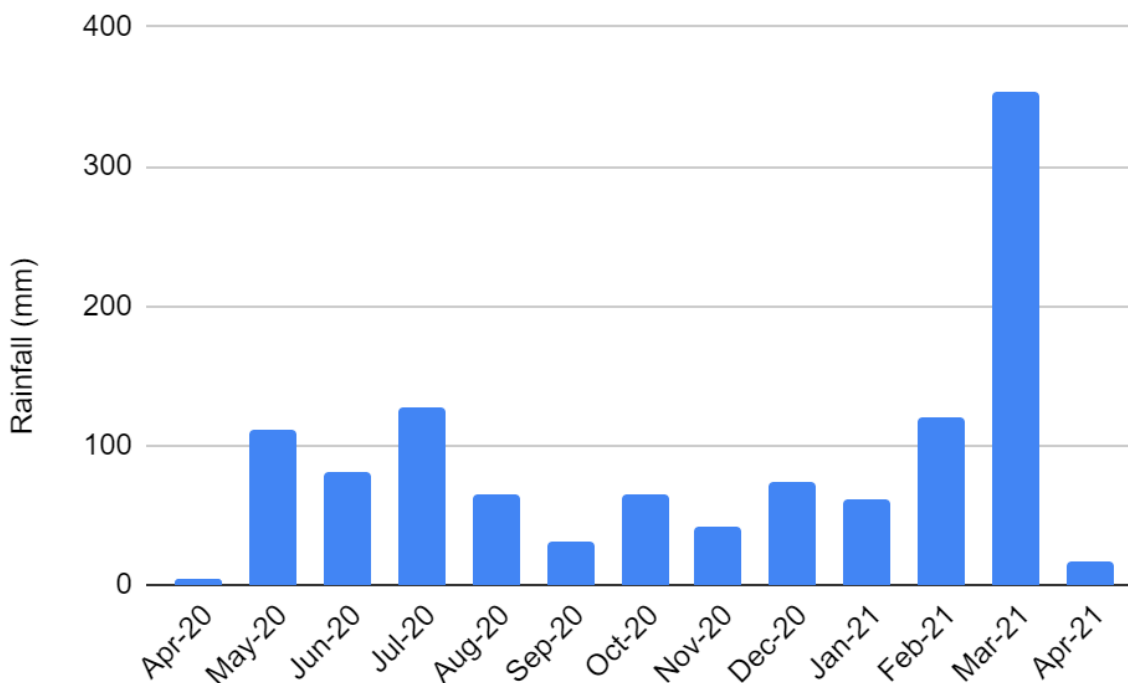


Figure 2.3 - Monthly rainfall data during the reporting period 2020/2021

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

Potential dust impacts arising from operations at the Terminal were assessed against the EPA air quality dust emissions criteria which were identified in the *Banksmeadow Transfer Terminal Environmental Impact Statement* (EIS) prepared by Hyder Consulting Environmental (Hyder, 2014).

The EIS concluded that the key potential impact from dust associated with operations at the Terminal would likely be due to the emissions of small diameter particulate matter (PM10). Despite this, the EIS found that there would be negligible impact of PM10 particulates (i.e dust) at any off-site receivers, provided that reasonable dust controls are implemented.

To facilitate this, the Terminal operates a dust suppression system within the transfer building to minimise the emissions of dust. Dust is also controlled through the operation of a street sweeper on hardstand areas around the site. In addition, visual inspections of dust generating activities at the Terminal are also carried out on a regular basis, augmented by monitoring of weather conditions.

No dust complaints or issues noted in this reporting period.

Long Term Trends

- This result is consistent with findings in previous years
- Dust emissions continue to be adequately managed on-site and off-site, no impacts have been detected since the commencement of operations in 2016

2.2.2 Odour

The potential for odour emissions from the Terminal were also assessed in the EIS (Hyder, 2014). Results of the EIS indicated that when the implemented odour mitigation and management measures were in operation, odour emissions from the Terminal's operation would be below the odour emission criteria presented in Table 2.2. It was also found that odour impacts would likely not exceed these levels at any residential receptor.

Table 2.2 - Odour Emission Criteria

Pollutant	Receptor	Criterion
Odour	Residential Receptors	2 Odour Units

To achieve the odour emission criteria, the Terminal operates an air extraction system within the terminal 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.

Routine odour monitoring is carried out in the form of weekly odour assessments along the Terminal's site boundaries which are conducted by on-site personnel, the results of which are recorded on weekly housekeeping checklists.

During this reporting period, three (3) odour investigations/audits were completed in relation to the Terminal by TOU, refer to **Appendix C** for odour reports:

1. Banksmeadow Waste Transfer Terminal Facility Odour Audit October 2020
2. Banksmeadow Waste Transfer Terminal Facility Odour Screening session April 2021
3. Banksmeadow Waste Transfer Terminal Facility Odour Audit May 2021

Odour Screening Session

A formal odour complaint was received by the Terminal in late March 2021. In response, the BTT Facility engaged TOU to conduct an odour screening session with the complainant, in April 2021. The intent of the odour screening session was to facilitate the identification of the prevalent odour type responsible for the recent complaints. The key outcomes of the screening session were as follows:

- Most of the participants indicated Sample 5 (rotten egg) was the odour detected at their workplace
- Most of the participants indicated Sample 4 (odour collected from BTT stack) detected this odour at their workplace on previous occasions but was not the prevalent odour detected in recent times.

Based on the outcomes and consideration of the recent odour audit findings for the BTT facility, TOU indicated that the source of the odour complaints logged by IXOM was not likely related to the activities at the BTT Facility. For more details of this session, please refer to the odour screening session report in **Appendix C**.

Odour Audits

TOU's odour audit reports found the roof discharge stack to be operating at a favourable odour performance level. The Terminal continues to implement an active service and maintenance program for waste containers and continues to follow odour mitigation and management practices.

Localised odour within the Terminal detected during the Field Ambient Odour Assessment survey is not expected to be problematic at nearby, off-site downwind locations. This is consistent with the near absence of odour complaints since the previous reporting period.

Based on the positive results and findings documented in the recent odour audit reports, TOU is of the view that the Terminal is operating in a manner that is very unlikely to adversely impact the local amenity from an odour viewpoint under the current operating and maintenance practices.

Long Term Trends

The odour performance of the Terminal remains consistent to the previous reporting period.

- Results of odour sampling collected during this reporting period indicate the odour emission rate remains consistent to the results from the previous reporting period.
- Smoke testing results conducted throughout this reporting period have consistently indicated that there are no other potential fugitive emission release pathways from the waste shed area, apart from the entrance doorway.
- The number of complaints received at the Terminal has reduced significantly from previous years and remains consistent with the last reporting period. This positive result further validates the effectiveness of the current operating and maintenance practices at the Terminal.

2.3 Water Monitoring

2.3.1 Groundwater Monitoring

Following the commencement of the Terminal's operations, the groundwater quality was tested in April 2017. These results are referred to as baseline levels which are provided in Table 2.3. In accordance with the Consent, biannual groundwater monitoring is conducted to assess potential impacts of operations on the groundwater quality.

Table 2.3 - Groundwater Monitoring Program

Monitoring Locations	Parameters	Range of Baseline levels	Frequency	Sampling Method
GW1, GW2, GW3	Electrical Conductivity (EC)	578 - 1150 μ S/cm	Six monthly	Grab sample
	pH	7.27 - 7.31pH		
	Total Dissolved Solids (TDS)	424 - 800 mg/L		
	Nitrogen (Ammonia)	0.33 - 1.37 mg/L		
	Biochemical Oxygen Demand (BOD)	<2 - 8 mg/L		
	Water Levels (Depth to Water & Depth to Base)	Metres (m)		

Groundwater monitoring was conducted at three wells (GW1, GW2, GW3) in November 2020 and April 2021, this data was compared to baseline levels from GW1, GW2, and GW3, please refer to Figures 2.4-2.9 below for monitoring results.

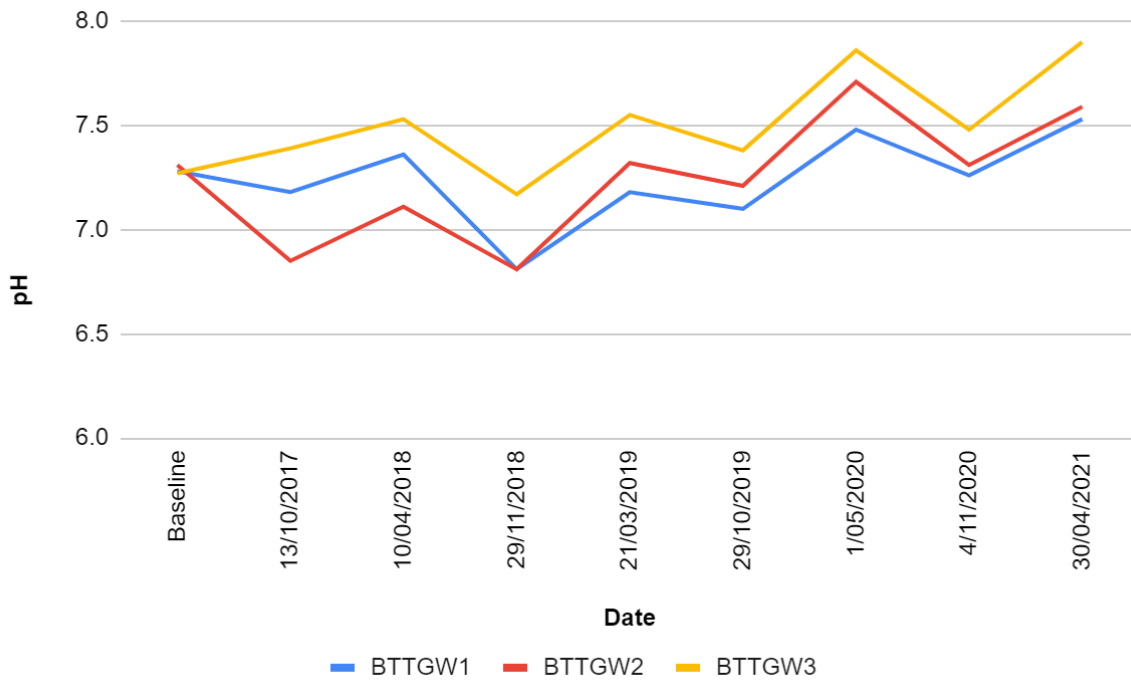


Figure 2.4 - pH trends in groundwater

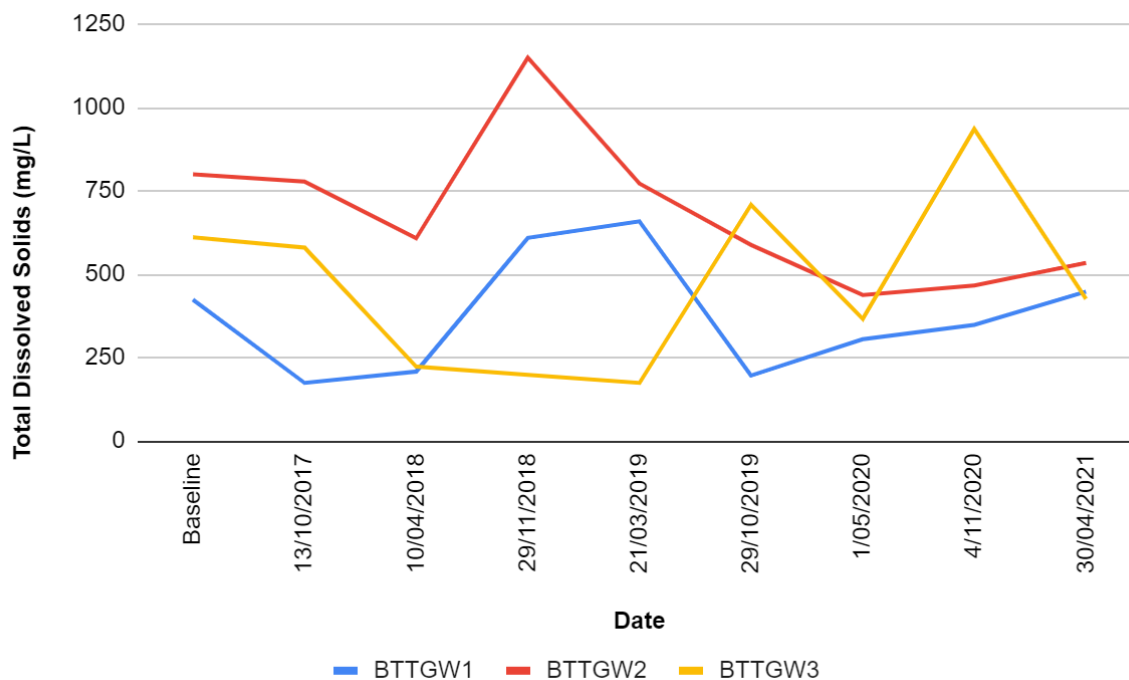


Figure 2.5 - Total Dissolved Solids trends in groundwater

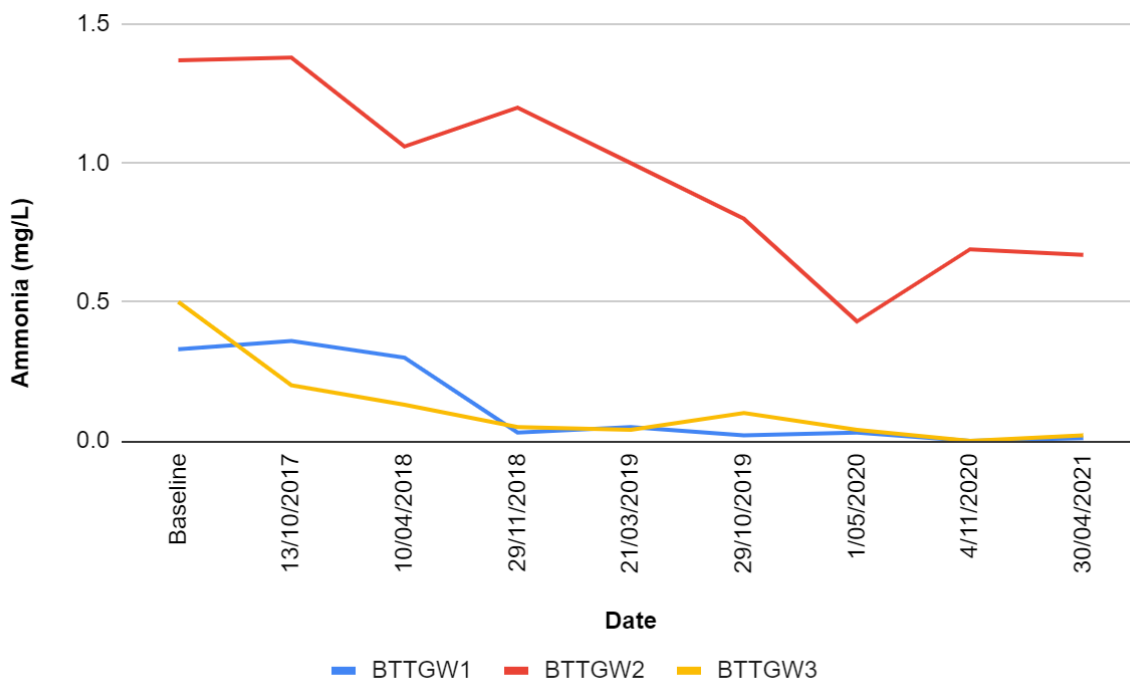


Figure 2.6 - Ammonia trends in groundwater

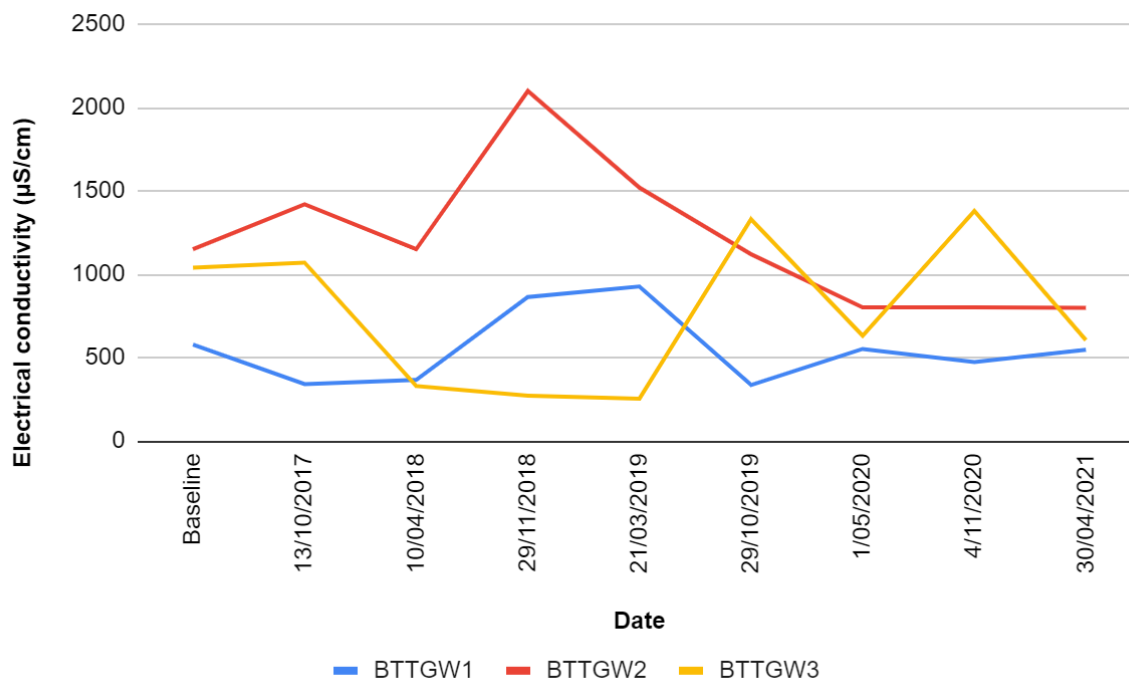


Figure 2.7 - Electrical Conductivity trends in groundwater

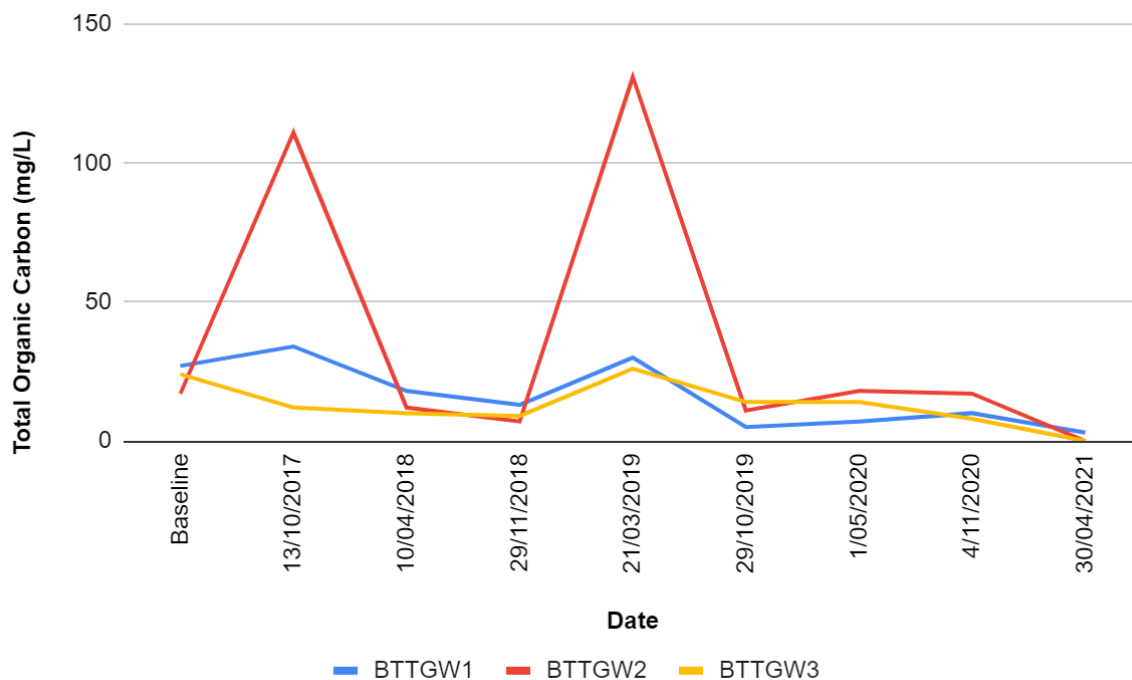


Figure 2.8 -Total Organic Carbon trends in groundwater

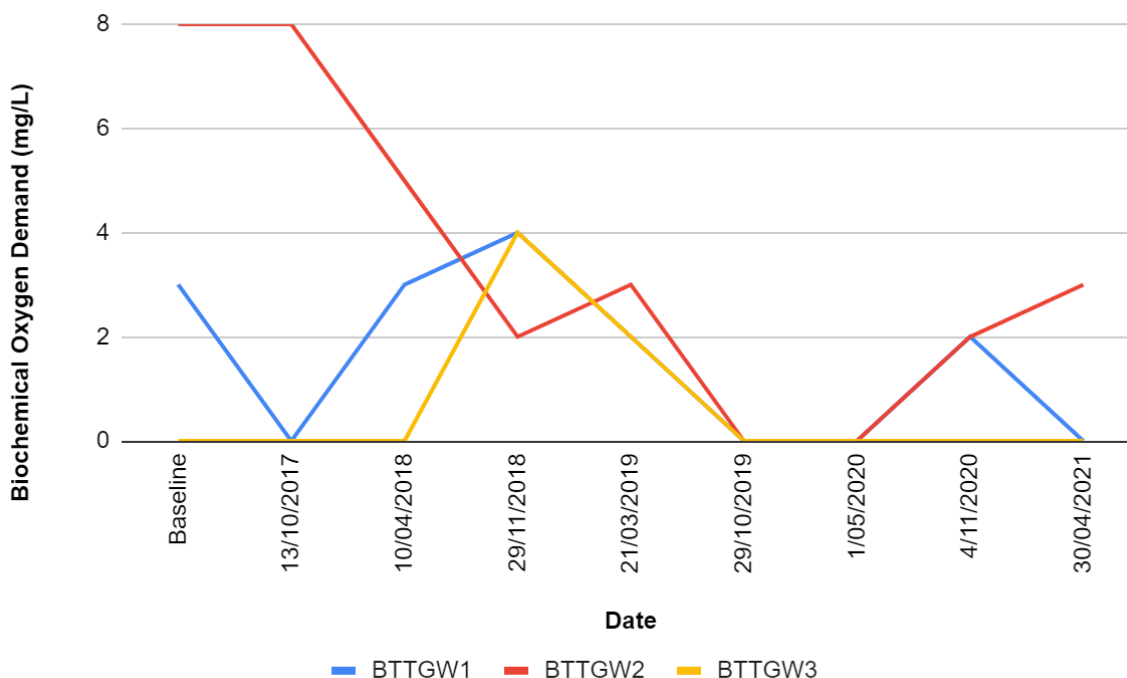


Figure 2.9 -Biochemical Oxygen Demand trends in groundwater

Groundwater levels were between 1.19 m and 2.58 m (depth to water) indicative of the shallow water table at the site. Ammonia and BOD concentrations were relatively low and within baseline levels in all wells this reporting period and ranged between <2 to 0.69 mg/L and < 2 to 3 mg/L, respectively.

pH in all three wells (GW1, GW2, GW3) have slightly increased above baseline levels but will continue to be monitored in the next reporting period. Alkaline pH levels are not consistent with leachate quality tested onsite (pH= 4-5), therefore this trend does not indicate the migration of leachate on site.

In GW1, GW2 and GW3, the majority of the parameters (TDS, ammonia, EC, TOC and BOD) have remained consistent and remained below baseline levels. Within GW2, BOD and ammonia increased slightly but remained below baseline levels this reporting period.

Groundwater results indicate that there have been no on-site impacts from site operations, which indicates that ongoing housekeeping and maintenance of the Terminal are effective.

Long Term Trends

- Groundwater quality in GW1, GW2 and GW3 wells remains fairly consistent with historical trends and baseline levels.

Groundwater results are made publicly available and can be accessed via Veolia's website in the following link: https://www.veolia.com/anz/media/media/reports?publication_type=36

2.3.2 Surface Water Monitoring

Stormwater discharge monitoring is conducted at the Terminal to monitor the effectiveness of all environmental measures to manage stormwater quality and infrastructure on-site. Stormwater monitoring is also undertaken to assess the performance of the on-site stormwater treatment system and whether stormwater flowing off-site could be contaminated as a result of operations at the Terminal.

The results of stormwater monitoring are assessed against discharge limits stipulated within the EPL 20581 which are described in Table 2.4 below.

Table 2.4 - Stormwater Discharge Limits

Parameter	Concentration Limit (100 percentile limit)	Frequency	Sampling method
pH	6-8.5 units	Daily, during any discharge event	Grab sample
TSS (Total Suspended Solids)	50 mg/L		
Ammonia as N	1 mg/L		
BOD (Biochemical Oxygen Demand)	10 mg/L		
Oil & Grease	10 mg/L		

There were a number of rainfall events during the reporting period, which triggered the requirement to conduct stormwater monitoring. Figures 2.10-2.14

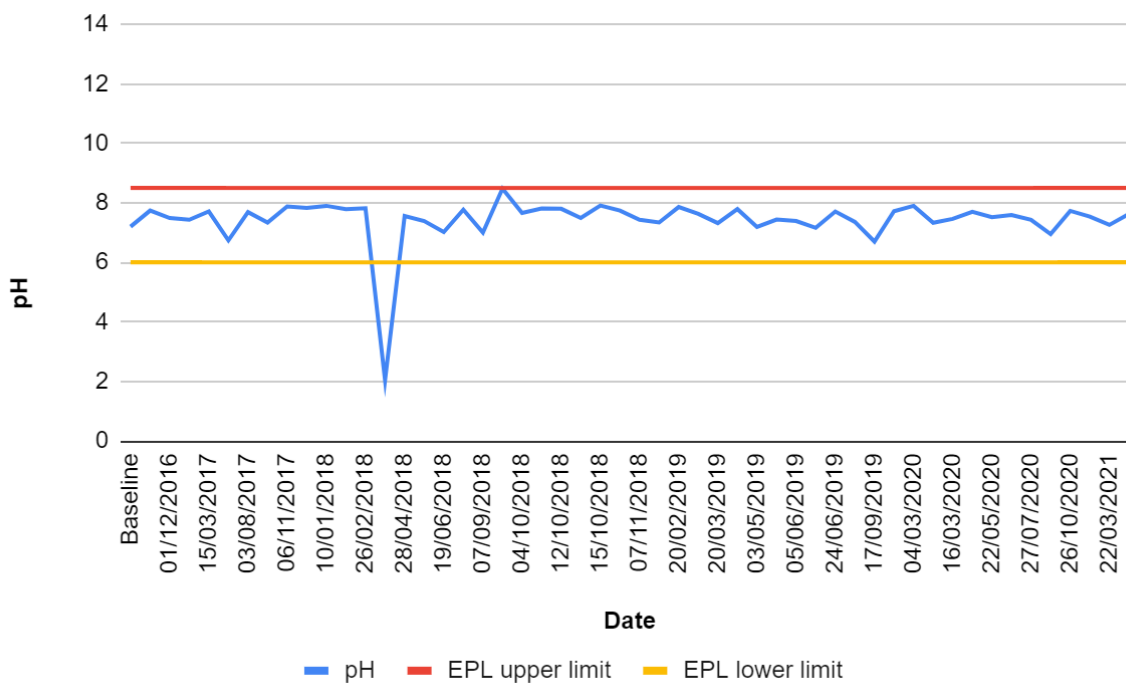


Figure 2.10 -pH trends in stormwater discharge

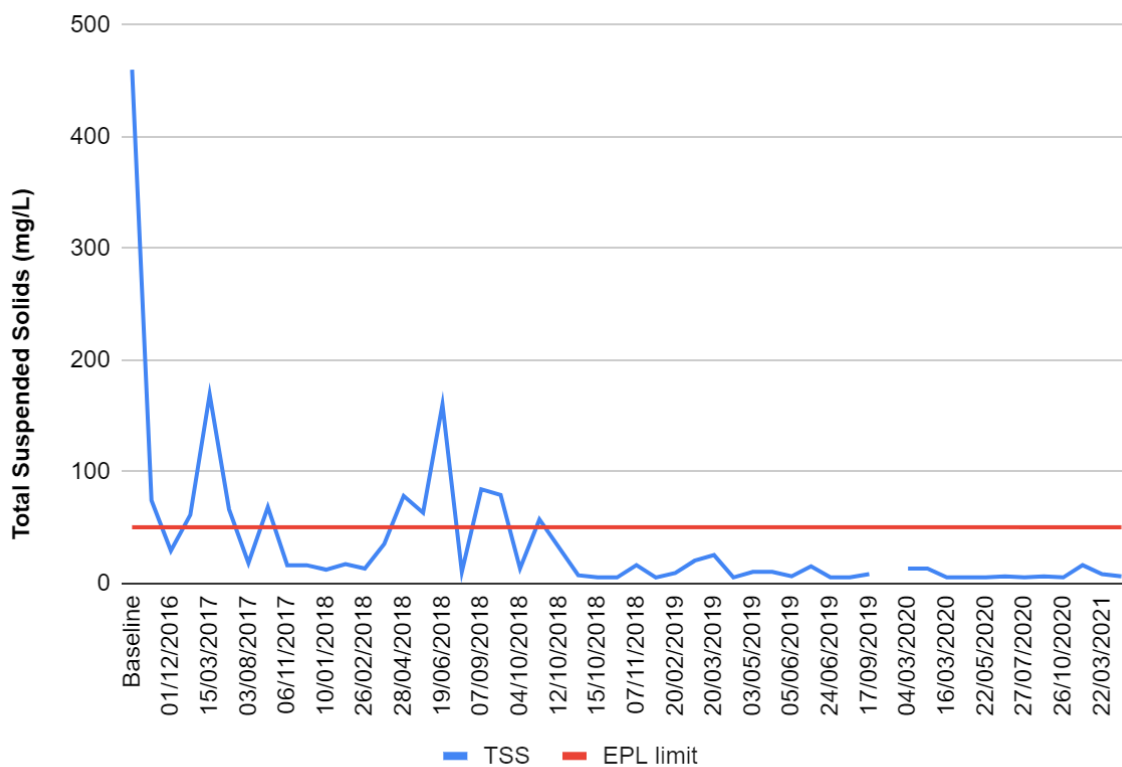


Figure 2.11 -TSS trends in stormwater discharge

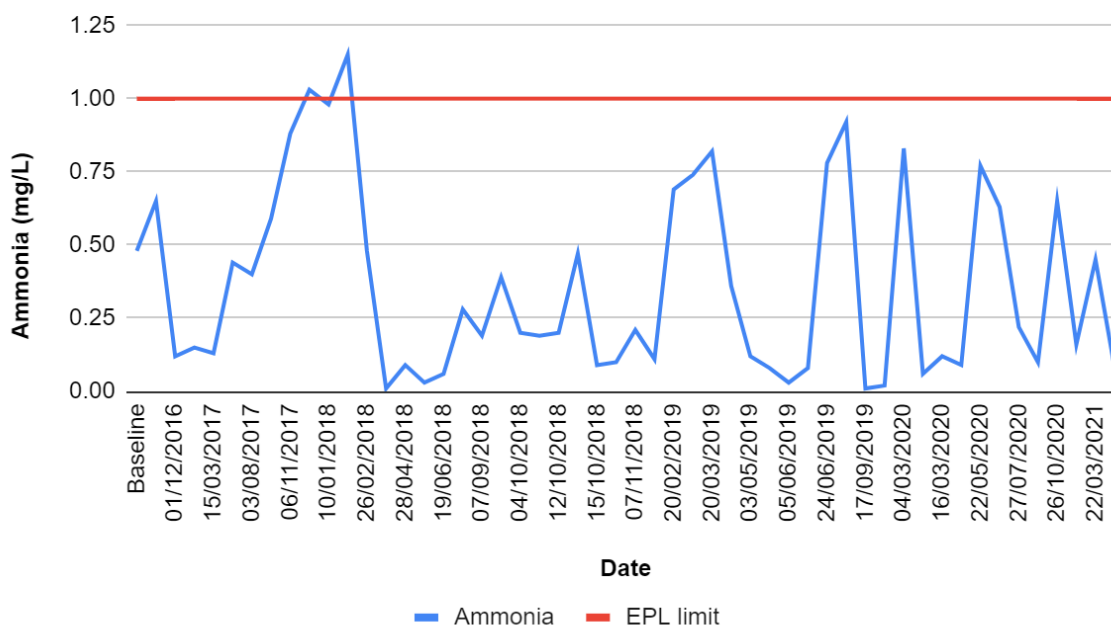


Figure 2.12 - Ammonia trends in stormwater discharge

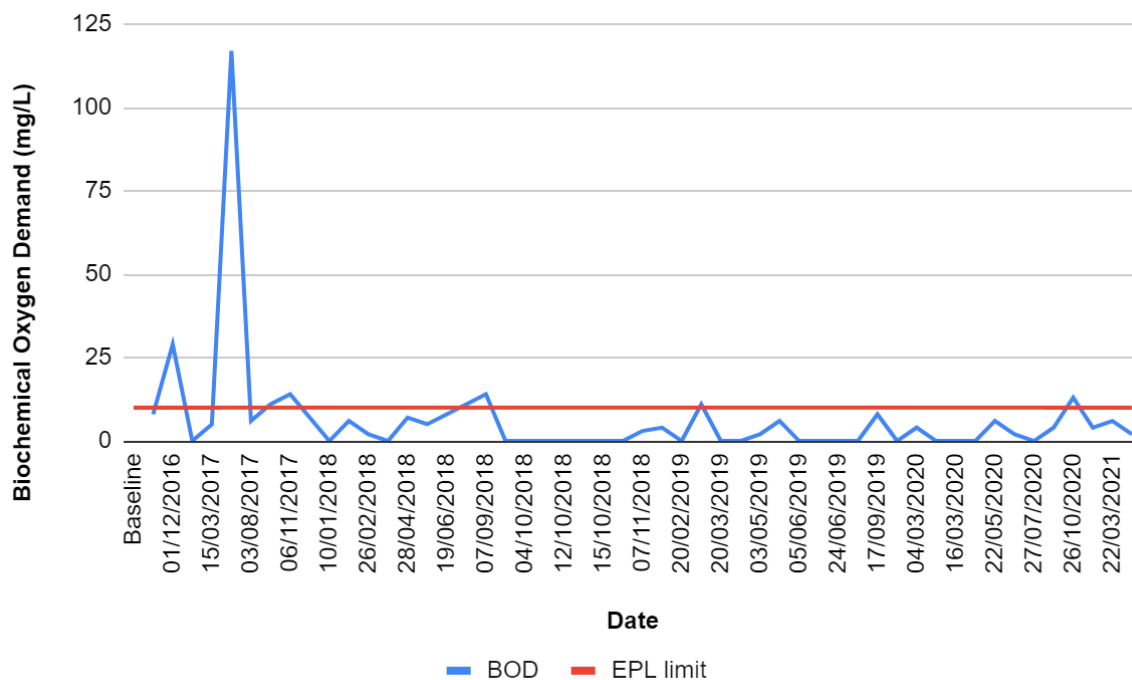


Figure 2.13 - BOD trends in stormwater discharge

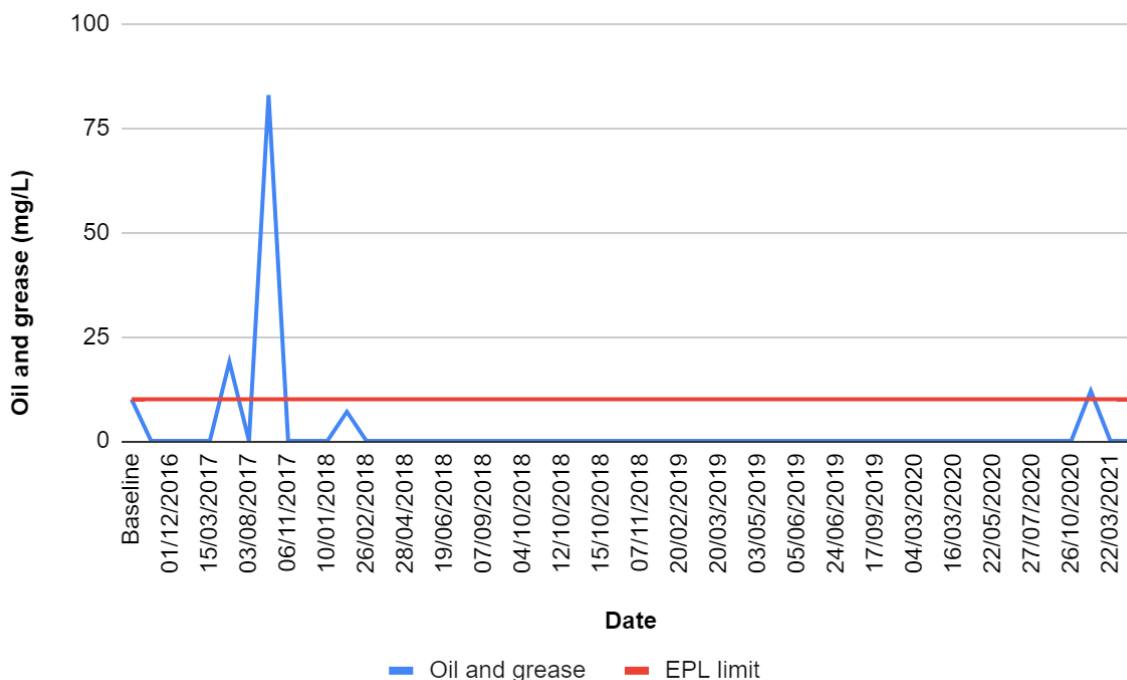


Figure 2.14 - Oils & Grease trends in stormwater discharge

During this reporting period, the stormwater discharge quality exceeded the concentration limits as stipulated in the EPL 20581 on two occasions. In October 2020, BOD slightly exceeded the 10 mg/L limit by 3 mg/L and in March 2021, oil and grease slightly exceeded the same limit by 2 mg/L.

Stormwater results indicate that further investigation to identify the cause of the exceedances need to be undertaken, and will be reported in the next AEMR.

Long Term Trends

- In 2018, following the recommencement of sampling from EPL Monitoring Point 1 after rectification works were completed in the discharge pit, stormwater quality results have significantly improved in all parameters (pH, BOD, ammonia, oils and grease and TSS).

Surface water results are made publicly available and can be accessed via Veolia's website in the following link: https://www.veolia.com/anz/media/media/reports?publication_type=36

2.3.3 Leachate Monitoring

Leachate is defined as any water which comes into contact with waste or waste processing areas. Through the management of waste, leachate is released within the waste shed when waste is delivered to the Terminal. All leachate from the tipping floor and compactor areas, as well as wash down water are collected into two 32 kilolitre (kL) leachate storage tanks for off-site disposal.

Leachate levels within the storage tanks are monitored by using a reference point on the containers, this determines when it is required to be pumped out and disposed of.

During this reporting period the off-site disposal facility did not require leachate quality data to be provided, therefore this monitoring requirement was not triggered as mentioned in Table 2.1.

2.4 Noise and Vibration

2.4.1 Noise and Vibration Monitoring

Operational activities such as truck operations, plant and equipment at the Terminal act as potential sources of noise emissions which may impact nearby receivers. Noise modelling was undertaken as part of the EIS (Hyder, 2014) which predicted that the operational noise emissions from the Terminal would not generate noise emissions which would impact local amenities.

Despite this, a number of noise and vibration mitigation controls were implemented at the Terminal to manage potential impacts, such as: low speed limits on-site, scheduling of trains, minimising container movements, use of quiet/minimal noise plant and equipment, and driver induction program, these are further detailed in the Noise and Vibration Management Plan (NVMP).

Based on the noise modelling by the EIS, the following operational noise goals were adopted for the Terminal which are provided in Table 2.5.

Table 2.5 Operational Amenity Noise Goals

Receptor Location	Amenity Criterion (LAeq, 15 min, dB(A))		
	Day	Evening	Night
Residential Receivers	50	40	37
Industrial Receivers	65	65	65
Commercial Receivers	70	70	70

An ambient noise assessment was conducted in August 2017 which indicated off-site noise emissions comply with the noise criteria.

In the event a noise complaint is received at the Terminal, the site will carry out noise monitoring if required, and liaise with the complainant until resolved. No noise complaints were received in this reporting period, therefore the Consent Condition for monitoring was not triggered.

Long Term Trends

- Noise emissions has not caused off-site impacts, this has remained consistent since the commencement of operations in 2016
- Noise emissions continue to be adequately managed on-site through the implementation of mitigation controls outlined in the NVMP

2.4.2 Vibration Monitoring

Vibration impacts during operation of the Terminal were assessed in the EIS to be negligible and to pose no potential impact on sensitive receivers, buildings or the environment.

A vibration assessment was conducted in August 2017 which indicated vibration levels at residential receivers comply with the vibration criteria.

Noise and vibration mitigation measures have been discussed in Section 2.4.1. No vibration complaints were received for the Terminal during this reporting period therefore not triggering the requirements for additional vibration monitoring.

Long Term Trends

- Vibration emissions have not been identified as causing offsite impacts as no complaints have been received since the commencement of operations in 2016.
- Similarly to noise emissions, vibration emissions continue to be adequately managed on-site through the implementation of mitigation controls outlined in the NVMP

2.5 Traffic

A Traffic Impact Assessment (TIA) was undertaken as part of the EIS (Hyder, 2014) to assess the potential impact of the Terminal on traffic and transport during its operation.

The TIA found that the Terminal would see up to 355 trucks per day for the delivery of mixed waste, and that there was a potential for nearby roads to be affected due to these truck movements. A number of mitigation measures were implemented at the Terminal to manage these potential impacts as detailed in the Traffic Management Plan and are provided below in Table 2.6.

Table 2.6 Traffic Control Measures

Traffic issue	Control	Monitoring	Effective
Traffic Congestion	-Site has adequate room for queuing on-site - If the above control fails then vehicles will be directed away from the site. Facility Manager will then advise to cease further deliveries to the site until problem has been resolved	Traffic Spot Monitoring (Onsite truck routes and Driver management)	Yes, no complaints have been made of trucks obstructing traffic movements of neighbouring businesses
On-site Truck routes	-Abide to speed limit onsite -No turns to/from Perry street at any time -No right turn from Beauchamp Rd between 6AM-8PM	Traffic Monitoring (Traffic flow and Congestions)	Yes, no complaints from surrounding businesses or residents
Driver management	- The induction informs customers of the site rules, weighbridge usage and site transport management procedures. Furthermore, clients must adhere to Veolia's standards of:	Traffic Spot Monitoring (Onsite truck routes and Driver management)	Yes, there have not been any major incidents since the program has been implemented

	professional conduct, workplace safety, drivers licence requirements, drug and alcohol policy.		
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Monitoring activities conducted at the Terminal assist in measuring the effectiveness of these traffic control measures. No vehicles were observed using any unauthorised roads as stipulated within Schedule 3, Condition 29 of the Consent.

A total of 49,512 (truck) movements occurred during the operation reporting period which is equivalent to 136 trucks per day. This is in line with the predicted truck movements of 355 trucks per day as described in the EIS. A breakdown of truck movements per month is provided in Table 2.7.

Table 2.7 Truck Movements during the 2019/2020 and 2020/2021 reporting periods

Monitoring Period	Truck Movements 2019/2020	Truck Movements 2020/2021
29 to 30 April 2019/2020	382	331
May	4956	3726
June	4411	4071
July	4946	4199
August	4700	4100
September	4803	4111
October	4999	4141
November	4927	3835
December	5153	4391
January	5131	4023
February	4843	3883
March	4966	4483

1 to 28 April 2020/2021	3471	4218
Total	57,688	49,512

Long Term Trends

- Truck movements have not been found to have resulted in off-site or on-site impacts since the commencement of operations in 2016.
- Potential traffic impacts have continued to be adequately managed on-site through the implementation of traffic control measures outlined in Table 2.8 and Traffic Management Plan.

2.6 Waste

A Waste Management Plan (WMP) was prepared which details the control strategies and mechanisms for the effective monitoring and recording of waste at the Terminal as shown in Table 2.8.

Table 2.8 - Waste Monitoring Schedule

Waste Monitoring	Type of Monitoring	Frequency
Waste volume processing <ul style="list-style-type: none"> • Storage on site 	Waste on floor	Daily
Waste volume processing <ul style="list-style-type: none"> • Annual limit 	Tonnage data review	Ongoing
Waste Recording	Incoming Waste Processing	Ongoing

2.6.1 Waste Monitoring

All waste received at the Terminal was recorded in the Paperless Weighbridge System (PWS) and the Systems, Applications and Products in Data Processing (SAP) software. SAP records vehicle registrations, the date and time of delivery, the gross and tare weight of the vehicle, as well as the nature and origin of the waste delivered by each contractor.

Visual assessments of incoming waste are conducted by weighbridge operators and assisted by close circuit television. These visual assessments were conducted to identify, reject and/or separate non-conforming waste upon its arrival to the Terminal. Waste is also inspected as it is tipped/unloaded onto the tipping floor.

Schedule 2, Condition 5 of the Consent stipulates that the Terminal must not receive or process more than 400,000 tonnes per annum (TPA) of putrescible waste and 100,000 TPA of non-putrescible waste. Veolia utilises the data provided by SAP to track and monitor the amount of incoming waste in accordance with the limits of the Consent. Refer to Table 2.9 for a breakdown of the classification of waste material received and processed at the Terminal during this reporting period and the previous reporting period. As noted in the table, all waste received at the Terminal is containerised for transfer to the Woodlawn Eco-Precinct.

Table 2.9 - Received and processed waste for 2019 and 2020 calendar years

Waste classification	Approved Limits (tonnes per annum)	Waste tonnes (2019)	Waste tonnes (2020)
General Solid Waste (Putrescible)	400,000	313,514	291,600
General Solid Waste (Non Putrescible)	100,000	1,673	696

As shown in Table 2.9, The Terminal did not receive or process more than 400,000 tonnes per annum (TPA) of putrescible waste and 100,000 TPA of non-putrescible waste. No incoming non-conforming waste was recorded during this period.

Long Term Trends

- Since the commencement of operations the Terminal has continued to operate within annual waste limits.

2.7 Pests and Vermin

The management of pest and vermin at the Terminal was maintained through preventative and responsive mitigation measures as per the Landscape and Vegetation Management Plan appended to the Terminal's OEMP. Such measures included;

- Routine inspections of site by a registered pest controller
- Weekly Site Inspection Checklist completed to record site conditions such as evidence of vermin and pests
- Placement of rodent bait stations at various locations around the site

Pest control was undertaken by an external contractor (Expert Judgement Pest Management PTY LTD) during this reporting period. In total four (4) pest control service reports were completed during the reporting period, refer to **Appendix D**. Routine pest control service usually involves an initial inspection of the Terminal buildings (site office, weighbridge office and waste shed), followed by any necessary treatment for rodents, cockroaches and spiders.

No pest and/or vermin complaints or management issues were reported during the operation of the Terminal during the reporting period.

Long Term Trends

- This result is consistent with findings in previous years
- Vermin and pests continue to be adequately managed on site since the commencement of operations in 2016.

2.8 Complaints

A total of one complaint as shown in Figure 2.15 was issued to the Terminal in regards to odour emissions during this reporting period. The odour complaint was received directly from IXOM who are located north-east of the Terminal. Overall, there has been a reduction of odour complaints compared to the last reporting period with 3 complaints recorded.

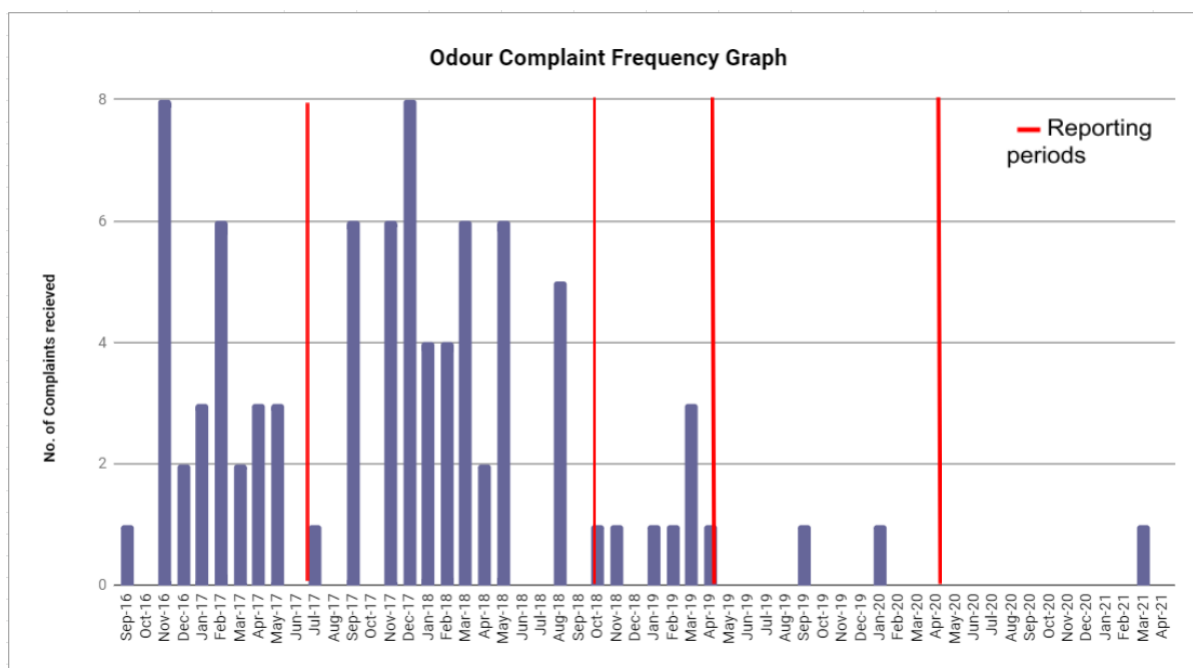


Figure 2.15 - Number of odour complaints received each month at the Terminal

The odour complaint covered a span of 4 days. The odour was detected in the early morning with westerly and south-westerly wind directions. Please refer to Section 2.2.2 Odour, for more details of this complaint and triggered investigation.

Based on meteorological data in Figure 2.1 and 2.2, prevailing winds from both south-west and south-south-west occurred approximately 18.08% of the year, where odour complaints are more likely to occur. Given that one complaint was received in this reporting period, this indicates the odour control system and other mitigation measures have been found to be effective.

Following the receipt of the odour complaint:

1. The Terminal implements corrective actions if necessary, to reduce odour emissions such as adjustment of fan extraction system speed setting;
2. The Site Manager communicates any corrective actions taken on the site with the complainant;
3. Meteorological wind data is downloaded from the BoM website;
4. Details of the complaint and wind data are logged in the BTT Complaints Register (**Appendix E**).

Section 3 - Environmental Performance

The environmental performance of the Terminal is assessed through the results of environmental monitoring, inspections and audits, both internal and external. Corrective actions are then assigned for any non-compliances or other findings identified against the Consent Conditions in this reporting period.

- Groundwater quality has remained fairly consistent and within respective limits, with the exception of seasonal fluctuations.
- Stormwater exceedances will undergo further investigation to identify the cause, this will be monitored and reported in the next AEMR.
- Air quality has shown positive results with no dust and the lowest number of odour complaints this reporting period, this is also supported by odour audit findings.
- General Solid Waste (Putrescible and Non-Putrescible) volumes have not exceeded annual waste tonnage limits.
- No complaints have been made in relation to noise and vibrations, and traffic which indicates implemented mitigation controls are effective.
- Pests and vermin are adequately controlled, no major issues have been identified since the commencement of operations in 2016.

No non-compliances against monitoring or inspection requirements were identified against the Consent Conditions during this reporting period.

In addition to the above, continual improvement is important to Veolia to ensure its business is operating effectively and efficiently.

3.2 Conclusion

In this reporting period, the environmental monitoring results and audits have demonstrated that implemented mitigation controls are generally effective in managing potential environmental impacts associated with air quality, noise and vibration, water quality, traffic, and pest and vermin.

Feedback from neighbouring businesses and monitoring quality results indicate that Veolia continues to implement, maintain, monitor and assess environmental initiatives at the Terminal to improve its environmental performance.

Terms and Definitions

Term	Definition
AEMR	Annual Environmental Management Report
ALS	Australian Laboratory Services PTY LTD
AQMP	Air Quality Management Plan
BTT	Banksmeadow Transfer Terminal
DPIE	Department of Planning, Industry 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
NVMP	Noise and Vibration Management Plan
OEMP	Operational Environmental Management Plan
SAP	Systems, Applications and Products in Data Processing
SWLMP	Soil, Water Leachate Management Plan
The Consent	Development Consent SSD 5585
TMP	Traffic Management Plan
TOU	The Odour Unit PTY LTD
The Terminal	Banksmeadow Transfer Terminal
TPA	Tonnes per annum
Veolia	Veolia Australia and New Zealand
WMP	Waste Management Plan

References

1. DEC (2006) *Technical framework: assessment and management of odour from stationary sources in NSW*, Department of Environment and Conservation, November 2006.
2. EPA (2014), *Waste Classification Guidelines Part 1: Classifying waste*, NSW Environment Protection Agency, November 2014.
3. Hyder (2014), Banksmeadow Transfer Terminal Environmental Impact Statement, Hyder Consulting, July 2016.
4. Veolia (2019/2020), Banksmeadow Transfer Terminal Annual Environmental Management Report, Veolia, June 2020.
5. SLR Consulting (2017), Noise and Vibration Assessment, August 2017.
6. Jackson (2019), Independent Environmental Audit Veolia Environmental Services Australia, Banksmeadow Transfer Terminal, May 2019.

Appendices

Appendix A - Site Plan

Appendix B - Conditions of Consent Compliance Table

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
SCHEDULE 2 – ADMINISTRATIVE CONDITIONS				
Obligation to Minimise Harm to The Environment				
1	The Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or decommissioning of the development.	The findings from this audit	None	Compliant
Terms of Consent				
2	The Applicant shall carry out the development generally in accordance with the: (a) EIS; (b) RAP; (c) RTS; (d) management and mitigation measures (Appendix A); (e) site layout plans and drawings in the EIS (see Appendix B); and (f) conditions of this Consent.	The findings from this audit	None	Compliant
3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this Consent shall prevail to the extent of any inconsistency.	None	None	Not Triggered
4	The Applicant shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of: (a) any reports, plans, strategies, programs or correspondence that are submitted in accordance with this Consent; and (b) the implementation of any actions or measures	None	None	Not Triggered
Limits of Consent				
5	The Applicant shall not receive or process more than: (a) 400,000 tonnes per annum of putrescible material; and (b) 100,000 tonnes per annum of non-putrescible material at the site.	Waste summary reports	None	Compliant
6	The Applicant shall only receive, store, handle or dispose of General Solid Waste or other classes of waste that are authorised for receipt on site by an EPL.	Waste summary reports	None	Compliant
Statutory Requirements				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
7	The Applicant shall ensure that all licences, permits and approval/consents are obtained as required by law and maintained as required throughout the life of the development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approval/consents.	The findings from this audit	<p>Veolia has obtained the relevant licences, permits and approvals required to undertake the operational activities, including:</p> <ul style="list-style-type: none"> - Environment Protection Licence (EPL 20581). - Approval of the Operational Environmental Management Plan and sub-plans 	Compliant
Structural Adequacy				
8	<p>The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures are constructed in accordance with the relevant requirements of the BCA.</p> <p>Notes: Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.</p>	None	This condition is not relevant to the current Audit period.	Not Triggered
Demolition				
9	The Applicant shall ensure that all demolition work is carried out in accordance with <i>Australian Standard AS 2601:2001: The Demolition of Structures</i> , or its latest version.	None	This condition is not relevant to the current Audit period.	Not Triggered
Operation of Plant and Equipment				
10	<p>The Applicant shall ensure that all plant and equipment used for the development is:</p> <ul style="list-style-type: none"> (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner. 	The Auditors observed plant and equipment operated and maintained in a proper and efficient manner as far as could be practically reviewed during the Audit.	None	Compliant
Staged Submission of Plans or Programs				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
11	With the approval of the Secretary, the Applicant may: (a) submit any strategy, plan or program required by this consent on a progressive basis; and/or (b) combine any strategy, plan or program required by this consent.	None	None	Not Triggered
12	Until they are replaced by an equivalent strategy, plan or program approved under this consent, the Applicant shall continue to implement existing strategies, plans or programs for operations on site that have been approved by previous consents or approvals. Notes: <ul style="list-style-type: none"> If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program shall clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages and the trigger for updating the strategy, plan or program; and There must be a clear relationship between the strategy, plan or program that are to be combined. 	None	None	Not Triggered
13	The Applicant shall submit detailed design plans of the terminal building that are generally in accordance with the plans in the EIS (Appendix B) to the Secretary for approval prior to the issue of a construction certificate.	None	This condition is not relevant to the current Audit period.	Not Triggered
Protection of Public Infrastructure				
14	The Applicant shall: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.	None	None	Not Triggered
Dispute Resolution				
15	In the event that a dispute arises between the Applicant and a public authority other than the Department, in relation to a specification or requirement applicable under this approval, the matter shall be referred by either party to the Secretary, or if not resolved, to the Minister, whose determination of the dispute shall be final and binding to all parties. For the purposes of this condition, 'public authority' has the same meaning as provided under Section 4 of the EP&A Act.	None	None	Not Triggered
Development Contribution				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
16	<p>Prior to the commencement of operation of the development, the Applicant shall pay development contributions to the City of Botany Bay Council of \$495,992.00, or an amount otherwise agreed with Council.</p> <p>Note: This contribution is subject to indexation to reflect quarterly variations in the Consumer Price Index All Group Index Number for Sydney, as published by the Australian Bureau of Statistics.</p>	The Auditors sighted an email dated 18th August 2016 from the City of Botany Bay Council (now Bayside Council) acknowledging payment.	None	Compliant
SCHEDULE 3 – ENVIRONMENTAL PERFORMANCE CONDITIONS				
Remediation				
	<i>Remedial Action Plan</i>			
1	The Applicant shall remediate the site in accordance with the approved RAP prior to the commencement of operation. Amendments to the approved RAP required as a result of further site investigations must be prepared by a suitably qualified and experienced expert and approved by the site auditor.	None	This condition is not relevant to the current Audit period.	Not Triggered
2	Prior to the commencement of remediation, the Applicant shall demonstrate to the satisfaction of the Secretary that the RAP has been certified by an accredited site auditor.	None	This condition is not relevant to the current Audit period.	Not Triggered
3	Prior to the commencement of any construction or remediation works, the Proponent shall engage a Site Auditor accredited by the EPA under Part 4 of the <i>Contaminated Land Management Act 1997</i> to provide advice and statutory site audits throughout the remediation project and on completion of the project	None	This condition is not relevant to the current Audit period.	Not Triggered
4	Contaminated material encountered during construction work intended for off-site disposal at an appropriate EPA licensed facility shall be segregated and stored in a dedicated area on site until removal, to the satisfaction of the EPA.	None	This condition is not relevant to the current Audit period.	Not Triggered
	<i>Completion of Work</i>			
5	Upon completion of remediation works, the Applicant shall demonstrate to the satisfaction of the Secretary that the accredited site auditor has prepared a site audit statement and a site audit report which demonstrate that the site is suitable for its intended use(s).	None	This condition is not relevant to the current Audit period.	Not Triggered

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
6	<p>Within 3 months of the completion of the reinstatement of the site the Applicant shall prepare, in consultation with the EPA, and submit a Site Validation Report, to the satisfaction of the Secretary. The report shall be prepared in accordance with the NSW EPA (1997) Guidelines for Consultants Reporting on Contaminated Sites and include but not be limited to:</p> <ul style="list-style-type: none"> (a) comments on the extent and nature of the remediation undertaken; (b) sampling and analysis plan and sampling methodology; (c) results/interpretation and discussion of results; (d) results of any validation sampling, compared to relevant guidelines; (e) discussion of the suitability the remediated areas for intended land use; 	None	This condition is not relevant to the current Audit period.	Not Triggered
Contamination				
	Groundwater Treatment			
7	<p>The Applicant shall prepare and implement a Groundwater Monitoring and Treatment Program for the project, to be approved by the Secretary and Site Auditor prior to the commencement of construction. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with the EPA and NOW; (b) detail baseline data on groundwater levels and quality; (c) include: <ul style="list-style-type: none"> • groundwater treatment criteria; • a program to monitor groundwater levels, flows and quality; • maintenance program for the facility to ensure the on-going effectiveness of the groundwater treatment process; • a protocol for the investigation, notification and mitigation of identified exceedances of the groundwater treatment criteria; • contingency measures to address exceedances and issues with groundwater treatment, including an investigation of alternative remediation treatment options; and • mechanisms to report results to relevant agencies. 	None	This condition is not relevant to the current Audit period.	Not Triggered
	Human Health			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
8	The Proponent shall ensure that all works are carried out in accordance with <i>NSW Work Health and Safety Regulation 2011</i> and the requirements of WorkCover NSW.	This condition is not relevant to the Audit scope however the Auditors observed staff operating in a safe and proper manner as far as could be practically reviewed during the Audit.	None	Not Triggered
Soil, Water and Leachate				
	Stormwater Management			
9	<p>The Applicant shall:</p> <ul style="list-style-type: none"> (a) design and install the stormwater management and collection system in consultation with the City of Botany Bay Council, generally in accordance with the conceptual design in the EIS and applicable Australian Standards and to the satisfaction of the Secretary; (b) ensure that the system capacity has been designed in accordance with the Blue Book Volumes 1 and 2B; (c) divert existing clean surface water around operational areas of the site; (d) direct all sediment laden water in overland flow away from the leachate management system; and (e) prevent cross-contamination of clean and sediment or leachate laden water. 	The Auditors sighted Civil Engineering Report Prepared by: Costin Roe Consulting Pty Ltd dated 1 June 2015 (Rev B).	None	Compliant
	Soil, Water and Leachate Management Plan			

10	<p>The Applicant shall prepare and implement a Soil, Water and Leachate Management Plan for the development in consultation with the City of Botany Bay Council, NOW and the EPA and to the satisfaction of the Secretary. This plan must be prepared and implemented by a suitably qualified and experienced person and be submitted for approval prior to commencement of construction. The plan must include:</p> <ul style="list-style-type: none"> (a) a site water balance that: <ul style="list-style-type: none"> • identifies the source of all water collected or stored on site, including rainfall, stormwater and groundwater; • includes details of all water use on site and any discharges; and • describes the measures that will be implemented to minimise water use on site. (b) an erosion and sediment control plan that: <ul style="list-style-type: none"> • is consistent with the requirements in the latest version of the Blue Book Volume 1 and Volume 2B; • identifies the activities on site that could cause soil erosion and generate sediment; and • describe the measures that will be implemented to: <ul style="list-style-type: none"> ○ minimise soil erosion and the transport of sediment to downstream waters, including the location, function and capacity of any erosion and sediment control structures and maintain these structures over time; ○ ensure that any topsoil stockpiles on site are suitably managed to ensure that the topsoil in these stockpiles can be beneficially used in the proposed revegetation and rehabilitation of the site. (c) a leachate management plan that: <ul style="list-style-type: none"> • includes final detailed design specifications of the leachate management and collection system on site. (d) a stormwater management plan that: <ul style="list-style-type: none"> • is consistent with the guidance in the latest version of the Blue Book Volume 1 and Volume 2B; • includes final detailed design specifications for the stormwater management and collection system; and • demonstrates how the requirements of Condition 9 of this schedule has been addressed. (e) a surface water, groundwater and leachate monitoring program that includes: <ul style="list-style-type: none"> • baseline data; • details of the proposed monitoring network; and • the parameters for testing and respective trigger levels for action 	<p>The Auditors sighted the <i>Soil, Water and Leachate Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.</p>	None	Compliant
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Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
	under the surface water, groundwater and leachate response plan (f) a surface water, groundwater and leachate response plan that: <ul style="list-style-type: none"> includes a protocol for the investigation, notification and mitigation of any exceedances of the respective trigger levels; and describes the measures that could be implemented to respond to any surface or groundwater contamination that may be caused by any development. 			
	Water			
11	A Section 73 Compliance Certificate under the Sydney Water Act 1994 must be obtained from Sydney Water prior to the commencement of construction.	The Auditors sighted the Section 73 Compliance Certificate dated 19 April 2016	None	Compliant
	Discharge of Water			
12	The development shall comply with Section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided in an EPL.	The table contained in Appendix B summarises the audit results against the requirements of the EPL.	None	Compliant
	Groundwater Interception and Extraction			
13	The Applicant shall obtain the necessary water related approvals from NOW in the event that groundwater is likely to be intercepted or extracted during construction.	None	This condition is not relevant to the current Audit period.	Not Triggered
	Acid Sulphate Soils Management Plan			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
14	<p>Prior to the commencement of any site preparation or construction works on the site, the Applicant shall prepare and implement an Acid Sulfate Soils Management Plan for the development to the satisfaction of the Secretary. This Plan must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with the EPA and NOW by a suitably qualified and experienced expert; (b) be approved by the Secretary prior to the commencement of any site preparation or construction works; (c) outline the preliminary investigations that have be undertaken to test for the presence of ASS in accordance the NSW State Government's Acid Sulphate Soils Manual (ASSMAC 1998); (d) detail the protocols to be put in place and followed in the event that ASS is encountered; (e) detail how the ASS will be tested, handled and stockpiled; (f) detail measures to prevent erosion and sedimentation of ASS; and, if necessary (g) outline how the ASS will be disposed of off-site (e.g. at a licensed facility). 	None	This condition is not relevant to the current Audit period.	Not Triggered
	Bunding			
15	<p>The Applicant shall store all chemicals, fuels and oils used on-site in appropriately banded areas in accordance with the requirements of all relevant Australian Standards, and/or the <i>Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin</i> (Environment Protection Authority, 1997).</p>	<p>The auditors observed a small quantity of chemicals associated with the operation. These chemicals were appropriately stored on banded pallets. chemicals will be stored.</p> <p>A double skinned above ground tank for bulk diesel storage was also observed by the Auditors. The equipment refueling and tanker unloading area had adequate containment / spill controls as observed during the site visit.</p>	None	Compliant
Waste				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
	Waste Storage and Processing			
16	All uncontainerised waste shall be stored within the building at the premises and all waste processing activities shall be conducted within the building at all times.	Site visit	None	Compliant
17	To prevent unmanageable waste storage, the Applicant shall ensure that: <ul style="list-style-type: none"> (a) the storage of waste within the building shall not exceed more than 1,500 tonnes at any one time; (b) waste stockpiles within the building shall not exceed 4.5m in height; and (c) the container stacking height shall not exceed 3 loaded containers. 	<p>The Auditors sighted the Waste Management Plan (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.</p> <p>Waste stockpiles and container stacking heights were observed during the site visit.</p>	The Operational Contingency Control Measures note the limit on the amount of waste permitted on the premises and includes measures, such as diverting waste to other facilities, in the event that the site cannot process waste and remain under the limit (e.g. due to an interruption to rail services).	Compliant
	Restrictions of the Receipt, Storage, Handling and Disposal of Waste			
18	The development shall ensure that any waste generated on the site during construction is classified in accordance with the EPA's <i>Waste Classification Guidelines</i> and disposed of to a facility that may lawfully accept the waste.	None	This condition is not relevant to the current Audit period.	Not Triggered
	Waste Management			
19	The Applicant shall prepare and implement a Waste Monitoring Program for the development to the satisfaction of Secretary. This program must: <ul style="list-style-type: none"> (a) be prepared in consultation with EPA by a suitably qualified and experienced expert; and (b) include a suitable program to monitor the: <ul style="list-style-type: none"> • quantity, type and source of waste received on site; and • quantity, type and quality of the outputs produced on site. (c) ensure that: <ul style="list-style-type: none"> • all waste that are controlled under a tracking system have the appropriate documentation prior to acceptance at the site; and • staff receive adequate training in order to be able to recognise and handle any hazardous or other prohibited waste including asbestos 	The Auditors sighted the <i>Waste Monitoring Program</i> within the <i>Waste Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.	None	Compliant

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
20	<p>The Applicant shall prepare and implement a Waste Management Plan for the development, in consultation with the EPA and to the satisfaction of the Secretary. The plan shall:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified and experienced expert; (b) be submitted for approval by the Secretary prior to the commencement of construction; (c) include an asbestos risk assessment for demolition work prior to the removal of any asbestos from the site; (d) include final details of the waste management system implemented at the site; (e) ensure that appropriate waste storage facilities are included in the final design of the waste management system; (f) detail the type and quantity of waste to be generated by the construction and operation of the development; (g) detail the quality of waste to be received on site; (h) detail the materials to be reused or recycled, either on or off site; (i) detail the procedures for handling, storage, collection of recycling and disposal of all waste in accordance with best practice industry standards and guidelines; (j) detail the procedures for the management of waste material, excluding recyclable waste, to ensure: <ul style="list-style-type: none"> • the waste material is regularly removed from the site to an appropriately licensed facility; and • any stockpiles of waste material are stored on sealed areas. (k) if deemed necessary, outline reasonable and feasible measures that may be required to improve waste management at the site and prioritise recommendations for implementation. 	<p>The Auditors sighted the <i>Waste Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.</p>	None	Compliant
	<i>Pest, Vermin & Noxious Weed Management</i>			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
21	<p>The Applicant shall:</p> <ul style="list-style-type: none"> (a) implement suitable measures to manage pests, vermin and declared noxious weeds on site; and (b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on-site in sufficient numbers to pose an environmental hazard or cause the loss of amenity in surrounding area. <p>Note: For the purposes of this condition, noxious weeds are those species subject to an order declared under the <i>Noxious Weed Act</i> 1993.</p>	<p>The Auditors sighted Landscape and Vegetation Management Plan (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.</p> <p>Pests and vermin were not observed during the site visit.</p>	<p>The Auditors observed weeds during the site visit. It is understood that the current contractor for weed management is under review (due to performance issues). Weed management is currently undertaken quarterly with the last inspection undertaken on 22nd February 2019.</p>	Compliant
Traffic and Access				
	<i>Access and Road Upgrade Work</i>			
22	Prior to the commencement of operations, the Applicant must obtain approval for rail access from the Australian Rail Track Corporation.	None	This condition is not relevant to the current Audit period.	Not Triggered
23	Within six months of the commencement of limited operations in accordance Condition 234 the Applicant must complete the road upgrade works at the intersection of Beauchamp Road and Perry Street and the left turn deceleration lane into the site, in consultation with City of Botany Bay Council and Randwick City Council, and to the satisfaction of RMS and the Secretary.	None	This condition is not relevant to the current Audit period.	Not Triggered
23A	The Applicant may commence operations prior to the completion of the road upgrade works referred to in Condition 23 above provided the Applicant does not receive or process more than 18,000 tonnes per month in the period prior to the completion of the road works upgrades.	None	This condition is not relevant to the current Audit period.	Not Triggered
23B	During the reduced operation phase specified in condition 23A above, records of hourly truck numbers and their capacity shall be kept and provided to the City of Botany Bay Council when requested.	None	This condition is not relevant to the current Audit period.	Not Triggered
24	Detail design plans for the intersection works referred to in condition 23 above, including Traffic Control Signal plans, must be prepared by a suitably qualified person in consultation with City of Botany Bay Council and Randwick City Council and submitted to the RMS for review and endorsement prior to the commencement of construction of the road upgrade works. The Applicant will be required to enter into a Works Authorisation Deed (WAD) with RMS for the works. The WAD will need to be executed prior to the RMS's assessment of the detailed design plans.	None	This condition is not relevant to the current Audit period.	Not Triggered

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
25	The Applicant must be responsible for all public utility adjustment/relocation works, necessitated by the above work and as required by the various public utility authorities and/or their agents	None	This condition is not relevant to the current Audit period.	Not Triggered
26	All works/regulatory signposting associated with the development are to be at no cost to the RMS.	None	This condition is not relevant to the current Audit period.	Not Triggered
	Traffic Monitoring			
27	<p>The Applicant shall:</p> <ul style="list-style-type: none"> (a) keep accurate records of the volume of waste transported to the site; (b) nominate a haulage route to be used by heavy vehicles accessing the site; and (c) make these records available in its Annual Review 	<p>The Auditors sighted the Traffic Management Plan (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.</p> <p>The Auditors sighted the following documents:</p> <ul style="list-style-type: none"> • 2016 Annual Environment Management Report – BTT AEMR 2015-2016 (dated 28 June 2016). • 2017 Annual Environment Management Report – BTTAEMR2017 (dated 30 June 2017). • 2018 Annual Environment Management Report – BTTAEMR2018 (dated 28 June 2018) 	None	Compliant
	Operating Conditions			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
28	<p>The Applicant shall ensure that:</p> <ul style="list-style-type: none"> (a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest versions of AS 2890.1 and AS 2890.2; (b) the swept path of the longest vehicle entering and exiting the subject site, as well as maneuverability through the site, is in accordance with AUSTRROADS Guide to Road Design; (c) the development does not result in any vehicles queuing on the public road network; (d) a right turn restriction into the site from Beauchamp Road shall be implemented between 6am – 8pm; (e) heavy vehicles do not use Perry Street to travel to/from the site; (f) heavy vehicles and bins associated with the development do not park or stand on local roads or footpaths in the vicinity of the site; (g) all vehicles are wholly contained on site before being required to stop; (h) all loading and unloading of materials is carried out on site; (i) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times; (j) all trucks entering or leaving the site with loads have their loads covered; and (k) all loaded vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads. 	Site visit	None	Compliant
	Waste Transportation			
28A	The Applicant shall ensure that all waste containers are designed, constructed and maintained to prevent the emission of offensive odour and be water-tight to prevent the leakage of leachate during transport and handling activities.	Site visit	None	Compliant
	Traffic Management Plan			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal

Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
29	<p>The Applicant shall prepare and implement a Traffic Management Plan for the development, to the satisfaction of the Secretary. The Plan must:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified and experienced expert in consultation with RMS, City of Botany Bay Council and Randwick City Council; (b) be approved by the Secretary prior to the commencement of construction; (c) include construction traffic management measures detailing: <ul style="list-style-type: none"> • access and parking arrangements for the site during construction; • measures to ensure that the local road network is not utilised by vehicles during construction; • measures to control traffic movements from site during construction; • procedures for notifying residents of construction traffic routes and potential disruptions to routes and access; and • the impact of the development on the road network, where temporary road closures are required during construction. (d) include a plan showing the designated haulage route/s to be used by heavy vehicles during operation; (e) include a driver's code of conduct; (f) describe the measures that will be implemented to ensure: <ul style="list-style-type: none"> • the nominated haulage routes are used; • drivers adhere to the right turn restriction into the site from Beauchamp • Road between 6am-10am and 3pm-7pm, as required by Condition 28(d); • conflicts with other road users are minimised; • drivers adhere to the code of conduct including; • road noise impacts are minimised through measures such as limiting truck • compression braking; and • compliance with the relevant conditions of this consent. (g) <u>include</u> a program to monitor the effectiveness of these measures. 	<p>The Auditors sighted the <i>Traffic Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.</p>	<p>None</p>	<p>Compliant</p>
Hazard and Risk				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
30	<p>At least one month prior to the commencement of construction of the proposed development (except for construction of those preliminary works that are outside the scope of the hazard studies), or within such further period as the Secretary may agree, the Applicant shall prepare and submit a Fire Safety Study and a Hazard and Operability Study to the Secretary.</p> <p>(a) <u>Fire Safety Study</u> A Fire Safety Study for the proposed development. This study shall cover the relevant aspects of the Department of Planning's Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines' and the New South Wales Government's 'Best Practice Guidelines for Contaminated Water Retention and Treatment Systems'. The study shall be prepared in consultation with Fire and Rescue NSW and submitted to the Secretary.</p> <p>(b) <u>Hazard and Operability Study</u> A Hazard and Operability Study for the proposed development, chaired by a qualified person, independent of the development, whose appointment has been endorsed by the Secretary prior to the commencement of the study. The study shall be consistent with the Department of Planning's Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'. The study report must be accompanied by a program for the implementation of all recommendations made in the report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.</p>	None	This condition is not relevant to the current Audit period.	Not Triggered
31	<p>Dangerous Goods, as defined by the Australian Dangerous Goods Code, shall be stored and handled strictly in accordance with:</p> <p>(a) all relevant Australian Standards;</p> <p>(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and</p> <p>(c) the <i>Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin</i> (Environment Protection Authority, 1997).</p> <p>In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.</p>	Site visit	None	Compliant
	Emergency Response			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
32	<p>The Applicant shall maintain and implement an emergency response plan for the site. The emergency response plan shall:</p> <ul style="list-style-type: none"> (a) be submitted to the Secretary prior to the commencement of operation; (b) be kept on-site at all times; (c) include a risk assessment of likely incidents that could occur on-site (e.g. spills, explosion, fire) based on the activities being undertaken, site risks and consequence to the receiving environment; and (d) document the systems and procedures to deal with the types of incidents identified including relevant incident notification procedures. 	The Auditors sighted the Site Emergency Response Plan - Banksmeadow Waste Transfer Terminal (Document Code: MAN-5174-1) dated 7 th August 2018	None	Compliant
Air Quality				
	Odour			
33	The Applicant shall ensure the development does not cause or permit the emission of any offensive odour (as defined by the POEO Act).	Complaints summary Site visit	Refer to Section 3.5 of body of report	Compliant
	Odour Management Plan			
34	<p>The Applicant shall prepare and implement an Odour Management Plan to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified and experienced expert in consultation with the EPA and City of Botany Bay Council; (b) be approved by the Secretary prior to the commencement of operations; (c) describe the measures that would be implemented on site to minimise the odour impacts of the development; (d) identify triggers for contingency action; and (e) include a program for monitoring the odour impacts of the development. 	The Auditors sighted the <i>Air Quality Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016	None	Compliant
	Dust Management			
35	The premises shall be maintained in a condition which minimises or prevents the emission of dust from the premises	Site visit	None	Compliant

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
36	<p>The Applicant shall:</p> <ul style="list-style-type: none"> (a) implement best management practice, including all reasonable and feasible dust and odour mitigation measures to prevent and minimise dust emissions from operations; (b) prevent and minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events; (c) regularly assess air quality monitoring data and relocate, modify, and/or stop operations to ensure compliance with the relevant conditions of this consent; (d) minimise any visible off-site air pollution; and (e) minimise surface disturbance of the site, other than as permitted under this consent. 	<p>The Auditors sighted the Air Quality Management Plan (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016</p>	None	Compliant
37	<p>During construction, the Applicant shall ensure that:</p> <ul style="list-style-type: none"> (a) all vehicles on site do not exceed a speed limit of 30 kilometres per hour; (b) all loaded vehicles entering or leaving the site have their loads covered; and (c) all loaded vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads. 	None	This condition is not relevant to the current Audit period.	Not Triggered
	<i>Air Quality Management Plan</i>			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal

Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
38	<p>The Applicant shall prepare and implement an Air Quality Management Plan for the development to the satisfaction of the Secretary. The Plan must:</p> <ul style="list-style-type: none"> (a) be prepared by a suitably qualified and experienced expert in consultation with the EPA, (b) be approved by the Secretary prior to the commencement of construction; (c) describe the measures that would be implemented to: <ul style="list-style-type: none"> • minimise the fugitive emissions from excavating, handling and treating contamination hot spots including details on methods for dealing with soil contamination variability; • include well-defined triggers for additional air quality measures for excessive fugitive emissions including stop-work during adverse weather; • ensure all reasonable and feasible dust and odour mitigation measures are employed to prevent and minimise dust and odour emissions from construction and operation of the development; • ensure compliance with the relevant conditions of this consent and the EPL; and • prevent and minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events; (d) include a cleaning protocol which: <ul style="list-style-type: none"> • details the procedures to be undertaken to routinely manage, maintain and clean the internal surfaces of the premises to ensure operating conditions inside the facility minimise the potential to generate odour, dust and the carriage of waste outside the facility; and • describes how all external surfaces would be routinely managed and maintained so as to be kept free of dust, waste material and other contaminants; and (e) include a protocol for determining any exceedances of the relevant conditions of approval and criteria in the EPL and responding to complaints. 	<p>The Auditors sighted the <i>Air Quality Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016</p>	None	Compliant
Noise				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal

Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status													
39	<p>The Applicant shall comply with the hours detailed in Table 1, unless otherwise agreed in writing by the Secretary.</p> <table><caption>Table 1: Operating Hours</caption><tr><th>Activity</th><th>Day</th><th>Hours</th></tr><tr><td rowspan="3">Construction</td><td>Monday - Friday</td><td>7:00am – 6:00pm</td></tr><tr><td>Saturday</td><td>8:00am – 1:00pm</td></tr><tr><td>Sunday & Public Holidays</td><td>Nil</td></tr><tr><td>Operations</td><td colspan="2">24 hours</td></tr></table>	Activity	Day	Hours	Construction	Monday - Friday	7:00am – 6:00pm	Saturday	8:00am – 1:00pm	Sunday & Public Holidays	Nil	Operations	24 hours		None	None	Compliant
Activity	Day	Hours															
Construction	Monday - Friday	7:00am – 6:00pm															
	Saturday	8:00am – 1:00pm															
	Sunday & Public Holidays	Nil															
Operations	24 hours																
	Operating Conditions																
40	<p>The Applicant shall:</p> <ul style="list-style-type: none">(a) implement best management practice, including all reasonable and feasible noise management and mitigation measures to prevent and minimise operational, low frequency and traffic noise generated by the development;(b) minimise the noise impacts of the development during adverse meteorological conditions when noise criteria do not apply;(c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and(d) regularly assess noise monitoring data and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent	<p>Site visit</p> <p>The Auditors also sighted the <i>Noise and Vibration Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016.</p>	None	Compliant													
	Noise and Vibration Management Plan																

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
41	<p>The Applicant shall prepare and implement a Noise and Vibration Management Plan for the development in consultation with the EPA and to the satisfaction of the Secretary. The plan must:</p> <ul style="list-style-type: none"> (a) be prepared and implemented by a suitably qualified and experienced person in consultation with the City of Botany Bay Council, Randwick City Council and the EPA; (b) be approved by the Secretary prior to the commencement of construction; (c) describe the measures that will be implemented to ensure: <ul style="list-style-type: none"> • best management practice is being employed on site; and • the noise and vibration impacts of the development are minimised during any meteorological conditions; and • compliance with the relevant conditions of this consent. (d) describe the noise management system; (e) include a noise and vibration monitoring program that: <ul style="list-style-type: none"> • is capable of evaluating the performance of the development; • includes a protocol for determining compliance with the predictions in the EIS and RTS; • adequately supports the noise management system; and • evaluates and reports on the effectiveness of the noise management system; and (f) include details of short term vibration trials of construction equipment that are conducted in consultation with the surrounding landowners. 	<p>The Auditors sighted the <i>Noise and Vibration Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016</p>	None	Compliant
Energy Efficiency				
42	<p>The Applicant shall:</p> <ul style="list-style-type: none"> (a) implement all reasonable and feasible measures to minimise energy use and greenhouse gas emissions during construction and operation; and (b) ensure the development will continue to operate at industry best practice over time. 	None	None	Compliant
Visual Amenity				
	Lighting			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
43	<p>The Applicant shall ensure that the lighting associated with the development:</p> <ul style="list-style-type: none"> (a) complies with the latest version of AS 4282(INT) - <i>Control of Obtrusive Effects of Outdoor Lighting</i>; and (b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network. 	Complaints Summary	<p>Assumed to be compliant based on issuing of the Occupation Certificate.</p> <p>The Site visit was conducted during the day, therefore could not be assessed, however, the Auditors have no reason to believe the condition has not been complied with</p> <p>No complaints have been received regarding lighting at the Site.</p>	Compliant
	Signage			
44	<p>The Applicant shall install all signs in consultation with City of Botany Bay Council.</p> <p>Note: This condition does not apply to any signage identified as exempt or complying development in <i>State Environmental Planning Policy (Exempt and Complying Development Codes)</i> 2008</p>	None	This condition is not relevant to the current Audit period.	Not Triggered
	Landscaping and Vegetation Management			
45	<p>The Applicant shall prepare and implement a Landscaping and Vegetation Management Plan for the development in consultation with City of Botany Council and to the satisfaction of the Secretary. The plan shall:</p> <ul style="list-style-type: none"> (a) be approved by the Secretary prior to the commencement of construction; (b) detail any trees that are proposed to be removed, ringbarked, cut, topped or lopped; (c) detail any revegetation works at the site, with particular attention to minimizing the visibility of the site from residences and public vantage points, minimizing bushfire risk and the use of indigenous species; (d) ensure that any clearing or trimming of vegetation on the western side of McPherson Street, at the intersection with Beauchamp Road, is undertaken in consultation with City of Botany Bay Council; and (e) describe the on-going measures (e.g. weed control and regular pruning) that would be implemented to maintain landscaping and vegetation on the site for the life of the development. 	The Auditors sighted the <i>Landscaping and Vegetation Management Plan</i> (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016	None	Compliant

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
Aviation Safety				
46	At least 35 days prior to the commencement of construction of the project, the Applicant must obtain all necessary approvals from the Sydney Airports Corporation for the erection of any temporary structure or construction equipment.	None	This condition is not relevant to the current Audit period.	Not Triggered
Heritage				
47	The development shall cease all works on site in the event that any Aboriginal cultural object(s) or human remains are uncovered onsite. The NSW Police, the Aboriginal Community and the OEH are to be notified. Works shall not resume in the designated area until approval in writing from the NSW Police and/or the OEH has been obtained.	Audit interview	None	Not Triggered
Security				
48	The Applicant shall ensure that: (a) the site is secured by a perimeter fence and security gates; and (b) the security gates on site are patrolled at all times.	Site visit and audit interview	None	Compliant
SCHEDULE 4 – ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING				
Environmental Management				
	Construction Environmental Management Plan			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
1	<p>The Applicant shall prepare and implement a Construction Environmental Management Plan for the development to the satisfaction of the Secretary. The Plan must:</p> <ul style="list-style-type: none"> (a) be submitted to the Secretary for approval no later than two weeks prior to the commencement of construction or demolition or within such period otherwise agreed by the Secretary; (b) identify the statutory approvals that apply to the development; (c) consolidate all relevant management plans and monitoring programs required in the conditions of this Consent; (d) outline all environmental management practices and procedures to be followed during construction and demolition works associated with the development; (e) describe all activities to be undertaken on the site during construction of the development, including a clear indication of construction stages; (f) detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts; (g) describe the roles and responsibilities for all relevant employees involved in construction and demolition works associated with the development; (h) include arrangements for community consultation and complaints handling procedures during construction and demolition; and (i) include copies of the various strategies and plans that are required under the conditions of this Consent once they have been approved. <p>Note:</p> <ol style="list-style-type: none"> 1. Construction of the Development shall not commence until written approval of this plan has been received from the Secretary. 2. The City of Botany Bay Council shall be provided with a copy of the approved Construction Environmental Management Plan within 7 days of the date of its approval. 	None	This condition is not relevant to the current Audit period.	Not Triggered
	Operational Environmental Management Plan			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal

Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
2	<p>The Applicant shall prepare and implement an Operational Environmental Management Plan to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be submitted to the Secretary for approval prior to commencement of operations; (b) be prepared by a suitably qualified and experienced expert; (c) provide the strategic framework for environmental management of the development; (d) identify the statutory requirements that apply to the development; (e) consolidate all relevant environmental management plans and monitoring programs required in the conditions of this consent and committed to in the EIS; (f) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development. (g) describe in general how the environmental performance of the development would be monitored and managed; and (h) describe the procedures that would be implemented to: <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the operation and environmental performance of the development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliances; and • respond to emergencies. 	<p>The Auditors sighted the Operational Environmental Management Plan (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016</p>	<p>None</p>	<p>Compliant</p>
	Management Plan Requirements			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
3	<p>The Applicant shall ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:</p> <ul style="list-style-type: none"> (a) detailed baseline data; (b) a description of: <ul style="list-style-type: none"> • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; and • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) a description of the measures that will be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: <ul style="list-style-type: none"> • impacts and environmental performance of the development; and • effectiveness of any management measures (see (c) above); (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the development over time; (g) a protocol for managing and reporting any: <ul style="list-style-type: none"> • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan. <p>Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</p>	<p>The Auditors sighted the Operational Environmental Management Plan (Document Code: PLA-NSW-XXX-XXX-1) dated 23 June 2016 and relevant sub-plans</p>	None	Compliant
Reporting				
	Incident Reporting			
4	<p>The Applicant shall notify the Secretary, City of Botany Bay Council and any other relevant agencies of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of this incident, the Proponent shall provide the Secretary and any relevant agencies with a detailed report on the incident.</p>	Audit interview	None	Not Triggered

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal

Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
	<i>Regular Reporting</i>			
5	The Applicant shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.	<p>The Auditors sighted the following documents on the Veolia website:</p> <ul style="list-style-type: none"> • 2016 Annual Environment Management Report – BTT AEMR 2015-2016 (dated 28 June 2016). • 2017 Annual Environment Management Report – BTTAEMR2017 (dated 30 June 2017). • 2018 Annual Environment Management Report – BTTAEMR2018 (dated 28 June 2018) 	None	Compliant
Independent Environmental Audit				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
6	<p>Within one (1) year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <ul style="list-style-type: none"> (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water License (including any assessment, plan or program required under these approvals); (d) review the adequacy of any approved strategy, plan or program required under these approvals; and (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals. <p>Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.</p>	<p>The Auditors sighted the 2016 Independent Environmental Audit conducted by Ramboll Australia Pty Ltd (report dated 28 July 2016).</p> <p>This audit satisfies the first audit required 3 years after the first audit.</p>	None	Compliant
7	<p>Within 3 months of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.</p>	This audit report	None	Compliant
	Annual Review			

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal				
Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
8	<p>Within one (1) year of the date of this consent, and every year thereafter, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:</p> <ul style="list-style-type: none"> (a) describe the development that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against: <ul style="list-style-type: none"> • the relevant statutory requirements, limits or performance measures/criteria; • the monitoring results of previous years; and • the relevant predictions in the EIS; (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the development; (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development. 	<p>The Auditors sighted the following documents:</p> <ul style="list-style-type: none"> • 2016 Annual Environment Management Report – BTT AEMR 2015-2016 (dated 28 June 2016). • 2017 Annual Environment Management Report – BTTEMR2017 (dated 30 June 2017). • 2018 Annual Environment Management Report – BTTEMR2018 (dated 28 June 2018) 	None	Compliant
	<i>Revision of Strategies, Plans & Programs</i>			
9	<p>Within 3 months of the submission of an:</p> <ul style="list-style-type: none"> (a) annual review under Condition D8 of this schedule; (b) incident report under Condition D4 of this schedule; (c) audit report under Condition D6 of this schedule; and (d) any modifications to this consent, <p>the Applicant shall review, and if necessary, revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.</p> <p>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</p>	None	None	Not Triggered
Access to Information				

Conditions of Development Consent – SSD 5855 (incorporating MOD 1) - Banksmeadow Waste Transfer Terminal

Consent Condition	Requirement	Evidence collected	Independent Audit Findings and Recommendations	Compliance Status
10	<p>The Applicant shall:</p> <p>(a) make the following information publicly available on its website:</p> <ul style="list-style-type: none"> the EIS; current statutory approvals for the development; approved strategies, environmental management plans or programs; a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent; a complaints register, updated on a quarterly basis; copies of any annual reviews (over the last 5 years); any independent environmental audit, and the Applicant's response to the recommendations in any audit; and any other matter required by the Secretary; and <p>(b) keep this information up-to-date, to the satisfaction of the Secretary.</p>	The Auditors sighted the required documents on the Veolia website	None	Compliant

Appendix C - Odour Audit Reports

TO: MARY WONG

COMPANY: VEOLIA (AUSTRALIA) PTY LTD

FROM: MICHAEL ASSAL

DATE: 23 DECEMBER 2020

JOB NO: N1906L.03

**SUBJECT: BANKSMEADOW WASTE TRANSFER TERMINAL FACILITY –
ON-GOING ODOUR AUDIT PROGRAM: OCTOBER 2020**

1. Introduction

The following technical memorandum documents the findings and recommendations from an on-going, six-monthly odour audit program (**the Audit**) being conducted by The Odour Unit Pty Ltd (**TOU**) at the Veolia (Australia) Pty Ltd (**Veolia**) Waste Transfer Terminal Facility, 34/36 McPherson St, Banksmeadow, New South Wales (**BTT Facility**). The Audit documented in this memorandum report covers the outcomes from a visit conducted by a TOU Senior Engineer at the BTT Facility on 1 October 2020. Specifically, the memorandum report documents the following:

1. The results and findings from odour sampling and testing of the roof discharge stack as found during the Audit visit;
2. Documentation of field observations made during the visit that are relevant to odour management as well as the outcomes from smoke testing;
3. A review of the relevant documentation including the service logs for the preventative maintenance works undertaken on the building ventilation air extraction system and logged odour complaints between April 2020 and October 2020; and
4. The results from the field ambient odour assessment (**FAOA**) survey undertaken within the BTT Facility at both downwind and upwind locations.

2. Relevant Background

The BTT Facility was completed in June 2016 and is designed, at full capacity, to receive up to 400,000 tonnes per annum of putrescible waste, consisting of mixed waste including food from the municipal and commercial sectors. All received waste is delivered to the BTT Facility in enclosed waste collection trucks, before being compacted and placed in sealed containers for rail transport to Veolia's site at Woodlawn for subsequent treatment, recycling, energy recovery, and disposal where required. The BTT Facility is also approved to receive up to 100,000 tonnes per annum of non-putrescible (dry) waste from the municipal, commercial, and industrial sectors for transfer to a new material recycling facility currently being scoped in Camellia.

The following report should be read in conjunction with previously issued documents relating to the BTT Facility, where applicable, including:

1. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – Odour Audit Final Report* dated 26 May 2017 (**May 2017 Report**);
2. An email-based summary report titled *Banksmeadow On-going Odour Investigation - 2 August 2017 Summary* dated 21 September 2017 documenting the works undertaken on 2 August 2017 at the BTT Facility (**August 2017 Report**);
3. A TOU Report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: January/February 2018* issued on 23 February 2018 (**the February 2018 Report**);
4. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: March to May 2018 (Rev 3)* issued on 31 May 2018 (**the March/May 2018 Report**);
5. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: June 2018* issued on 28 June 2018 (**the June 2018 Report**);
6. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: October 2018* issued on 13 November 2018 (**the November 2018 Report**);
7. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: April 2019* issued on 10 May 2019 (**the May 2019 Report**);
8. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: October 2019* issued on 19 November 2019 (**the October 2019 Report**); and
9. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: May 2020* issued on 22 June 2020 (**the June 2020 Report**).

3. Odour Audit Methodology

3.1 Odour Sampling and Testing

The odour sampling and laboratory analysis methodology are well documented in the May 2017 Report. As such, it is not reproduced in this memorandum report.

The point source sampling method was utilised to collect samples from a 10-millimetre (mm) tap point created in the common plenum chamber of the two fan modules servicing the building

ventilation extraction system at the BTT Facility. An illustration of the location and sampling technique is presented in **Photo 1**.

3.2 Odour Audit Logsheets

An extract of the logsheet utilised as part of the Audit visit is provided in **Figure 1**, which was developed in previous audits conducted at the BTT Facility.

3.3 Field Ambient Odour Assessment Survey

The methodology followed for the FAOA survey is well documented in the February 2018 Report. As such, it is not reproduced in this memorandum report. For the Audit, TOU extended the FAOA survey measurement period to five-minute intervals, with discrete measurement readings collected every ten seconds (i.e. 30 'sniffs' per measurement location point). The product of this measurement methodology is an intensity frequency pie graph. The odour impact criterion (i.e. the threshold that would be considered as increasing the likelihood in odour annoyance at downwind receptors) is set to an odour intensity of greater than 2 (Weak) and at a frequency of 10% per measurement cycle per location. This criterion is considered suitable given the industrial context of the BTT Facility. This detail is outlined in the FAOA map plot in **Section 4 - Figure 4**.

3.4 Smoke Testing

The methodology for smoke testing is documented in the May 2018 Report. As such, it is not reproduced in this memorandum report.

3.5 Review of relevant documentation

As part of the Audit, the following documentation was reviewed:

- Fan maintenance reports between April 2020 and October 2020; and
- Odour complaints register between April 2020 and October 2020.



10-mm sampling
point

Photo 1 – An example of the roof discharge stack odour sampling point at the BTT Facility

Date		
Stack samples collected		
Waste tonnage on floor		
Observed local wind conditions		
Fan setting	EF-01 _____ Hz _____ Amps	EF-02 _____ Hz _____ Amps
Other comments		

Figure 1 – Odour audit logsheet showing the logging of key operational parameters and weather conditions

4. Results

The following section summaries the results from the sampling and testing conducted at the BTT Facility on 1 October 2020. The odour laboratory results report is enclosed as **Appendix A**.

4.1 Roof Discharge Stack Odour Emission Results

The roof discharge stack odour emission results are presented in **Table 1**. The historical trend between waste tonnage on the floor and the stack odour emission rate at the BTT Facility until 1 October 2020 is presented in **Figure 2**.

4.2 Smoke Testing Results

Several smoke release points were undertaken to evaluate airflow patterns and fugitive emission release within the BTT Facility building enclosure. The smoke release points included the northern, middle and southern areas of the BTT Facility building enclosure. A photo of a smoke testing point at the truck entry point of the BTT Facility building enclosure as occurred on 1 October 2020 is shown in **Photo 2** and **Photo 3**. A photo of the smoke testing within the BTT Facility building enclosure is shown in **Photo 4**. The observations made during smoke testing are as follows:

- No smoke was found to be emanating from the sealed breezeways around the perimeter of the BTT Facility building;
- The released smoke was found to be well-contained within the BTT Facility building enclosure, suggesting that odour release at ground level is minimal; and
- The released smoke was found to dissipate over time gradually. This indicates that there is a very good level of air exchange turnover within the BTT Facility building enclosure.

4.3 Odour Audit Logsheets

The outcomes from the completion of the audit logsheets on 1 October 2020 is provided in **Figure 3**.

4.4 Field Ambient Odour Assessment Survey

The FAOA survey results as occurred on 1 October 2020 is provided in **Figure 4** and **Table 2**.

4.5 General Observations

A photo of the storage container area as found on 1 October 2020 is shown in **Photo 5**. This area was found to be relatively well maintained. The truck entrance plastics strips were found to be missing a few panels (refer to **Photo 3**).

Table 1 – Comparison of stack odour emission results and recorded waste tonnage on the floor between January 2018 and October 2020

Sample No.	Sampling Date	Sampling Time (hrs)	Measured stack odour concentration (ou)	Tonnage on waste floor (tonnes)	Stack design discharge airflow (m³/s)	Calculated stack odour emission rate (ou.m³/s)	Calculated stack odour emission rate per tonne of waste on the floor (ou.m³/s)	Relevant comments
1	Monday, 8 January 2018	0930	1,450	390	109	158,100	405	--
2		1040	1,450			158,100	405	--
3	Tuesday, 9 January 2018	0940	1,720	150	55	94,080	627	Single fan operating
4		1002	1,450			79,320	529	
5	Wednesday, 10 January 2018	0942	861	30	55	47,100	1,570	Single fan operating
6		1015	939			51,360	1,710	
7	Thursday, 11 January 2018	0930	1,580	120	109	172,200	1,440	--
8		1029	1,720			187,500	1,560	--
9	Friday, 12 January 2018	0950	790	120	109	86,110	718	--
10		1032	395			43,060	359	--
11	Monday, 15 January 2018	0950	1,330	300	109	145,000	483	--
12		1100	1,450			158,100	527	--
Post-fan optimisation and service works								
13	Wednesday, 16 May 2018	1030	152	300	109	16,600	55	--
14		1035	197			21,470	72	--
Odour sampling campaign: June 2018								
1	Monday, 18 June 2018	0945	181	360	109	19,800	55	Refer to the June 2018 Report
2		1025	362			39,500	110	
3	Tuesday, 19 June 2019	0930	332	320		36,200	113	
4		0955	332			36,200	113	
5	Wednesday, 20 June 2018	0910	362	250		39,500	158	
6		0940	256			27,900	112	
7	Thursday, 21 June 2018	0925	181	350		19,700	56	
8		0950	235			25,600	73	
9	Friday, 22 June 2018	0925	91	200		9,920	50	
10		0950	91			9,920	50	
Odour audit as conducted on 11 October 2018								
1	Thursday, 11 October 2018	1145	152	500	114	17,300	35	Refer to the November 2018 Report
2		1325	181			20,600	41	
Odour audit as conducted on 10 April 2019								
1	Wednesday, 10 April 2019	1051	91	150	115	10,500	70	Refer to the May 2019 Report
2		1207	91	150	115	10,500	70	
Odour audit as conducted on 2 October 2019								
1	Wednesday, 2 October 2019	1405	157	180	104	16,400	91	Refer to the October 2019 Report
2		1500	91	100	104	9,460	95	
Odour audit as conducted on 6 May 2020								
1	Wednesday, 6 May 2020	1018	304	120	113	34,400	286	Refer to the May 2020 Report
2		1110	235	120	113	26,600	221	
Odour audit as conducted on 1 October 2020								
1	Tuesday, 1 October 2020	1024	416	270	117	48,700	180	Refer to Appendix A
2		1145	362	270	117	42,400	157	

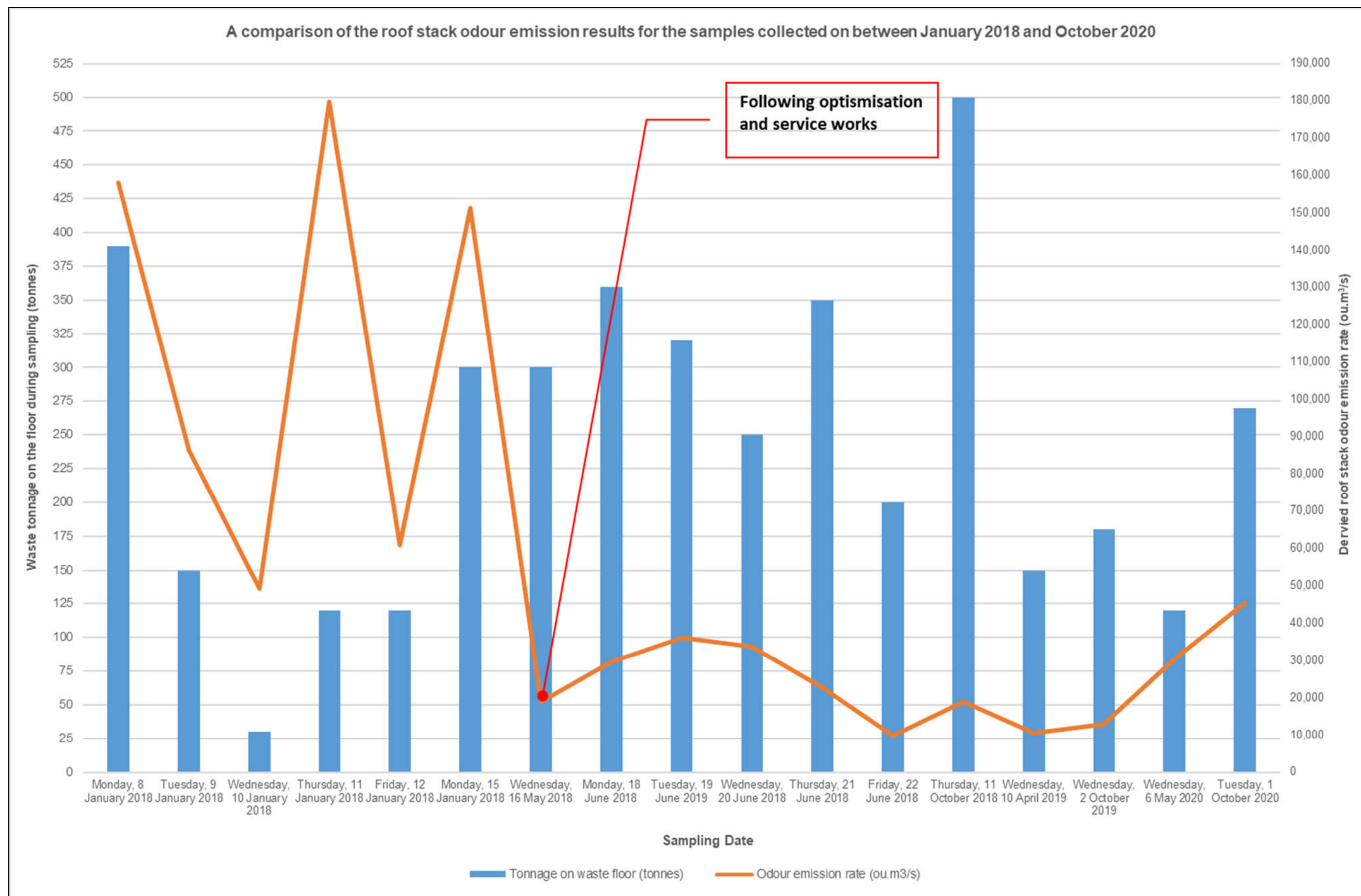


Figure 2 - Comparison of the roof stack odour emission rate between January 2018 and October 2020



Photo 2 – Smoke testing at the truck entry point of the BTT Facility building enclosure on 1 October 2020



Photo 3 – The truck entrance plastics strips were found to be missing a few panels: 1 October 2020



Photo 4 – A picture of the BTT Facility waste floor area during smoke testing on 1 October 2020 at 1158 hrs

Figure 3 – Completed audit logsheet as occurred on 1 October 2020

Date	1 October 2020	
Stack samples collected	Stack Discharge 1 of 2 collected at 1024 hrs Stack Discharge 2 of 2 collected at 1145 hrs	
Waste tonnage on floor	Approximately 270 tonnes at 1035 hrs Approximately 270 tonnes at 1140 hrs	
Observed local wind conditions	Mostly clear skies, light (0.5 – 2 m/s) to moderate (2 - 5 m/s) wind speeds oscillating predominately between the southwesterly and southeasterly cardinal directions. The local ambient temperature was observed to be approximately 21°C.	
Fan setting	EF-01 _____ 45.5 _____ Hz _____ 47.0 _____ Amps	EF-02 _____ 45.5 _____ Hz _____ 49.6 _____ Amps
Other comments	<ul style="list-style-type: none"> ▪ EF-1 discharge stack reading = 21.4 m/s. ▪ EF-2 discharge stack reading = 21.4 m/s ▪ Suction pressure reading at sampling point = -68 Pascals (Pa). ▪ Sixty-four (64) empty waste containers and fourteen (14) filled waste containers were present on the concrete pad at approximately 1100 hrs. ▪ Breezeways permanently sealed around BTT Facility building. ▪ Good housekeeping observed across the BTT Facility (refer to Photo 3, Photo 4, and Photo 5). ▪ The internal air extraction points from the BTT Facility building were observed to be due for a cleaning. This is part of the preventative maintenance works conducted by Equilibrium Air Conditioning Services Pty Ltd. 	



Photo 5 – A picture of the BTT Facility concrete pad facing south-east on 1 October 2020 at 1106 hrs

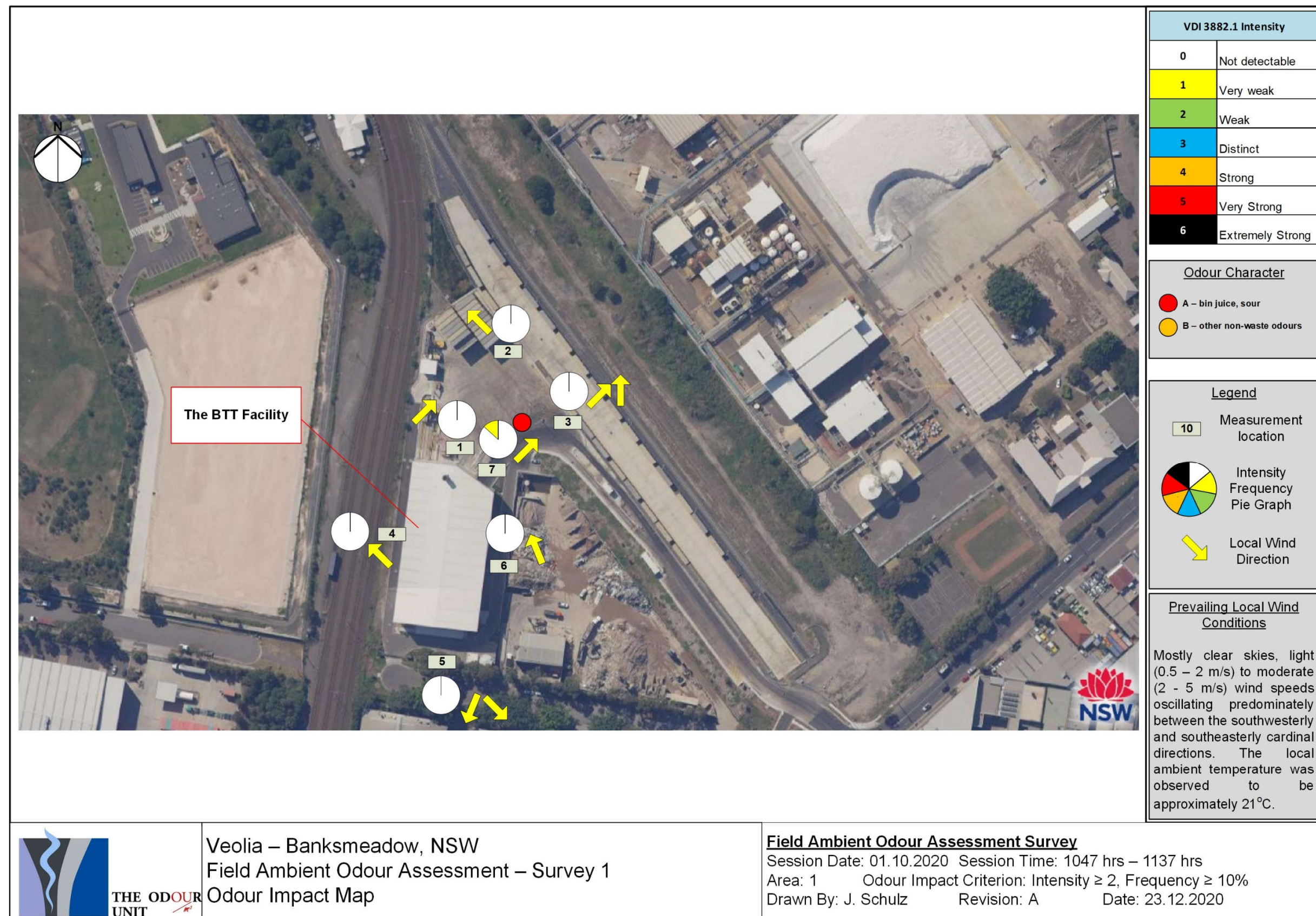


Figure 4 - FAOA survey odour impact map as conducted on 1 October 2020 between 1047 hrs and 1118 hrs (see Table 2 for details)

Table 2 - FAOA survey logsheet: 1 October 2020 between 1047 hrs and 1137 hrs

Grid Reference Position	Time (hrs)	Wind Direction	Wind speed (m/s)	Odour Present (Y / N)	Odour character	VDI 3940 Intensity Scale 0-6 Range Detected	Is odour intensity ≥ 2 (Weak) and frequency of detection $\geq 10\%$	Comments
1	1047 - 1052	SSW	2-4	N	nil detection	0	N	▪ None
2	1054 - 1059	SSE	1-3	N	nil detection	0	N	▪ None
3	1101 - 1106	S/SSW	1-3	N	nil detection	0	N	▪ None
4	1125 - 1130	SSE	1-3	N	nil detection	0	N	▪ None
5	1118 - 1123	NW- NNE/ENE	1-3	N	nil detection	0	N	▪ None
6	1110 - 1115	SSE	1-3	N	nil detection	0	N	▪ None
7	1132 - 1137	SSW	1-3	Y	bin juice, sour	0-1	N	▪ Localised odour from a waste truck with intermittent detection.

5. Odour Audit Findings

Based on the results and observations documented in **Section 4** of this memorandum report, the following findings are made:

- The roof discharge stack was found to be operating at a favourable odour performance level. Specifically, the odour performance of the roof discharge stack continues to be broadly consistent with original design performance documented in the Wilkinson & Murray Air Quality Impact Assessment dated April 2014;
- At the current roof discharge stack performance, downwind odour impacts are very unlikely. The status quo is expected to be maintained under the current operating and maintenance practices at the BTT Facility;
- A localised very weak odour was intermittently detectable within the boundary of the BTT Facility at a single measurement location points (refer to **Figure 4**) during the FAOA survey. The odour character was 'bin juice, sour' and the likely source was truck activity at the time;
- It is understood that the BTT Facility continues to implement an active service and maintenance program for the waste containers (refer to the *NSW Resource Recovery – Container Maintenance*). It is also understood that the road sweeper is utilised twice daily. As such, given the current odour mitigation and management practices and stack testing results as found in the Audit, the localised odour within the BTT Facility detected during the FAOA survey is not expected to be problematical at nearby, off-site downwind locations. This is consistent with the absence of odour complaints since the previous June 2020 Report (see point below);
- The smoke testing conducted within the BTT Facility building enclosure indicated positive results and suggested that the building ventilation air extraction system at the BTT Facility is operating in an optimum condition;
- The service logs indicate that all required maintenance works on the building ventilation air extraction system at the BTT Facility since the previous June 2020 Report have been adequately undertaken, and the system is operating in a satisfactory condition; and
- The few plastic panels at the truck entry point of the BTT Facility building enclosure were found to be missing.

6. Concluding Remark

Given the results and findings as documented in this memorandum report, TOU is of the view that the BTT Facility is operating in a manner that is very unlikely to adversely impact the local amenity from an odour viewpoint under the measured and current operating circumstances as found in the Audit. As such, there are no follow-up actions or recommendations, with the exception of replacing the missing plastic panels at the truck entry point of the BTT Facility building enclosure (refer to **Photo 3**).

The next odour audit is due in **May 2021**.

The Odour Unit Pty Ltd

Signed by:



Michael Assal MEngSc, B. Eng (Hon)/B.Sc, AMIChemE, MIEAust, CAQP
Senior Engineer & Consultant

Attachments:

- **Appendix A** – Odour Laboratory Results Reports: 1 October 2020.



APPENDIX A -

ODOUR LABORATORY RESULTS REPORT: 1 OCTOBER 2020

THE ODOUR UNIT PTY LTD



THE ODOUR
UNIT

Level 3, Suite 12
56 Church Avenue
MASCOT NSW 2020

Phone: +61 2 9209 4420
Email: info@odourunit.com.au
Internet: www.odourunit.com.au
ABN: 53 091 163 061



Accreditation Number:
14974

Odour Concentration Measurement Report

The measurement was commissioned by:

Organisation	Veolia Environmental Services	Telephone	+61 417 862 293
Contact	M. Wong	Facsimile	--
Sampling Site	Banksmeadow Transfer Facility	Email	mary.wong1@veolia.com
Sampling Method	Drum & pump, AS4323.3	Sampling Team	TOU

Order details:

Order requested by	M. Wong	Order accepted by	M. Assal
Date of order	October 2020	TOU Project #	N1906L
Order number	Refer to correspondence	Project Manager	M. Assal
Signed by	M. Wong	Testing operator	A. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian/New Zealand Standard: Stationary source emissions – Part 3: 'Determination of odour concentration by dynamic olfactometry' (AS/NZS4323.3:2001). The odour perception characteristics of the panel within the presentation series for the samples were analogous to that for butanol calibration. Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17} . This is specifically mentioned with the results.
Environment	The measurements were performed in an air - and odour - conditioned room. The room temperature is maintained at $22^\circ\text{C} \pm 3^\circ\text{C}$.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT V01.
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the AS/NZS4323.3:2001. ODORMAT V01: $r = 0.280$ (October 2019) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the AS/NZS4323.3:2001. ODORMAT V01: $A = 0.076$ (October 2019) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou, which is 4 times the lowest dilution setting.
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced, except in full.

Date: Monday, 5 October 2020

Panel Roster Number: SYD20201001_076

A. Schulz
NSW Laboratory Coordinator



THE ODOUR
UNIT

THE ODOUR UNIT PTY LTD



Accreditation Number: 14974

Odour Sample Measurement Results Panel Roster Number: SYD20201001_076

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate (ou.m ³ /m ² /s) (See Note:1)
Stack Outlet (1 of 2)	SC20616	01.10.2020 1024 hrs	01.10.2020 1455 hrs	5	10	--	--	416	416	--
Stack Outlet (2 of 2)	SC20617	01.10.2020 1145 hrs	01.10.2020 1535 hrs	5	8	--	--	362	362	--

Samples Received in Laboratory – From TOU Date: 01.10.2020 Time: 1330 hrs

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (**IFH**) samples and the calculation of the Specific Odour Emission Rate (**SOER**).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd have performed the dilution of samples.



THE ODOUR
UNIT

THE ODOUR UNIT PTY LTD



Accreditation Number: 14974

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20201001_076	51,400	$20 \leq \chi \leq 80$	832	62	Yes

Comments Odour characters (non-NATA accredited) as determined by odour laboratory panel:

SC20616 sweet, garbage, musty
SC20617 sweet, garbage, musty

Disclaimer

1. Parties, other than The Odour Unit Pty Ltd, responsible for collecting odour samples have advised that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing.
2. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.
3. Any comments included in, or attachments to, this Report are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd.
4. This report shall not be reproduced, except in full, without written approval of The Odour Unit Pty Ltd.

END OF DOCUMENT



**THE ODOUR
UNIT**

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ACN 091 165 061
ABN 53 091 165 061

Sara Maddison
Operations Project Manager - NSW Resource Recovery
Veolia Environmental Services (Australia) Pty Ltd

31 May 2021

by email: sara.maddison@veolia.com

VEOLIA BANKSMEADOW – ODOUR SCREENING SESSION OUTCOME SUMMARY

Dear Sara,

The following letter is a concise summary documenting the outcomes from an odour screening session conducted at the neighbouring site, IXOM, to the Waste Transfer Terminal Facility, 34/36 McPherson St, Banksmeadow, New South Wales (**the BTT Facility**). The odour screening session was triggered because of recent odour complaints and concerns by IXOM employees. The intent of the odour screening session was to facilitate the identification of the prevalent odour type responsible for the recent complaints and the likely source/s.

1. Odour Screening Session Methodology

The odour screening session was conducted on 28 April 2021 between 0915 hrs and 1030 hrs in a meeting room adjacent to the process control area at IXOM. The odour screening session was attended by three Veolia personnel, a TOU personnel, and several participating IXOM personnel. The IXOM participants were presented with five samples, as follows:

- Sample 1 - A blank sample, consisting of fresh air;
- Sample 2 - A sample consisting of sewage/faecal odour;
- Sample 3 - A sample consisting of canola oil/meal odour;
- Sample 4 - A sample consisting of bin juice, garbage odour. This sample was collected from the discharge stack at the BTT Facility on the morning of the odour screening session and subsequently analysed at TOU's odour laboratory that same day; and
- Sample 5 - A sample consisting of hydrogen sulphide gas, providing a rotten egg odour. The intent of this sample was to simulate the potential odour that can emanate from the waste stockpiles at the Banksmeadow Recycling Facility under atypical/upset scenarios (e.g. anaerobic conditions).

The samples were presented to the participants in a randomised order, with the following key questions put forward:

- What does the odour smell like to you?; and
- Have you smelt this odour before? If so, where?

Each participant completed the odour screening in a room segregated from the other participants to ensure minimal interference. In total, 11 IXOM personnel participated in the exercise, several of which were responsible for logging past and recent odour complaints.

2. Outcome Summary

The key outcomes from the odour screening session were as follows:

- Most of the participants could readily detect and accurately recognise the various odour descriptors for each sample;
- Most of the participants indicated that Sample 5 (rotten egg) was the recent odour detectable at their workplace.
- Most of the participants indicated that Sample 4 is the odour they typically associate with the BTT Facility and that they had detected this odour at their workplace on previous occasions but was not the prevalent odour detected in recent times;
- Apart from a single participant, all could readily detect and recognise Sample 1 as fresh air; and
- Sample 2 and Sample 3 were recognised as an odour that had been detected or is familiar outside of their workplace.

Based on the above results, and with due consideration to the recent odour audit findings for the BTT Facility, it is likely that the source of the recent odour complaints logged by IXOM is not related to the activities at the BTT Facility. Instead, there is a reasonable basis to suggest that the Banksmeadow Recycling Facility is the likely source, warranting further investigation.

Yours sincerely,

The Odour Unit Pty Ltd

Signed by:



Michael Assal MEngSc, B. Eng (Hon)/B.Sc, AMIChemE, MIEAust, CAQP
Operations Manager, Senior Engineer & Consultant

TO: MARY WONG

COMPANY: VEOLIA (AUSTRALIA) PTY LTD

FROM: MICHAEL ASSAL

DATE: 31 MAY 2021

JOB NO: N1906L.03

**SUBJECT: BANKSMEADOW WASTE TRANSFER TERMINAL FACILITY –
ON-GOING ODOUR AUDIT PROGRAM: MAY 2021**

1. Introduction

The following technical memorandum documents the findings and recommendations from an on-going, six-monthly odour audit program (**the Audit**) being conducted by The Odour Unit Pty Ltd (**TOU**) at the Veolia (Australia) Pty Ltd (**Veolia**) Waste Transfer Terminal Facility, 34/36 McPherson St, Banksmeadow, New South Wales (**BTT Facility**). The Audit documented in this memorandum report covers the outcomes from two visits conducted by TOU at the BTT Facility on the following dates:

- Visit 1 - 28 April 2021; and
- Visit 2 - 14 May 2021.

The audit program normally consists of a single site visit. However, an additional visit was included as part of the Audit to investigate if any activity or source at the BTT Facility or otherwise could be responsible for the recent odour complaints from the adjacent neighbour, IXOM. Moreover, it enabled an odour screening session to be undertaken with IXOM employees that facilitated in identifying the prevalent odour type responsible for the recent complaints. The findings from this screening session are documented separately from the Audit.

This memorandum report documents the following:

1. The results and findings from odour sampling and testing of the roof discharge stack as found during the Audit visit;
2. Documentation of field observations made during the visit that are relevant to odour management as well as the outcomes from smoke testing;
3. A review of the relevant documentation, including the service logs for the preventative maintenance works undertaken on the building ventilation air extraction system and logged odour complaints between October 2020 and May 2021; and
4. The results from the field ambient odour assessment (**FAOA**) survey undertaken within the BTT Facility at both downwind and upwind locations.

2. Relevant Background

The BTT Facility was completed in June 2016 and is designed, at full capacity, to receive up to 400,000 tonnes per annum of putrescible waste, consisting of mixed waste, including food from the municipal and commercial sectors. All received waste is delivered to the BTT Facility in enclosed waste collection trucks before being compacted and placed in sealed containers for rail transport to Veolia's site at Woodlawn for subsequent treatment, recycling, energy recovery, and disposal where required. The BTT Facility is also approved to receive up to 100,000 tonnes per annum of non-putrescible (dry) waste from the municipal, commercial, and industrial sectors for transfer to a new material recycling facility currently being scoped in Camellia.

The following report should be read in conjunction with previously issued documents relating to the BTT Facility, where applicable, including:

1. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – Odour Audit Final Report* dated 26 May 2017 (**May 2017 Report**);
2. An email-based summary report titled *Banksmeadow On-going Odour Investigation - 2 August 2017 Summary* dated 21 September 2017 documenting the works undertaken on 2 August 2017 at the BTT Facility (**August 2017 Report**);
3. A TOU Report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: January/February 2018* issued on 23 February 2018 (**the February 2018 Report**);
4. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: March to May 2018 (Rev 3)* issued on 31 May 2018 (**the March/May 2018 Report**);
5. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: June 2018* issued on 28 June 2018 (**the June 2018 Report**);
6. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: October 2018* issued on 13 November 2018 (**the November 2018 Report**);
7. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: April 2019* issued on 10 May 2019 (**the May 2019 Report**);
8. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: October 2019* issued on 19 November 2019 (**the October 2019 Report**);
9. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: May 2020* issued on 22 June 2020 (**the June 2020 Report**); and

10. A TOU report titled *Banksmeadow Waste Transfer Terminal Facility – On-going odour audit and investigation progress update: October 2020* issued on 23 December 2020 (**the December 2020 Report**).

3. Odour Audit Methodology

3.1 Odour Sampling and Testing

The odour sampling and laboratory analysis methodology are well documented in the May 2017 Report. As such, it is not reproduced in this memorandum report.

The point source sampling method was utilised to collect samples from a 10-millimetre (mm) tap point created in the common plenum chamber of the two fan modules servicing the building ventilation extraction system at the BTT Facility. An illustration of the location and sampling technique is presented in **Photo 1**.

3.2 Odour Audit Logsheet

An extract of the logsheet utilised as part of the Audit visit is provided in **Figure 1**, which was developed in previous audits conducted at the BTT Facility.

3.3 Field Ambient Odour Assessment Survey

The methodology followed for the FAOA survey is well documented in the February 2018 Report. As such, it is not reproduced in this memorandum report. For the Audit, TOU extended the FAOA survey measurement period to five-minute intervals, with discrete measurement readings collected every ten seconds (i.e. 30 ‘sniffs’ per measurement location point). The product of this measurement methodology is an intensity frequency pie graph. The odour impact criterion (i.e. the threshold that would be considered as increasing the likelihood in odour annoyance at downwind receptors) is set to an odour intensity of greater than 2 (Weak) and at a frequency of 10% per measurement cycle per location. This criterion is considered suitable given the industrial context of the BTT Facility. This detail is outlined in the FAOA map plot in **Section 4 - Figure 4**.

3.4 Smoke Testing

The methodology for smoke testing is documented in the May 2018 Report. As such, it is not reproduced in this memorandum report.

3.5 Review of relevant documentation

As part of the Audit, the following documentation was reviewed:

- Fan maintenance reports between October 2020 and May 2021; and
- Odour complaints register between October 2020 and May 2021.



10-mm sampling point

Photo 1 – An example of the roof discharge stack odour sampling point at the BTT Facility

Date		
Stack samples collected		
Waste tonnage on floor		
Observed local wind conditions		
Fan setting	EF-01 _____ Hz _____ Amps	EF-02 _____ Hz _____ Amps
Other comments		

Figure 1 – Odour audit logsheet showing the logging of key operational parameters and weather conditions

4. Results

The following section summarises the results from the sampling and testing conducted at the BTT Facility on 28 April 2021 and 14 May 2021. The odour laboratory results report is enclosed in **Appendix A**.

4.1 Roof Discharge Stack Odour Emission Results

The roof discharge stack odour emission results are presented in **Table 1**. The historical trend between waste tonnage on the floor and the stack odour emission rate at the BTT Facility until 14 May 2021 is presented in **Figure 2**. Note: the velocity readings recorded on 14 May 2021 is suspected to be erroneous given the very high readings (refer to **Section 6**).

4.2 Smoke Testing Results

Several smoke release points were undertaken to evaluate airflow patterns and fugitive emission release within the BTT Facility building enclosure. The smoke release points included the northern, middle and southern areas of the BTT Facility building enclosure. A photo of a smoke testing point at the truck entry point of the BTT Facility, as occurred on 14 May 2021, is shown in **Photo 2**. A photo of the smoke testing within the BTT Facility building enclosure is shown in **Photo 3**. The observations made during smoke testing are as follows:

- No smoke was found to be emanating from the sealed breezeways around the perimeter of the BTT Facility building;
- The released smoke was found to be well-contained within the BTT Facility building enclosure, suggesting that odour release at ground level is minimal; and
- The released smoke was found to dissipate over time gradually. This indicates that there is a very good level of air exchange turnover within the BTT Facility building enclosure.

4.3 Odour Audit Logsheet

The outcomes from the completion of the audit logsheet on 14 May 2021 is provided in **Figure 3**.

4.4 Field Ambient Odour Assessment Survey

The FAOA survey results, as occurred on 14 May 2021, is provided in **Figure 4** and **Table 2**.

4.5 General Observations

A photo of the storage container area as found on 14 May 2021 is shown in **Photo 5** and **Photo 6**. This area was found to be relatively well maintained. The truck entrance plastics strips were found to be missing a few panels (refer to **Photo 4**).

Table 1 – Comparison of stack odour emission results and recorded waste tonnage on the floor between January 2018 and May 2021

Sample No.	Sampling Date	Sampling Time (hrs)	Measured stack odour concentration (ou)	Tonnage on waste floor (tonnes)	Stack design discharge airflow (m³/s)	Calculated stack odour emission rate (ou.m³/s)	Calculated stack odour emission rate per tonne of waste on the floor (ou.m³/s)	Relevant comments
1	Monday, 8 January 2018	0930	1,450	390	109	158,100	405	--
2		1040	1,450			158,100	405	--
3	Tuesday, 9 January 2018	0940	1,720	150	55	94,080	627	Single fan operating
4		1002	1,450			79,320	529	
5	Wednesday, 10 January 2018	0942	861	30	55	47,100	1,570	Single fan operating
6		1015	939			51,360	1,710	
7	Thursday, 11 January 2018	0930	1,580	120	109	172,200	1,440	--
8		1029	1,720			187,500	1,560	--
9	Friday, 12 January 2018	0950	790	120	109	86,110	718	--
10		1032	395			43,060	359	--
11	Monday, 15 January 2018	0950	1,330	300	109	145,000	483	--
12		1100	1,450			158,100	527	--
Post-fan optimisation and service works								
13	Wednesday, 16 May 2018	1030	152	300	109	16,600	55	--
14		1035	197			21,470	72	--
Odour sampling campaign: June 2018								
1	Monday, 18 June 2018	0945	181	360	109	19,800	55	Refer to the June 2018 Report
2		1025	362			39,500	110	
3	Tuesday, 19 June 2019	0930	332	320		36,200	113	
4		0955	332			36,200	113	
5	Wednesday, 20 June 2018	0910	362	250		39,500	158	
6		0940	256			27,900	112	
7	Thursday, 21 June 2018	0925	181	350		19,700	56	
8		0950	235			25,600	73	
9	Friday, 22 June 2018	0925	91	200		9,920	50	
10		0950	91			9,920	50	
Odour audit as conducted on 11 October 2018								
1	Thursday, 11 October 2018	1145	152	500	114	17,300	35	Refer to the November 2018 Report
2		1325	181			20,600	41	
Odour audit as conducted on 10 April 2019								
1	Wednesday, 10 April 2019	1051	91	150	115	10,500	70	Refer to the May 2019 Report
2		1207	91	150	115	10,500	70	
Odour audit as conducted on 2 October 2019								
1	Wednesday, 2 October 2019	1405	157	180	104	16,400	91	Refer to the October 2019 Report
2		1500	91	100	104	9,460	95	
Odour audit as conducted on 6 May 2020								
1	Wednesday, 6 May 2020	1018	304	120	113	34,400	286	Refer to the May 2020 Report
2		1110	235	120	113	26,600	221	
Odour audit as conducted on 1 October 2020								
1	Tuesday, 1 October 2020	1024	416	270	117	48,700	180	Refer to October 2020 Report
2		1145	362	270	117	42,400	157	
Odour audit as conducted on 28 April 2021								
1	Wednesday, 28 April 2021	0830 hrs	332	180	55	18,200	101	Refer to Appendix A
Odour audit as conducted on 14 May 2021								
2	Friday, 14 May 2021	0915 hrs	197	150	143	28,200	188	Refer to Appendix A

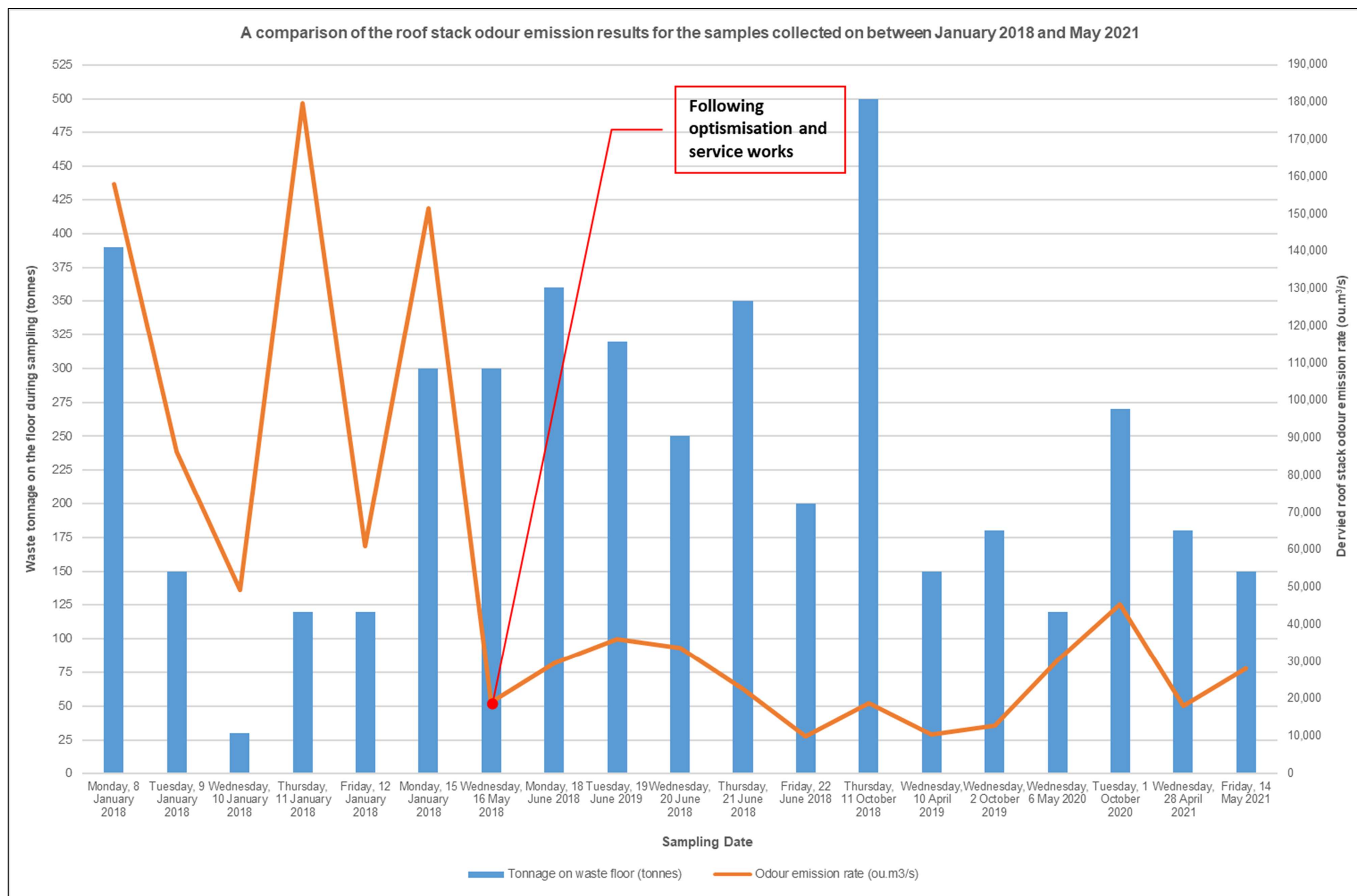


Figure 2 - Comparison of the roof stack odour emission rate between January 2018 and May 2021



Photo 2 – Smoke testing at the truck entry point of the BTT Facility building enclosure on 14 May 2021

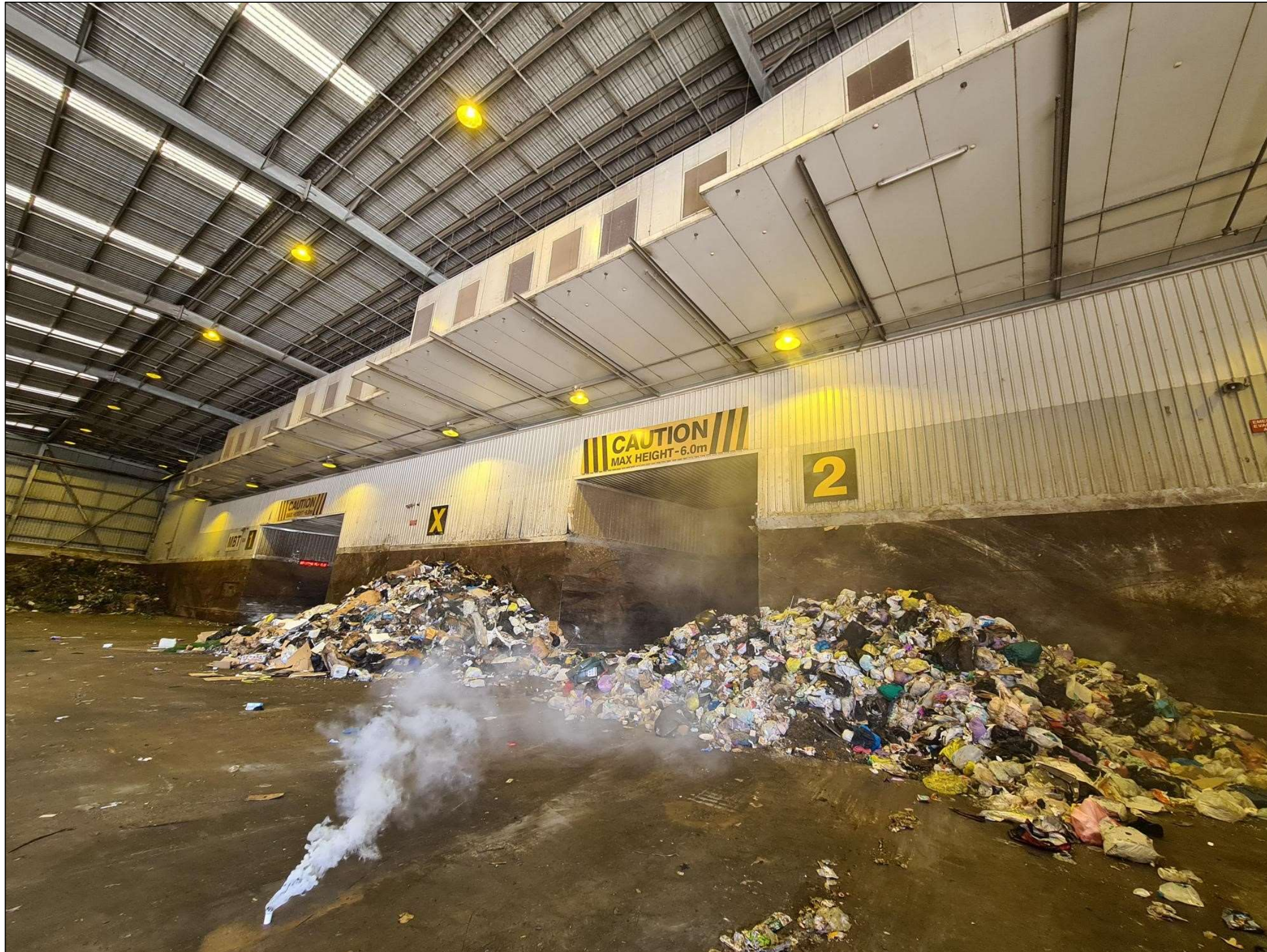


Photo 3 – A picture of the BTT Facility waste floor area during smoke testing on 14 May 2021 at 0925 hrs



Photo 4 – A view of the truck entry point to the BTT Facility building: 14 May 2021 (Note The truck entrance plastics strips were found to be missing a few panels)

Figure 3 – Completed audit logsheet as occurred on 28 April 2021 & 14 May 2021

Date	28 April 2021 & 14 May 2021	
Stack samples collected	Stack Discharge 1 of 2 collected at 0830 hrs on 28 April 2021 Stack Discharge 2 of 2 collected at 0915 hrs on 14 May 2021	
Waste tonnage on floor	Approximately 180 tonnes at 0830 hrs on 28 April 2021 Approximately 150 tonnes at 0915 hrs on 14 May 2021	
Observed local wind conditions	14 May 2021: Mostly clear skies, light (0.5 – 2 m/s) to moderate (2 - 5 m/s) wind speeds oscillating predominately between the southwesterly and northwesterly cardinal directions. The local ambient temperature was observed to be approximately 18°C.	
Fan setting	28 April 2021	
	EF-01	EF-02
	___ 0 ___ Hz	___ 45.0 ___ Hz
	___ 0 ___ Amps	___ 46.9 ___ Amps
	14 May 2021	
	EF-01	EF-02
	___ 35.0 ___ Hz	___ 50.0 ___ Hz
	___ 35.1 ___ Amps	___ 57.7 ___ Amps
Other comments	<ul style="list-style-type: none"> ▪ EF-1 discharge stack reading = 26.2 m/s. ▪ EF-2 discharge stack reading = 26.1 m/s ▪ Suction pressure reading at sampling point = -89 Pascals (Pa). ▪ Fifty-six (56) empty waste containers and sixteen (16) filled waste containers were present on the concrete pad at approximately 0845 hrs. ▪ Breezeways permanently sealed around BTT Facility building. ▪ Good housekeeping observed across the BTT Facility (refer to Photo 5 & Photo 6) ▪ The internal air extraction points from the BTT Facility building were observed to be due for a cleaning. This is part of the preventative maintenance works conducted by Equilibrium Air Conditioning Services Pty Ltd. 	



Photo 5 – A picture of the BTT Facility concrete pad facing south-east on 14 May 2021 at 0830 hrs

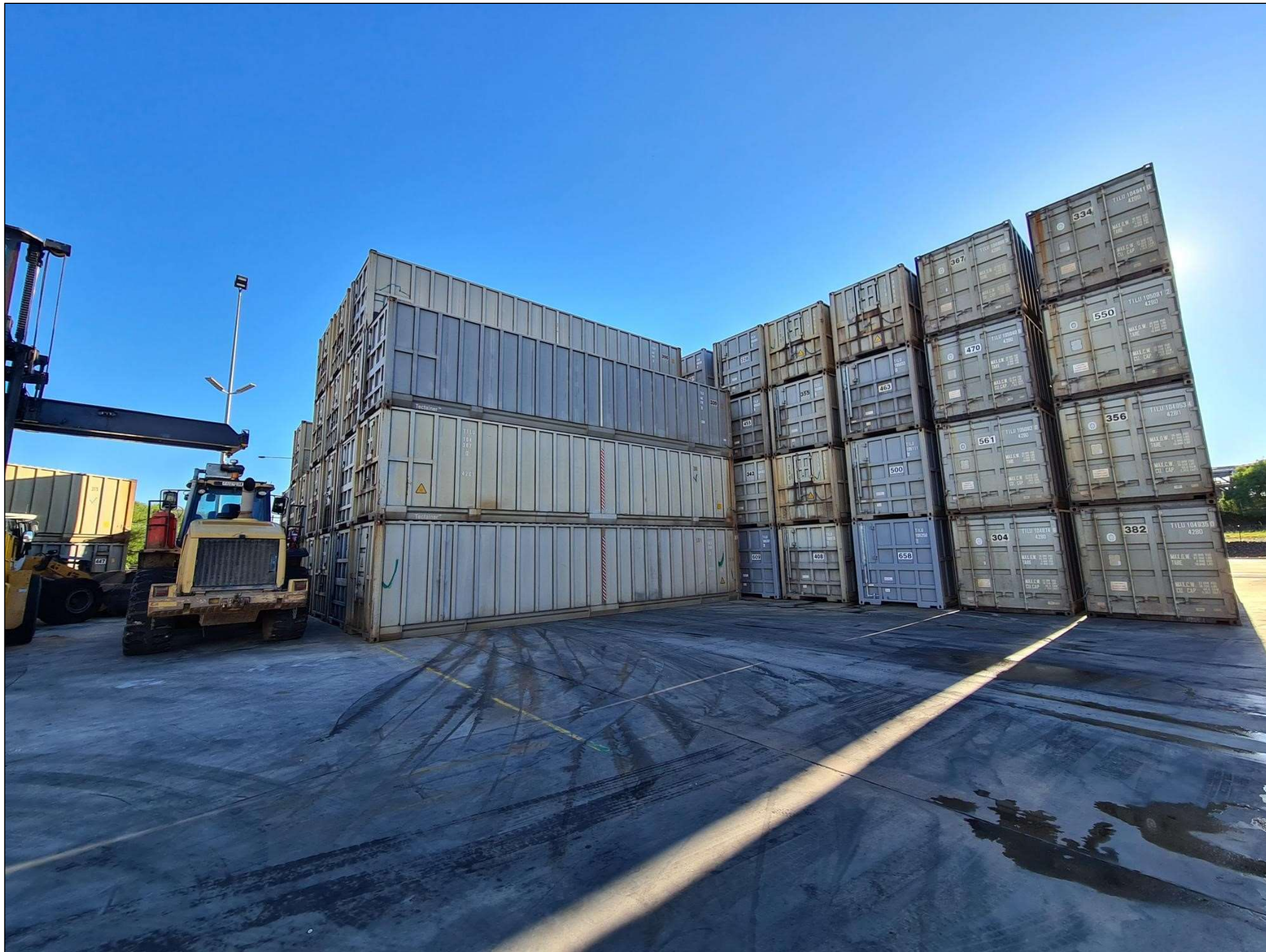


Photo 6 – A picture of the BTT Facility concrete pad facing north-west on 14 May 2021 at 0832 hrs

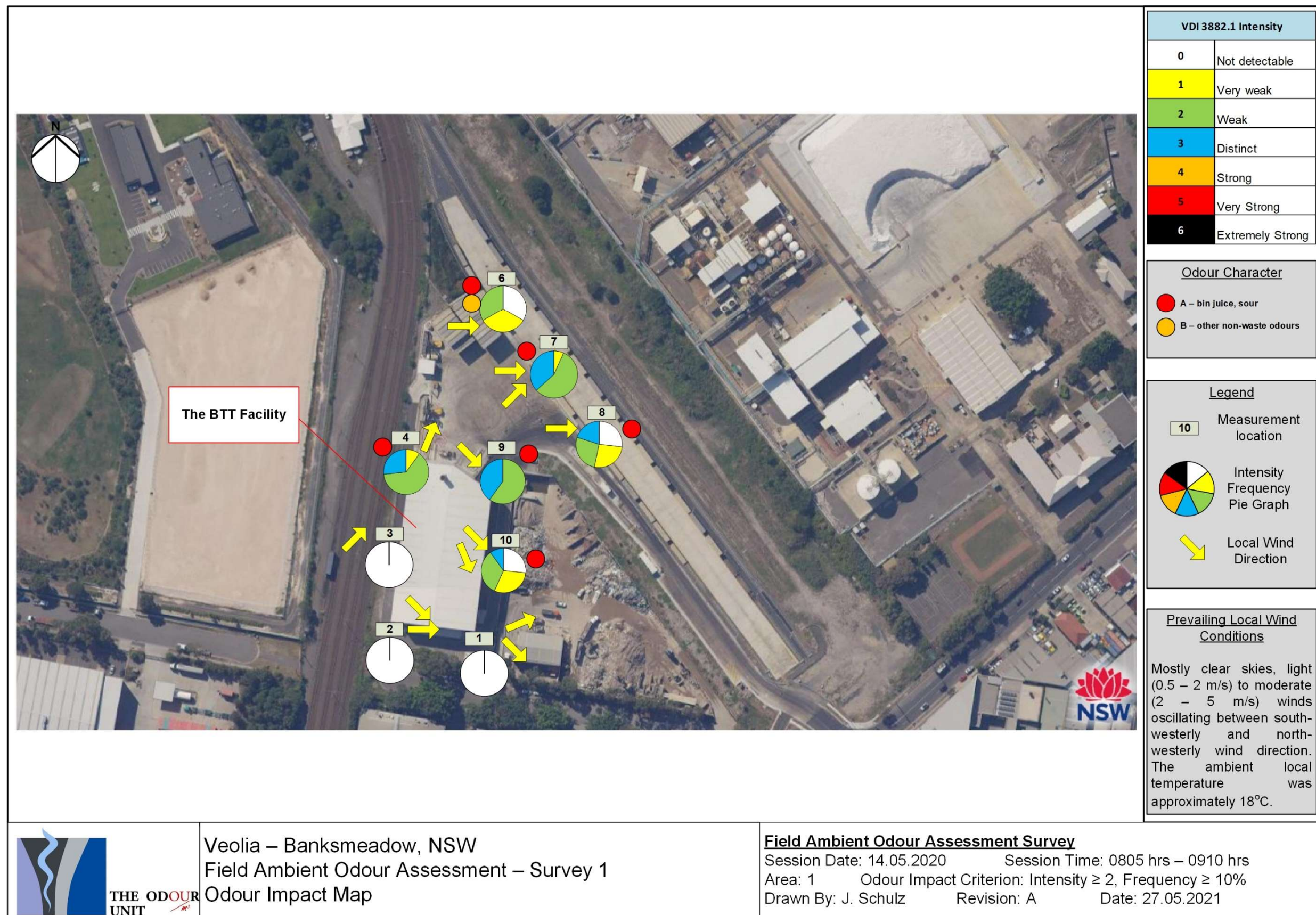


Figure 4 - FAOA survey odour impact map as conducted on 14 May 2021 between 0805 hrs and 0910 hrs (refer to Table 2 for details)

Table 2 - FAOA survey logsheet: 14 May 2021 between 0805 hrs and 0910 hrs

Grid Reference Position	Time (hrs)	Wind Direction	Wind speed (m/s)	Odour Present (Y / N)	Odour character	VDI 3940 Intensity Scale 0-6 Range Detected	Is odour intensity ≥ 2 (Weak) and frequency of detection $\geq 10\%$	Comments
1	0805 – 0810	NW-WSW	0.9 - 1.5	N	nil detection	0	N	--
2	0812 – 0817	W-NW	1.5 - 2	N	nil detection	0	N	▪
3	0820 - 0825	SW	0.5 - 2.5	N	nil detection	0	N	▪
4	0827 – 0832	SSW	1.5	Y	bin juice, sour	1 – 3	Y	▪ Localised odour within the BTT Facility boundary
6	0835 – 0840	W	2.7	Y	bin juice, sour	0 – 2	Y	▪ Localised odour within the BTT Facility boundary
					burnt meat, render, rancid			▪ Likely odour source for the 'burnt meat, render, rancid' character unknown and not related to the BTT Facility activities
7	0845 – 0850	W-SW	4	Y	bin juice, sour	0 – 3	Y	▪ Localised odour within the BTT Facility boundary
8	0850 – 0855	W	2 - 4	Y	bin juice, sour	0 – 3	Y	▪ Localised odour within the BTT Facility boundary
9	0858 – 0903	NW	2 - 3	Y	bin juice, sour	0 – 3	Y	▪ Localised odour within the BTT Facility boundary. Likely source was truck activity at the time.
10	0905 – 0910	NW-NNW	1 - 2.5	Y	bin juice, sour	0 – 3	Y	▪ Localised odour within the BTT Facility boundary

5. Odour Audit Findings

Based on the results and observations documented in **Section 4** of this memorandum report, the following findings are made:

- The roof discharge stack was found to be operating at a favourable odour performance level. Specifically, the odour performance of the roof discharge stack continues to be broadly consistent with original design performance documented in the Wilkinson & Murray Air Quality Impact Assessment dated April 2014;
- At the current roof discharge stack performance, downwind odour impacts are very unlikely. The status quo is expected to be maintained under the current operating and maintenance practices at the BTT Facility;
- A localised very weak to distinct odour was detectable within the boundary of the BTT Facility at several measurement location points (refer to **Figure 4**) during the FAOA survey. The odour character was 'bin juice, sour' and the likely source was the activities at the BTT Facility occurring at the time;
- It is noted that the fan discharge velocity readings require cross-checking given the high values (26 m/s) compared to historical records (approximately 20 m/s) and fan design specification;
- It is understood that the BTT Facility continues to implement an active service and maintenance program for the waste containers (refer to the *NSW Resource Recovery – Container Maintenance*). It is also understood that the road sweeper is utilised twice daily. As such, given the current odour mitigation and management practices and stack testing results as found in the Audit, the localised odour within the BTT Facility detected during the FAOA survey is not expected to be problematical at nearby, off-site downwind locations;
- The smoke testing conducted within the BTT Facility building enclosure indicated positive results and suggested that the building ventilation air extraction system at the BTT Facility is operating in an optimum condition;
- A formal odour complaint was logged late March 2021. In response, the BTT Facility conducted an odour screening session with the complainant, IXOM, that facilitated in identifying the prevalent odour type responsible. The findings from this screening session are documented separately from the Audit, but indicated that the BTT Facility was not likely the odour source triggering the recent odour complaints;
- The service logs indicate that all required maintenance works on the building ventilation air extraction system at the BTT Facility since the previous June 2020 Report have been adequately undertaken, and the system is operating in a satisfactory condition; and
- The few plastic panels at the truck entry point of the BTT Facility building enclosure were found to be missing. This was a similar finding in the December 2020 Report and now requires immediate action.

6. Follow-up Recommendations

Based on the findings documented in **Section 5**, the following recommendations are made:

- The plastic panels at the truck entry point require rectification as soon as practicable; and
- The stack velocity sensor requires cross-checking to validate the accuracy of the readings.

7. Concluding Remark

Given the results and findings as documented in this memorandum report, TOU is of the view that the BTT Facility is operating in a manner that is very unlikely to adversely impact the local amenity from an odour viewpoint under the measured and current operating circumstances as found in the Audit. Notwithstanding this, as part of good practice, the follow-up recommendations should be implemented as soon as practicable.

The next odour audit is due in **November 2021**.

The Odour Unit Pty Ltd

Signed by:



Michael Assal MEngSc, B. Eng (Hon)/B.Sc, AMIChemE, MIEAust, CAQP
Senior Engineer & Consultant

Attachments:

- **Appendix A** – Odour Laboratory Results Reports: 28 April 2021 & 14 May 2021.



APPENDIX A -

ODOUR LABORATORY RESULTS REPORTS: 28 APRIL 2021 & 14 MAY 2021

THE ODOUR UNIT PTY LTD



THE ODOUR
UNIT

Level 3, Suite 12
56 Church Avenue
MASCOT NSW 2020

Phone: +61 2 9209 4420
Email: info@odourunit.com.au
Internet: www.odourunit.com.au
ABN: 53 091 163 061



Accreditation Number:
14974

Odour Concentration Measurement Report

The measurement was commissioned by:

Organisation	Veolia Environmental Services	Telephone	+61 417 862 293
Contact	M. Wong	Facsimile	--
Sampling Site	Banksmeadow Transfer Facility	Email	mary.wong1@veolia.com
Sampling Method	Drum & pump, AS4323.3	Sampling Team	TOU

Order details:

Order requested by	M. Wong	Order accepted by	M. Assal
Date of order	May 2021	TOU Project #	N1906L
Order number	Refer to correspondence	Project Manager	M. Assal
Signed by	M. Wong	Testing operator	A. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian/New Zealand Standard: Stationary source emissions – Part 3: 'Determination of odour concentration by dynamic olfactometry' (AS/NZS4323.3:2001). The odour perception characteristics of the panel within the presentation series for the samples were analogous to that for butanol calibration. Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17} . This is specifically mentioned with the results.
Environment	The measurements were performed in an air - and odour - conditioned room. The room temperature is maintained at $22^\circ\text{C} \pm 3^\circ\text{C}$.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT V01.
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the AS/NZS4323.3:2001. ODORMAT V01: $r = 0.280$ (October 2019) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the AS/NZS4323.3:2001. ODORMAT V01: $A = 0.076$ (October 2019) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou, which is 4 times the lowest dilution setting.
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced, except in full.

Date: Thursday, 29 April 2021

Panel Roster Number: SYD20210428_043

A. Schulz
NSW Laboratory Coordinator



THE ODOUR
UNIT

THE ODOUR UNIT PTY LTD



Accreditation Number: 14974

Odour Sample Measurement Results Panel Roster Number: SYD20210428_043

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate (ou.m ³ /m ² /s) (See Note:1)
Stack Outlet (1 of 2)	SC21315	28.04.2021 0830 hrs	28.04.2021 1703 hrs	4	8	--	--	332	332	--

Samples Received in Laboratory – From TOU Date: 28.04.2021 Time: 1530 hrs

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (**IFH**) samples and the calculation of the Specific Odour Emission Rate (**SOER**).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd have performed the dilution of samples.



THE ODOUR
UNIT

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Accreditation Number: 14974

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20210428_043	51,400	$20 \leq \chi \leq 80$	861	60	Yes

Comments Odour characters (non-NATA accredited) as determined by odour laboratory panel:

SC21315 sweet, garbage, musty

Disclaimer

1. Parties, other than The Odour Unit Pty Ltd, responsible for collecting odour samples have advised that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing.
2. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.
3. Any comments included in, or attachments to, this Report are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd.
4. This report shall not be reproduced, except in full, without written approval of The Odour Unit Pty Ltd.

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THE ODOUR UNIT PTY LTD



THE ODOUR
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Email: info@odourunit.com.au
Internet: www.odourunit.com.au
ABN: 53 091 163 061



Accreditation Number:
14974

Odour Concentration Measurement Report

The measurement was commissioned by:

Organisation	Veolia Environmental Services	Telephone	+61 417 862 293
Contact	M. Wong	Facsimile	--
Sampling Site	Banksmeadow Transfer Facility	Email	mary.wong1@veolia.com
Sampling Method	Drum & pump, AS4323.3	Sampling Team	TOU

Order details:

Order requested by	M. Wong	Order accepted by	M. Assal
Date of order	May 2021	TOU Project #	N1906L
Order number	Refer to correspondence	Project Manager	M. Assal
Signed by	M. Wong	Testing operator	A. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian/New Zealand Standard: Stationary source emissions – Part 3: 'Determination of odour concentration by dynamic olfactometry' (AS/NZS4323.3:2001). The odour perception characteristics of the panel within the presentation series for the samples were analogous to that for butanol calibration. Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17} . This is specifically mentioned with the results.
Environment	The measurements were performed in an air - and odour - conditioned room. The room temperature is maintained at $22^\circ\text{C} \pm 3^\circ\text{C}$.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT V01.
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the AS/NZS4323.3:2001. ODORMAT V01: $r = 0.280$ (October 2019) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the AS/NZS4323.3:2001. ODORMAT V01: $A = 0.076$ (October 2019) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou, which is 4 times the lowest dilution setting.
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

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Date: Tuesday, 18 May 2021

Panel Roster Number: SYD20210514_051

A. Schulz
NSW Laboratory Coordinator



THE ODOUR
UNIT

THE ODOUR UNIT PTY LTD



Accreditation Number: 14974

Odour Sample Measurement Results Panel Roster Number: SYD20210514_051

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate (ou.m ³ /m ² /s) (See Note:1)
Stack Outlet (2 of 2)	SC21377	14.05.2021 0915 hrs	14.05.2021 1616 hrs	4	8	--	--	197	197	--

Samples Received in Laboratory – From TOU Date: 14.05.2021 Time: 1300 hrs

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (**IFH**) samples and the calculation of the Specific Odour Emission Rate (**SOER**).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd have performed the dilution of samples.



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Accreditation Number: 14974

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20210514_051	51,400	$20 \leq \chi \leq 80$	724	71	Yes

Comments Odour characters (non-NATA accredited) as determined by odour laboratory panel:

SC21377 sweet, garbage, musty

Disclaimer

1. Parties, other than The Odour Unit Pty Ltd, responsible for collecting odour samples have advised that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing.
2. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.
3. Any comments included in, or attachments to, this Report are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd.
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Appendix D - Pest and Vermin Control Reports

SERVICE REPORT

19/05/2020

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
Banksmeadow Transfer Terminal
34-36 Mcpherson St
BANKSMEADOW NSW 2019

Service Details:

A routine pest control service to offices, staff
room, shed, compactor and external area
for cockroaches, ants, spiders and rodents.
Inspected and treated office, staffrooms, kitchens
and toilets by using Goliath cockroach gel.
Inspected and treated compactor areas, shed and
external area by using Goliath cockroach gel,
Coopex dust spot spray and Roban rodent bait.

SERVICE REPORT

5/08/2020

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
Banksmeadow Transfer Terminal
34-36 Mcpherson St
BANKSMEADOW NSW 2019

Service Details:

A routine pest control service to offices, staff room, shed, compactor and external area for cockroaches, ants, spiders and rodents. Inspected and treated office, staffrooms, and toilets by using Goliath cockroach gel. Inspected and treated compactor areas, shed and external area by using Goliath cockroach gel, Coopex dust spot spray, Cislin 25 spray and Roban rodent bait.

SERVICE REPORT

6/11/2020

Service Performed by:

EXPERT JUDGEMENT

PEST MANAGEMENT PTY LTD

PO Box A25, ENFIELD SOUTH NSW 2133

enquiries@expertjudgementpest.com.au

Telephone: (02) 9715 5270

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Property Detail:

Veolia Environmental Services (Australia) Pty Ltd
Banksmeadow Transfer Terminal
34-36 Mcpherson St
BANKSMEADOW NSW 2019

Service Details:

A routine pest control service to offices, staff
room, shed, compactor and external area
for cockroaches, ants, spiders and rodents.
Inspected and treated office, staffrooms,
and toilets by using Goliath cockroach gel.
Inspected and treated compactor areas, shed
and external area by using Goliath cockroach
gel, Cislin 25 spray and Roban rodent bait.

SERVICE REPORT

3/02/2021

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
Banksmeadow Transfer Terminal
34-36 Mcpherson St
BANKSMEADOW NSW 2019

Service Details:

A routine pest control service to offices, staff room, shed, compactor and external area for cockroaches, ants, spiders and rodents. Inspected and treated all areas including shed, pitt area, office, kitchen and toilets by using Goliath cockroach gel, Coopex dust spot spray, Battleaxe pro cockroach gel and Roban rodent bait. Inspected and treated external areas by using Cislin 25 spray and Roban rodent bait. Ant and rodent activity found in external areas and treated as per the above.

Appendix E - Complaints register

Date	Time	Method	Person Details	Nature of the Odour	Action taken by Veolia	Follow-up contact	Further Action taken by Veolia <i>(if not, then explanation why added to commentary)</i>
26 - 30/03/21	Early in the morning	Botany Industrial Park	Lauren Sibigtroth (BIP) Lauren.Sibigtroth@genos.com	Odour complaints	<p>Short periods of offensive odour was detected at IXOM.</p> <p>Wind speed at time of complaint varied between 11-20 km/h</p> <p>Wind direction at time of complaint: Westerly and South-Westerly winds</p>	<p>Lauren from BIP sent an email and reached out to the site manager in regards to an ongoing offensive odour, it was compared to rotten eggs and was causing some IXOM operators to feel ill.</p>	<p>Veolia BTT contracted The Odour Unit to further investigate the offensive odour. A smell screening consisting of various odour samples such as: garbage, canola oil, hydrogen sulfide, clean air, and sewage were used. This screening was conducted by the Odour Unit at IXOM, operators at that facility were asked which offensive odour was detected on their site.</p> <p>It was concluded that hydrogen sulfide was the offensive odour and the source came from a neighbouring site (BM Recycling Banksmeadow). Veolia BTT will continue to monitor and communicate with stakeholders.</p>