



THE ODOUR
UNIT *m³*



Veolia Environmental Services (Australia) Pty Limited

Clyde Waste Transfer Terminal

Odour Audit XX

November 2012

THE ODOUR UNIT PTY LTD

ABN 5309 116 5061

ACN 091 165 061

Australian Technology Park
Locomotive Workshop
Suite 16012, 2 Locomotive St
EVELEIGH, NSW 2015
www.odourunit.com.au

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

Project Number: N1473

Report Revision		
Revision Number	Date	Description
Draft V1	14.12.2012	Issued to client for review
Final Report	17.12.2012	Final Report issued
Report Preparation		
Report Prepared By: M. Assal		Approved By: T.Schulz
Report Title: Veolia Environmental Services (Australia) Pty Limited Clyde Waste Transfer Terminal – Odour Audit XX		

CONTENTS

1	INTRODUCTION	4
2	FINDINGS.....	5
2.1	Assessment of General Housekeeping.....	5
2.1.1	Transfer Building	5
2.1.2	Container Packing Area and Site Roadways	5
2.1.3	Odour Extraction System Maintenance.....	6
2.1.4	Odour Minimising Procedures.....	6
2.1.5	Transfer Building	6
2.1.6	Truck Entrance Plastic Strips.....	7
2.1.7	Smoke Testing.....	7
2.1.8	Stormwater Retention Pond.....	9
2.2	Odour Complaints Handling and Meteorological Data.....	9
2.2.1	Odour Complaints Handling.....	9
2.2.2	Meteorological Data.....	9
2.3	Field Ambient Odour Assessment Methodology.....	9
2.3.1	Field Ambient Odour Assessment - Results.....	11
3	RECOMMENDATIONS/FOLLOW-UP	12
3.1	Transfer Building.....	12
3.2	Compactor Area.....	12
3.3	Odour Extraction System.....	12

APPENDICES

Appendix A: Odour Extraction System Service Report (June 2012 – October 2012)

Appendix B: Weather Data Calibration Reports (August 2012 & November 2012)

Appendix C: Field Ambient Odour Assessment Plot and Field Sheets (20 November 2012)

1 INTRODUCTION

The Odour Unit Pty Ltd (TOU) was commissioned by Veolia Environmental Services (Australia) Pty Ltd (VES) to undertake the twentieth Odour Audit at the Clyde Transfer Terminal (CTT) on 20 November & 12 December 2012. This Odour Audit is the tenth to be carried out since the commissioning of the new forced air extraction system within the transfer building. Odour Audit XX covers the 6-month period from May 2012 to November 2012. The audit was carried out by TOU Engineer Michael Assal.

Odour Audit requirements of the Conditions of Consent – 48(f) are outlined below:

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

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

As with previous Audits, Odour Audit XX focused on issues relating to general housekeeping, fugitive odour emissions from the transfer building, ground level odour impacts, meteorological monitoring, complaints handling and actions on past Odour Audit recommendations. The approach included a general inspection and smoke testing of the transfer building, inspection of the container packing area and site access roads; inspection of the complaint register; review of the site meteorological data log and equipment maintenance/calibration; and an off-site downwind field ambient odour survey.

At the time of this Audit a light wind from the south/southeast was blowing.

2 FINDINGS

2.1 Assessment of General Housekeeping

2.1.1 Transfer Building

During the Audit visit in November, there were approximately 400-500 tonnes of waste on the floor, according to VES Staff. This tonnage is considered to be within the normal operational range of the Transfer Station at the time this Audit was being carried out. The transfer building floor area not covered by waste material was observed to be reasonably clean, with no evidence of leachate or aged material. General housekeeping procedures of the transfer building were good, as observed during a truck-unloading sequence. It was also observed that the site's front-end loaders cleared the floor area of waste on a regular basis, minimising the exposed area of waste.

As with previous audits, and consistent with TOU's experience at other transfer stations, there was a weak to distinct level of odour observed within the building.

2.1.2 Container Packing Area and Site Roadways

The container packing area and site roadways were clean and well managed with no waste or leachate exposed at the time of this audit. The container compacting/train packing area had a weak Municipal Solid Waste (MSW) odour present but it was confined to this area only. The general house-keeping around this area was observed to be of high quality, with no evidence to suggest otherwise.

As with previous audits, the Site Manager informed the TOU auditor that the containers are cleaned off site at Veolia's Woodlawn facility. The weight of each container is monitored to determine if there is any waste that has not been removed completely from each container, which in turn reduces the likelihood of the containers contributing to the site's odour levels.

2.1.3 Odour Extraction System Maintenance

Service documentation was provided and inspected for the maintenance of the odour extraction system (refer **Appendix A**). Service logs were provided from June 2012 to October 2012. Each service log provided showed that the required maintenance was taking place and the odour extraction system was operating well. The service logs during this period noted that the fan belts were starting to crack and required replacement. It is understood that this was to be carried out once the cleaning and maintenance works on the odour extraction collection system was completed. During this Audit, the maintenance works to the fans and odour extraction system were ongoing. The next Audit will report whether all works have been successfully completed. The maintenance technician also stated in the service logs that exhaust airflow velocities through the stack will be measured upon completion of all maintenance works.

During this Audit, the odour extraction system (and Transfer Terminal Building) was being cleaned of excess build-up of particulates and dust. This can be considered a major housekeeping exercise. The Auditor did note during both November and December visits that the odour extraction system and internal walls of the Transfer Terminal Building were cleaner than that seen in the previous Audit as a result of the cleaning works.

2.1.4 Odour Minimising Procedures

The Site Manager informed the auditor that odour minimisation procedures continue to be regularly reviewed at Tool Box meetings and new issues/recommendations are raised with all staff members at these meetings.

2.1.5 Transfer Building

Inspection of the Transfer Terminal Building revealed that most of the rubber mats that seal the breezeways were in place, with five (5) mats identified as fallen down and three (3) requiring repair/replacement. These were located on the eastern and western side of the Transfer Building. It is recommended that these are rectified as soon as possible.

All other doors and roller shutters of the transfer building were found to be shut at the time of the odour audit, reducing the likelihood of odour impacts detected offsite. Similarly, the louvres on the end walls of the Transfer Building were observed to be permanently shut.

2.1.6 Truck Entrance Plastic Strips

The truck entrance strips of the Transfer Building, used to reduce odour escaping through the opening, were found to be mostly intact with 4-5 panels missing/requiring repair. Action to rectify this should be taken as soon as possible. Experience has determined that these strips contribute to containing odour within the building and therefore require daily check-ups to ensure they are all intact.

2.1.7 Smoke Testing

As per previous audits smoke testing was carried out within the Transfer Building to assist in determining the effectiveness of the forced air extraction system as well as well as the extent to which the transfer building has been sealed from leaks. Smoke was released from within the building from three (3) different points within the Transfer Building. **Figure 2.1** shows the 3 points where the smoke was released within the Transfer Building. These are identical locations to that used in previous audits.

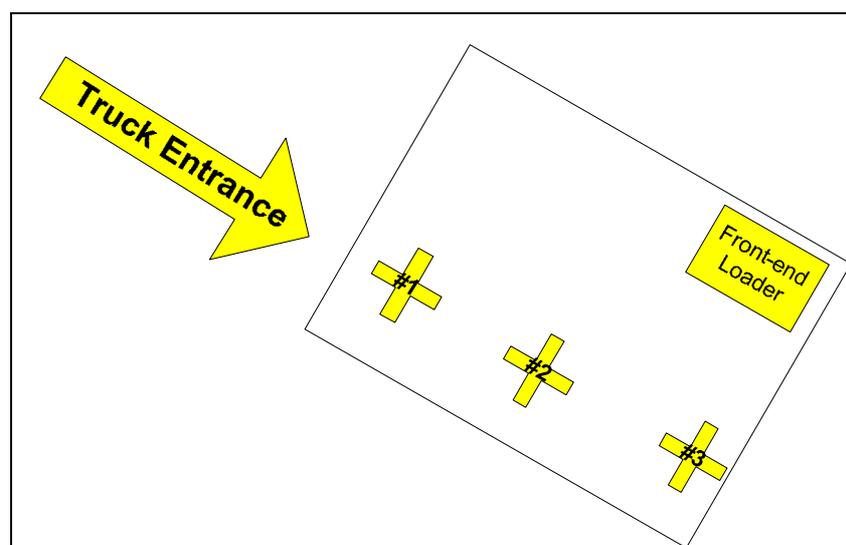


Figure 2.1 - Smoke testing release points within the Transfer Building.

Smoke testing had to be delayed in the initial Audit visit to the site on 20 November 2012, due to maintenance works been carried out on the fan extraction system resulting it being temporarily offline. The smoke testing was followed up on 12 December 2012.

Smoke Testing Point #1

Smoke testing was carried out at the truck entrance and the smoke was observed to initially move upwards towards the roof and then towards the extraction fan. There was no observed movement towards the truck entrance.

Smoke Testing Point #2

Smoke released from the second point initially moved upwards in eddies and was gradually drawn into the extraction system.

Smoke Testing Point #3

Smoke released at this point initially rose gradually moving towards the truck entrance before rising to the roof and moving towards the extraction system. No smoke was observed to escape the building. The smoke testing at this point revealed that there could be a possibility that the western section (closest to the truck entrance) of the fan extraction collection system is sub-optimally capturing air than the eastern section (furthest from the truck entrance). The reason for this should be investigated. TOU had informed VES personnel on the same day smoke testing was carried out.

The overall finding of the smoke testing was that the extraction system is working at a satisfactory capacity, however, it appears that the system may not be operating as effectively in some sections as the previous Audit. The reason for this could be related to the cleaning works and should be investigated as a matter of priority. Notwithstanding this, there was no evidence to suggest fugitive odour releases from the Transfer Terminal Building.

2.1.8 Stormwater Retention Pond

TOU observed that there was no effluent in this pond at the time this Audit was carried out. There was no odour detectable at this time of this audit that could be linked directly back to this pond.

2.2 **Odour Complaints Handling and Meteorological Data**

2.2.1 Odour Complaints Handling

There were no complaints recorded in the complaints register since the last odour audit.

2.2.2 Meteorological Data

The meteorological data provided to TOU for the period from May 2012 to November 2012 was inspected and found to be in good order. As previously, observations were recorded in 15-minute intervals, and included all parameters necessary to develop a meteorological dataset for odour dispersion modelling.

The weather station is located in an accessible area with no vegetation overgrown immediately around the weather station pole, as indicated by the Quarterly Service Documents provided by VES. Servicing and calibrations were carried out as required in August 2012 and November 2012 by Hydrometric Consulting Services. The weather data calibration reports for both service visits are attached in **Appendix B**.

2.3 **Field Ambient Odour Assessment Methodology**

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

Field based ambient odour surveys are considered a valuable odour impact assessment tool as previous experience with ambient odour sampling and subsequent

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

An ambient odour assessment was performed offsite of the Clyde facility on 20 November 2012 between 1055 hrs – 1136 hrs. The ambient odour assessment focused offsite as required by the Conditions of Consent on “.....*nearby commercial and residential areas.....*” (Section 48 (f)). The TOU assessors firstly determined the wind direction using a compass and then assessed downwind locations of the transfer terminal building.

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

2.3.1 Field Ambient Odour Assessment - Results

The results from the FAOA survey conducted during this Audit found that no odours were detected offsite that could be linked back to the Transfer Station. The field log sheets and odour impact map are attached as **Appendix C**.

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

3 RECOMMENDATIONS/FOLLOW-UP

3.1 Transfer Building

The on-going need to repair the rubber mats sealing the breezeway around the Transfer Building has been identified in earlier audits. The previous audit in May 2012 found similar issues. TOU suggests that the fallen mats identified around the breezeway in this Audit be returned to the intended position and secured, and that those that are faulty be repaired. Additionally, repair and attention of the missing/damaged truck entrance strips should also be carried out.

All necessary follow-up repairs mentioned should be completed as soon as possible (see **Section 2.1.5** for details).

3.2 Compactor Area

During this audit, the compactor area was found to be in a better state than that observed in the previous Audit. This demonstrates that good house-keeping practices are being undertaken in this area.

3.3 Odour Extraction System

It is recommended that the performance of the odour extraction system be checked to determine if it is adequately working. The Audit smoke testing did demonstrate some tendency for sub-optimal capture at some of the ventilation extraction points (see **Section 2.1.3**) of the Transfer Terminal Building. The reason for this should be investigated as a matter of priority. The next Audit will review the service logs to ensure that the minimum stack velocity of 19.1 m/s is being achieved. It is envisaged that all the maintenance works will have been completed by that time.

Overall, this Audit found that the operation and maintenance of the odour management system at the plant were satisfactory, with no evidence to suggest significant fugitive emission release from the Transfer Terminal Facility. This Audit recommends that the planned maintenance works be completed as soon as possible complemented by repairs to the breezeway seals and truck entrance strips.



Appendix A –

Odour Extraction System Service Report

(June 2012 – October 2012)

Craig Doorey

From: no-reply@bsa.com.au
 Sent: Wednesday, 31 October 2012 2:41 PM
 To: service@triple-m.com.au; dblore@bsa.com.au; Craig Doorey
 Subject: Field Data Capture Notification - Triple M - NSW - Service Docket



Technical Maintenance Services

A BSA Limited Company 

Triple M Fire ABN 37 101 246 351 | QLD ABN 81 096 895 288
 NSW ABN 50 063 395 013 | Arctic Licence AU03033

Triple M - NSW - Service Docket

117	2358
Time Start	Wed Oct 31 2012 14:34:02 GMT+1100 (EST)
Client Details	CLYDE - MAINTENANCE
Address	322 Parramatta Rd, Clyde NSW 2142
Site Contact Telephone Number	02 8868 740 1
Customer Ref Number	4502270809
Type of Service	Preventative Maintenance
Job / Service Call Number	46040
Fault Description	CLYDE WASTE - PM October
Asset Type Affected	AIR HANDLING PLANT/UNIT
Maintenance Done	
Description of Work Done	Carried routine maintenance as per schedule for October. Checked unit operations and belts. Most belts now starting to crack and will be replaced as soon as cleaning is carried out which should be in the next month. Will carry out air flow test as soon as new belts are installed.
Barcode Label Entry Method	Scan
Parts, Materials?	No
Ancillaries	
Job Status	Completed

Technician's Signature

Client Signature

Forwarding Email craig.doorey@veolia.com.au
 User ID TNSS-MLY

Job Safety Analysis

ID	52359
Job/Service Call Number	46040
Work to be done	CLYDE WASTE - PM October
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, Long Sleeve Shirt, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes
Access / Egress to equipment hazard present?	Yes
Ensure clear and safe access/egress to equipment.	1
Trips, slips, and falls hazard present?	No
Roof Access hazard present?	No
Working on roof?	No
Remain on walkways and paths	No
Manual Handling?	No
Client/General Public/vehicle control?	No
Electrical works?	No
Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Working from heights?	No
Working from a step ladder?	No
Electrical tools & equipment being used?	No
Using HazMat?	No
Welding or oxy cutting?	No
Cooling towers? Bio Hazards?	No
Handling refrigerant?	No

Technician's Signature



Tech Times

ID	52359
Job Number	46040
Date Worked	2012-10-31 14:38:18
Name of Tech	Mick Iye
Technician Classification	Tradesman

"Email Report"

A BSA - Technical Maintenance Services Company
 BSA Ltd - All rights reserved.

Craig Doorey

From: no-reply@bsa.com.au
 Sent: Friday, 28 September 2012 12:43 PM
 To: service@triple-m.com.au; Craig Doorey
 Subject: Field Data Capture Notification - Triple M - NSW - Service Docket



Technical Maintenance Services

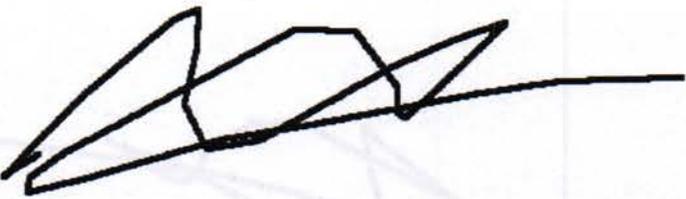
'A BSA Limited Company' 

Triple M Fire ABN 37 101 246 351 | QLD ABN 81 096 895 288
 NSW ABN 50 063 395 013 | Arctick Licence AU03033

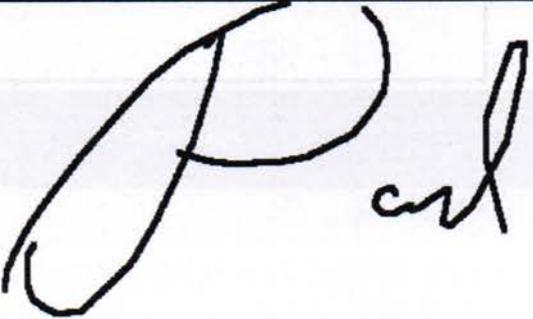
Triple M - NSW - Service Docket

ID	2121
Time Start	Fri Sep 28 2012 11:53:45 GMT+1000 (EST)
Client Details	CLYDE - MAINTENANCE
Address	322 Parramatta Rd, Clyde NSW 2142
Site Contact Telephone Number	02 8868 7401
Customer Ref Number	4502245695
Type of Service	Preventative Maintenance
Job / Service Call Number	41723
Fault Description	CLYDE WASTE - PM September
Asset Type Affected	EQUIPMENT NOT SELECTED
Maintenance Done	
Description of Work Done	Carried out routine check of ventilation fans. Belts and flex connection still require replacement soon. Checked unit operations. No other issues found.
Barcode Label Entry Method	Scan
Parts, Materials?	No
Ancillaries	
Job Status	Completed

Technician's Signature



Client Signature



Forwarding Email craig.doorey@veolia.com.au

User ID TNSS-MLY

Job Safety Analysis

ID	S2121
Job/Service Call Number	41723
Work to be done	CLYDE WASTE - PM September
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes
Access / Egress to equipment hazard present?	No
Trips, slips, and falls hazard present?	No
Roof Access hazard present?	No
Working on roof?	No
Remain on walkways and paths	No
Manual Handling?	No
Client/General Public/vehicle control?	No
Electrical works?	Yes
Isolate power.	1
Locked out & Tagged.	1
Test before touching complete.	0
Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Working from heights?	Yes
Platform adequate for task.	1
Working from a step ladder?	No
Electrical tools & equipment being used?	No
Using HazMat?	No
Welding or oxy cutting?	No
Cooling towers? Bio Hazards?	Yes
Use appropriate Personnel Protective Equipment.	1
Handling refrigerant?	No

Technician's Signature



Post Photos?

ID	S2121
Job Number	41723

Photo



Email Report

A BSA - Technical Maintenance Services Company

BSA Ltd - All rights reserved.

Craig Doorey

From: no-reply@bsa.com.au
 Sent: Tuesday, 28 August 2012 2:29 PM
 To: service@triple-m.com.au; Craig Doorey
 Subject: Field Data Capture Notification - Triple M - NSW - Service Docket



Technical Maintenance Services

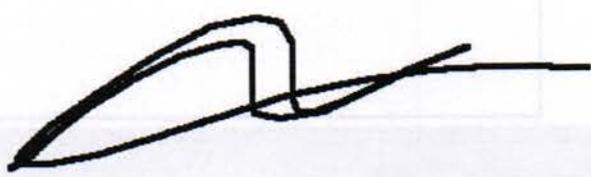
'A BSA Limited Company' 

Triple M Fire ABN 37 101 246 351 | QLD ABN 81 096 895 288
 NSW ABN 50 063 395 013 | Arctick Licence AU03033

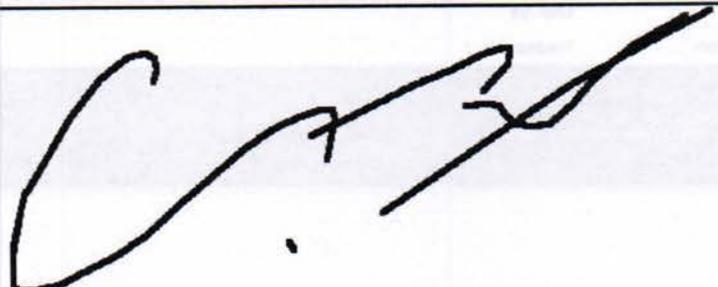
Triple M - NSW - Service Docket

ID	1948
Time Start	Tue Aug 28 2012 14:24:54 GMT+1000 (EST)
Client Details	CLYDE - MAINTENANCE
Address	322 Parramatta Rd, Clyde NSW 2142
Site Contact Name	Craig
Site Contact Telephone Number	02 8868 7401
Type of Service	Preventative Maintenance
Job / Service Call Number	38039
Fault Description	CLYDE WASTE - PM August 8AUM
Asset Type Affected	EXTRACTION SYSTEM
Maintenance Done	
Description of Work Done	Carried out routine maintenance as per schedule for August. Checked belts and unit operations. Belts are continuing to crack and will be replaced in the next couple of weeks when arrangements are made to carry out works.
Barcode Label Entry Method	Scan
Parts, Materials?	No
Ancillaries	
Job Status	Completed

Technician's Signature



Client Signature



Forwarding Email craig.doorey@veolia.com.au

Job Safety Analysis

ID	S1948
Job/Service Call Number	38039
Work to be done	CLYDE WASTE - PM August 8AUM
Protective Equipment to be Used During Works	Gloves, Safety Glasses, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes
Access / Egress to equipment hazard present?	No
Trips, slips, and falls hazard present?	No
Roof Access hazard present?	No
Working on roof?	No
Remain on walkways and paths	No
Manual Handling?	No
Client/General Public/vehicle control?	No
Electrical works?	No
Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Working from heights?	No
Working from a step ladder?	No
Electrical tools & equipment being used?	No
Using HazMat?	No
Welding or oxy cutting?	No
Cooling towers? Bio Hazards?	No
Handling refrigerant?	No

Technician's Signature



Tech Times

ID	S1948
Job Number	38039
Name of Tech	Mick Iye
Technician Classification	Tradesman

Email Report

A BSA - Technical Maintenance Services Company

BSA Ltd - All rights reserved.

Craig Doorey

From: no-reply@bsa.com.au
 Sent: Monday, 30 July 2012 4:06 PM
 To: service@triple-m.com.au; Craig Doorey
 Subject: Field Data Capture Notification - Triple M - NSW - Service Docket



Technical Maintenance Services

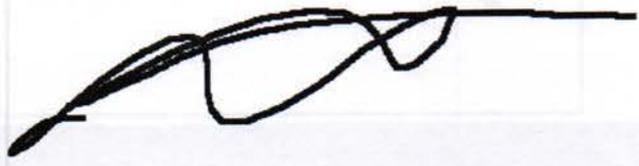
'A BSA Limited Company' 

Triple M Fire ABN 37 101 246 351 | QLD ABN 81 096 995 288
 NSW ABN 50 063 395 013 | Arctick Licence AU03033

Triple M - NSW - Service Docket

ID	1712
Time Start	Mon Jul 30 2012 16:00:05 GMT+1000 (EST)
Client Details	VEOLIA CLYDE - MAINTENANCE
Address	322 Parramatta Rd, Clyde NSW 2142
Site Contact Telephone Number	02 8868 7401
Type of Service	Preventative Maintenance
Job / Service Call Number	35118
Fault Description	7JLM - July Monthly Maintenance
Asset Type Affected	AIR HANDLING PLANT /UNIT
Maintenance Done	
Description of Work Done	Carried out routine maintenance as per schedule for July. Checked belts and unit operation. Belts are showing some minor cracks and will be replaced after air handling room is cleaned.
Barcode Label Entry Method	Scan
Parts, Materials?	No
Ancillaries	
Job Status	Completed

Technician's Signature



Client Signature



Forwarding Email

craig.doorey@veolia.com.au

Job Safety Analysis

ID	S1712
Job/Service Call Number	35118
Work to be done	7JLM - July Monthly Maintenance
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes
Access / Egress to equipment hazard present?	No
Trips, slips, and falls hazard present?	No
Roof Access hazard present?	No
Working on roof?	No
Remain on walkways and paths	No
Manual Handling?	No
Client/General Public/vehicle control?	No
Electrical works?	No
Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Working from heights?	No
Working from a step ladder?	No
Electrical tools & equipment being used?	No
Using HazMat?	No
Welding or oxy cutting?	No
Cooling towers? Bio Hazards?	No
Handling refrigerant?	No

Technician's Signature



Tech Times

ID	S1712
Job Number	35118
Date Worked	2012-07-30 16:05:09
Name of Tech	Mick Iye
Technician Classification	Tradesman

Email Report

A BSA - Technical Maintenance Services Company

BSA Ltd - All rights reserved.

Craig Doorey

From: no-reply@bsa.com.au
 Sent: Friday, 29 June 2012 4:14 PM
 To: service@triple-m.com.au; Craig Doorey
 Subject: Field Data Capture Notification - Triple M - NSW - Service Docket



Technical Maintenance Services

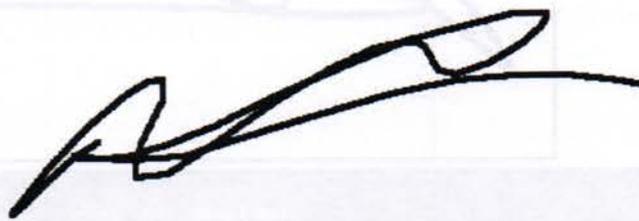
'A BSA Limited Company' 

Triple M Fire ABN 37 101 246 351 | QLD ABN 81 096 895 268
 NSW ABN 50 063 395 013 | Arctick Licence AU03033

Triple M - NSW - Service Docket

ID	1394
Time Start	Fri Jun 29 2012 16:05:34 GMT+1000 (EST)
Client Details	VEOLIA ENVIRONMENTAL SERVICES
Address	322 Parramatta Rd, Clyde NSW
Site Contact Telephone Number	02 8868 7401
Type of Service	Preventative Maintenance
Job / Service Call Number	32164
Fault Description	CLYDE WASTE - PM June
Asset Type Affected	AIR HANDLING PLANT /UNIT
Description of Work Done	Carried out routine maintenance for June as per schedule. Checked belt and unit operations. New belts have been delivered to site ready for replacement when plant cleaning has been done.
Barcode Label Entry Method	Scan
Parts, Materials?	No
Ancillaries	
Job Status	Completed

Technician's Signature



Client Signature



Forwarding Email

craig.doorey@veolia.com.au

Job Safety Analysis

ID	S1394
Job/Service Call Number	32164
Work to be done	CLYDE WASTE - PM June
Protective Equipment to be Used During Works	Gloves, Safety Glasses, Safety Boots/Shoes
Access / Egress to equipment hazard present?	No
Trips, slips, and falls hazard present?	No
Roof Access hazard present?	No
Working on roof?	No
Remain on walkways and paths	No
Manual Handling?	No
Client/General Public/vehicle control?	No
Electrical works?	No
Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Working from heights?	No
Working from a step ladder?	No
Electrical tools & equipment being used?	No
Using HazMat?	No
Welding or oxy cutting?	No
Cooling towers? Bio Hazards?	No
Handling refrigerant?	No

Technician's Signature



Tech Times

ID	S1394
Job Number	32164
Date Worked	2012-06-29 16:09:27
Name of Tech	Mick Iye
Technician Classification	Tradesman

Email Report

A BSA - Technical Maintenance Services Company

BSA Ltd - All rights reserved.

Craig Doorey

From: no-reply@bsa.com.au
Sent: Thursday, 7 June 2012 4:04 PM
To: service@triple-m.com.au; Craig Doorey
Subject: Field Data Capture Notification - Triple M - NSW - Service Docket



Technical Maintenance Services

'A BSA Limited Company'

Triple M Fire ABN 37 101 246 351 | QLD ABN 81 096 895 288
 NSW ABN 50 063 395 013 | Arctick Licence AU03033

Triple M - NSW - Service Docket

ID	880
Time Start	Thu Jun 07 2012 16:00:54 GMT+1000 (EST)
Client Details	VEOLIA ENVIRONMENTAL
Address	CLYDE WASTE
Site Contact Telephone Number	02 8868 7401
Type of Service	Preventative Maintenance
Job / Service Call Number	25800
Fault Description	CLYDE WASTE - PM
Asset Type Affected	AIR HANDLING PLANT/UNIT
Description of Work Done	Carried routine maintenance as per schedule. Checked belts and unit operation. Belts starting to show signs of wear and will need replacement.
Barcode Label Entry Method	Scan
Parts, Materials?	No
Ancillaries	
Job Status	Completed

Technician's Signature

Client Signature

Forwarding Email

craig.doorey@veolia.com.au

Job Safety Analysis

ID	S880
Job/Service Call Number	25800
Work to be done	CLYDE WASTE - PM
Protective Equipment to be Used During Works	Gloves, Long Pants, Safety Glasses, High Visibility Garments, Face/Dust mask, Safety Boots/Shoes
Access / Egress to equipment hazard present?	No
Trips, slips, and falls hazard present?	No
Roof Access hazard present?	No
Working on roof?	No
Remain on walkways and paths	No
Manual Handling?	No
Client/General Public/vehicle control?	No
Electrical works?	No
Mechanical works?	Yes
All isolations complete: electrical, refrigeration, air, water, gas.	1
No work until all moving parts have stopped.	1
Working from heights?	No
Working from a step ladder?	No
Electrical tools & equipment being used?	No
Using HazMat?	No
Welding or oxy cutting?	No
Cooling towers? Bio Hazards?	No
Handling refrigerant?	No

Technician's Signature



Tech Times

ID	S880
Job Number	25800
Name of Tech	Mick Iye
Technician Classification	Tradesman

Email Report

A BSA - Technical Maintenance Services Company

BSA Ltd - All rights reserved.



**Appendix B -
Weather Data Calibration Reports
(August 2012 & November 2012)**

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

30 November 2012

Stephen Bernhart
Environmental Monitoring Officer
Veolia Environmental Services

Re – Quarterly service of weather stations

Dear Stephen,

As per our service agreement, on the 29/11/12 HCS undertook the service, calibration and maintenance of the weather stations located at the Clyde and Horsley Park sites. Field readings were obtained by a combination of a Kestral 3500, compass, Monitor Solar Radiation field unit and HS TBRG calibration device. Details are as follows

Horsley Park

Sensor	Actual (field)	Logger
Temperature – 10m	23 deg *	21.1 deg
2m	23 deg *	21.3 deg
Relative Humidity	80%	84%
Wind Speed	0.7m/s at ground	0.8m/s at 10 metres
Wind Direction	300 deg	300 deg
Solar Radiation	240 w/sq.m	240 w/sq.m
TBRG	20mm	41 tips (0.5mm per tip)
Battery	13.4v Solar 18.9v	

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

Note 2: ignore rainfall tips logged between 0815 to 0905 as these were testing and calibration.

Note 3: the site was polled prior to the visit and was operating satisfactorily.

Note 4: the 10 metre mast was found to be bent as a result of being hit by machinery. A quotation for the supply and installation of a new mast will be supplied.

Additional Items

1. Solar panel and components cleaned.
2. Installation sprayed for insects.

Clyde

Sensor	Actual (field)	Logger
Temperature – 10m	28.0 deg *	24.3 deg
2m	28.0 deg *	24.5 deg
Relative Humidity	64.5%	65.4%
Wind Speed	1.1 m/sec at ground	1.7 m/sec at 10m
Wind Direction	210	211
Solar Radiation	350 w/sq.m	350 w/sq.m
TBRG	20mm	42 tips (0.5mm per tip)
Battery	13.4v Solar 20.2v	

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

Note 2: ignore rainfall tips logged between 1000 to 1023 as these were testing and calibration.

Note 3: there was no condensation inside the cabinet.

Note 4: the site was polled prior to the visit and was operating satisfactorily.

Additional Items

1. Installation sprayed for insects.
2. Weeds and bush trimmed

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



Glen Murphy

Hydrometric Consulting Services Pty Ltd

2 Autumn Place
Guildford NSW 2161
Tele 98924588 Fax 98924599
Email glenmurf@ozemail.com.au

44 Colo Rd
Colo Vale NSW 2575
Tele 48895102 Fax 48895103
Email steves@mitmania.net.au

www.hydrometric.com.au

Hydrometric Consulting Services Pty Ltd

ABN 16 091 437 071

20 August 2012

Stephen Bernhart
Environmental Monitoring Officer
Veolia Environmental Services

Re – Quarterly service of weather stations

Dear Stephen,

As per our service agreement, on the 20/08/12 HCS undertook the service, calibration and maintenance of the weather stations located at the Clyde and Horsley Park sites. Field readings were obtained by a combination of a Kestral 3500, compass, Monitor Solar Radiation field unit and HS TBRG calibration device. Details are as follows

Horsley Park

Sensor	Actual (field)	Logger
Temperature – 10m	9.0 deg *	9.2 deg
2m	9.0 deg *	9.7 deg
Relative Humidity	59%	59.3%
Wind Speed	5.0 km/hr at ground	5.5 km/hr at 10 metres
Wind Direction	305 deg	305 deg
Solar Radiation	430 w/sq.m	430 w/sq.m
TBRG	10mm	20 tips (0.5mm per tip)
Battery	13.2v Solar 20.4v	

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

Note 2: ignore rainfall tips logged between 0900 to 0930 as these were testing and calibration.

Note 3: the site was polled prior to the visit and was operating satisfactorily.

Additional Items

1. Guy wire tension checked.
2. Solar panel and components cleaned.
3. Installation sprayed for insects.

Clyde

Sensor	Actual (field)	Logger
Temperature – 10m	12.5 deg *	12.1 deg
2m	12.5 deg *	12.6 deg
Relative Humidity	50%	49%
Wind Speed	0.4 m/sec at ground	0.4 m/sec at 10m
Wind Direction	230	230
Solar Radiation	590 w/sq.m	590 w/sq.m
TBRG	10mm	21 tips (0.5mm per tip)
Battery	13.2v Solar 20.8v	

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

Note 2: ignore rainfall tips logged between 1010 to 1030 as these were testing and calibration.

Note 3: a small amount of moisture (condensation) was removed from inside the cabinet. Desiccant packs were replaced inside the cabinet.

Note 4: the site was polled prior to the visit and was operating satisfactorily.

Additional Items

1. Installation sprayed for insects.
2. Weeds and bush trimmed

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



Glen Murphy

Hydrometric Consulting Services Pty Ltd

2 Autumn Place
Guildford NSW 2161
Tele 98924588 Fax 98924599
Email glenmurf@ozemail.com.au

44 Colo Rd
Colo Vale NSW 2575
Tele 48895102 Fax 48895103
Email steves@mitmania.net.au

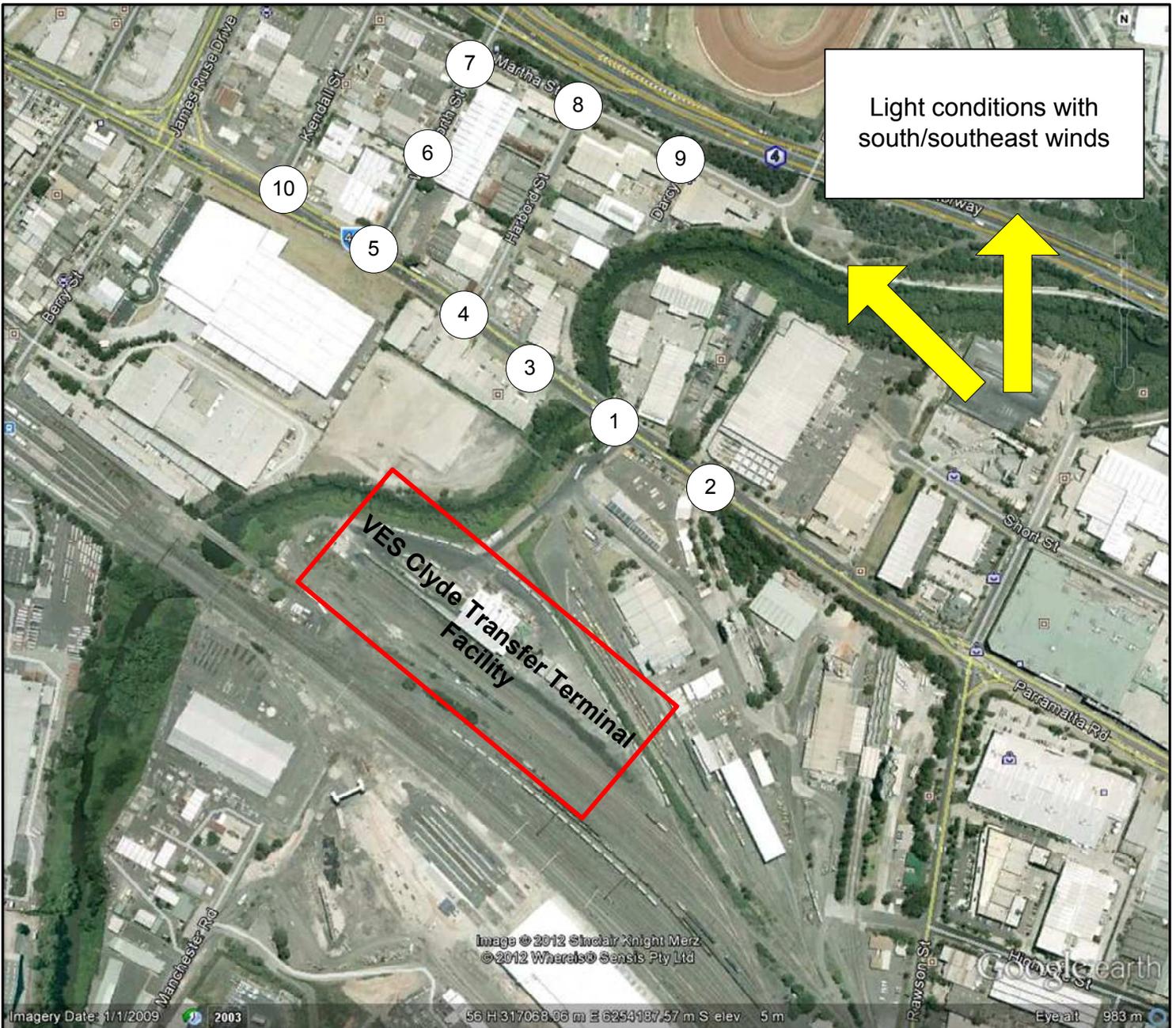
www.hydrometric.com.au



Appendix C –

Field Ambient Odour Assessment Plot and Field Sheets

(20 November 2012)



DESCRIPTION Field Ambient Odour Assessment Survey Modified German Standard VDI 3940		LEGEND German Intensity Scale VDI3882 ○ 0 Not detectable ● 1 Very weak ● 2 Weak ● 3 Distinct ● 4 Strong ● 5 Very strong ● 6 Extremely strong		 Veolia Environmental Services Clyde Transfer Terminal, Clyde NSW Field Ambient Odour Assessment Survey Date: 20/11/2012 Time: 1055 – 1136 hrs	
	THE ODOUR UNIT PTY LTD Aust Tech Park, Locomotive Workshop, Suite 16012, 2 Locomotive Street, EVELEIGH, NSW 2015 Phone: (02) 9209 4420 – Fax: (02) 9209 4421 www.odourunit.com.au	DRAWN BY M.ASSAL 12/11/2012	Odour Audit XX Field Ambient Odour Assessment Survey	DRAWING No. N1473-XX	
		CHECKED M.ASSAL 12/11/2012		JOB No. N1473L	
		APPROVED T. SCHULZ 13/11/2012			

THE ODOUR UNIT PTY LIMITED



Australian Technology Park Phone: +61 2 9209 4420
 Locomotive Workshop Facsimile: +61 2 9209 4421
 Suite 16012 Email: info@odourunit.com.au
 2 Locomotive Street Internet: www.odourunit.com.au
 Eveleigh NSW 2015 ABN: 53 091 165 061

Form 22 - Field Ambient Odour Assessment Log Sheet

DATE: 20/11/2012 ASSESSOR: M. Assal WEATHER CONDITIONS: Light conditions with south/southeast winds

GRID REF. POSITION	TIME (hrs)	WIND DIRECTION	WIND SPEED (m/s)	ODOUR PRESENT Y / N	ODOUR CHARACTER	VDI 3940 INTENSIT Y SCALE 0-6	COMMENTS
1	1055	S/SE	2-3	N	-	0	-
2	1059	S/SE	1-2	N	-	0	-
3	1103	S/SE	1-2	N	-	0	-
4	1107	S/SE	2-3	N	-	0	-
5	1114	S	2-3	N	-	0	-
6	1118	S/SE	1-3	N	-	0	-
7	1122	S/SE	1-3	N	-	0	-

THE ODOUR UNIT PTY LIMITED



Australian Technology Park Phone: +61 2 9209 4420
Locomotive Workshop Facsimile: +61 2 9209 4421
Suite 16012 Email: info@odourunit.com.au
2 Locomotive Street Internet: www.odourunit.com.au
Eveleigh NSW 2015 ABN: 53 091 165 061

GRID REF. POSITION	TIME	WIND DIRECTION	WIND SPEED	ODOUR PRESENT Y / N	ODOUR CHARACTER	VDI 3940 INTENSITY SCALE 0-6	COMMENTS
8	1126	S/SE	1-2	N	-	0	-
9	1130	S/SE	1-3	N	-	0	-
10	1136	S/SE	2-3	N	-	0	-