

# Annual Environmental Management Report

*Woodlawn Mechanical Biological Treatment Facility*

*November 2016*



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# Quality Information

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# Executive Summary

The Annual Environmental Management Report (AEMR) 2016 is the second report prepared to detail the environmental performance of the Woodlawn Mechanical Biological Treatment (MBT) Facility. This AEMR covers the period of 7 November 2015 to 7 November 2016 (the reporting period) in which the MBT Facility was being constructed.

In accordance with Schedule 2, condition 5 of the Development Consent for the MBT Facility, the AEMR includes a summary of the Environmental Monitoring Schedule (EMS) and results in relation to the construction environmental performance of the site against relevant standards, performance measures and statutory requirements.

The EMS is appended to the Environmental Management Plan (EMP) for the construction phase of the MBT Facility, along with supporting environmental management plans, to manage the environmental performance of the Terminal whilst in construction. The Construction EMP (CEMP) forms the guidance document that details environmental protection measures implemented at the MBT Facility site.

There were no non-conformances with the conditions of Development Consent identified and no complaints received in this reporting period.

# 1. Introduction

## 1.1 Overview

Veolia Australia and New Zealand (Veolia) will operate the Mechanical Biological Treatment (MBT) Facility, which is being constructed at 619 Collector Road, Tarago on the Woodlawn Eco Project Site (the Eco Project Site), owned and operated by Veolia. A Site Location Plan is provided in **Appendix A**.

The Eco Project Site comprises of two properties, Woodlawn and Pylara situated on 6000 hectares of land. The MBT Facility, which is anticipated to be operational from mid-2017, is located on the Woodlawn property of the Eco Project Site. Approval to receive up to 240,000 tonnes per annum (TPA) of mixed waste and 40,000 TPA of green waste from the Sydney Metropolitan Area (SMA) was granted by the Department of Planning and Environment (DPE) on 6 November 2007 under a development consent (PA 06\_0239). The waste collected from the SMA will be containerised at 2 transfer stations owned and operated by Veolia (namely the Banksmeadow and Clyde Transfer Terminals) and loaded onto rail wagons for transportation from Sydney to the MBT Facility. Waste received at the MBT Facility will be processed to produce mixed waste derived organic outputs or compost.

The term mechanical biological treatment refers to several combinations of a hybrid process that combines mechanical techniques (used to sort mixed waste with potential recovery of inert recyclable material) and biological techniques (to stabilise the organic fraction). This type of technology to be used at the MBT Facility will be a composting process to treat the residual fraction of municipal, commercial and industrial solid waste (MSW) received from councils (or commercial/industrial customers) opting to utilise this waste management option over landfilling. Residual material from the MBT process will be deposited in the Bioreactor.

The MBT Facility, once constructed, will include the following infrastructure:

- An access road for waste trucks (entering and exiting the facility from Collector Road);
- Car parking, weighbridge and amenities;
- Reception building and associated infrastructure;
- Biological Refining System (BRS) drums;
- Refining building;
- Organic buffer storage area;
- Fermentation building; and
- Compost storage area.

## 1.2 Legislative Requirements

The main legislative instruments governing the activities undertaken at and the environmental performance of the MBT Facility pertaining to this AEMR are the Environmental Planning and Assessment Act 1979 (EP&A Act), regulated by the Department of Planning and Environment (DPE) and the Protection of the Environment Operations Act 1997 (POEO Act), regulated by the EPA, as well as their associated regulations.

In addition, an Environment Protection License (EPL) 20476 has been issued by the NSW Environment Protection Authority (EPA), under the POEO Act to regulate the construction activities and monitoring being undertaken at the site.

Conditions of the Development Consent and EPL stipulate the requirements that need to be addressed by Veolia for the MBT Facility to maintain compliance. Conditions relevant to this AEMR are provided in Table 1.1 and Table 1.2 below.

**Table 1.1 – Consent Conditions**

Relevant Condition	Requirement
<b>Schedule 4</b>	
<b>REPORTING</b>	
<b>Annual Reporting</b>	
5	<p>Every year from the date of this approval, unless the Director-General agrees otherwise, the Proponent shall submit an AEMR to the Director-General and relevant agencies. The AEMR shall:</p> <ul style="list-style-type: none"><li>a) identify the standards and performance measures that apply to the development;</li><li>b) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;</li><li>c) include a summary of the monitoring results for the development during the past year;</li><li>d) include an analysis of these monitoring results against the relevant:<ul style="list-style-type: none"><li>• Impact assessment criteria;</li><li>• Monitoring results from previous years; and</li><li>• Predictions in the EIS;</li></ul></li><li>e) identify any trends in the monitoring results over the life of the development;</li><li>f) identify any non-compliance during the previous year; and</li><li>g) describe what actions were, or are being taken to ensure compliance.</li></ul>



**Table 1.2 – EPL Conditions**

Relevant Condition	Requirement
<b>6 – Reporting Conditions</b>	
<b>R3 – Written Report</b>	
R3.5	<p>Unless otherwise agreed in writing by the EPA, during construction activities the licensee must submit a monthly report which includes but may not be limited to:</p> <ul style="list-style-type: none"> <li>a) a brief narrative on the progress of the project;</li> <li>b) a narrative summary and tables of all monitoring data collected for the previous month;</li> <li>c) graphs of all monitoring data collected for the previous month and over the course of the entire project;</li> <li>d) details of; <ul style="list-style-type: none"> <li>i. any Air Quality Management Plan trigger level exceedances or NSW OEH Air Quality Criteria exceedances (dust), and;</li> <li>ii. water quality monitoring events where the total suspended solids value exceeds 50 mg/L;</li> </ul> </li> <li>e) the results of the licensee's investigation, findings, and response to elevated trigger value, NSW OEH Air Quality Criteria, TSS, and pH values; and</li> <li>f) any licence non-compliances and the results of the any investigations, findings, and responses to these non-compliances.</li> </ul> <p>The report must be submitted electronically on the fifth business day of the month for the previous months activities.</p>

## 1.3 Complaints

Veolia encourages local residents to provide feedback regarding any aspect of the construction of the MBT Facility as part of the complaints handling process. In this manner, the construction of the Woodlawn MBT Facility can be coordinated, where necessary, to minimise disturbance to neighbouring residents, and to ensure prompt response to complaints, should they occur.

All received public complaints (either written or verbal) are documented within a complaints register to record the:

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

Contact details of nominated personnel relevant to the complaints handling process related to the construction stage of the MBT Facility are provided in **Table 1.3** below;

**Table 1.3 – Contact details of complaint handling personnel**

Contact	Position	Contact Details
<b>Simon Campbell</b>	Senior Project Engineer/ Construction Manager	simon.campbell@veolia.com 0419 145 624
<b>Henry Gundry</b>	Woodlawn Facilities Manager/ Environment Management Representative	henry.gundry@veolia.com 0400 233 592 02 8588 1360
<b>Ramona Bachu</b>	NSW Environment Officer	ramona.bachu@veolia.com 0407 668 199
<b>Richard King</b>	Principle Contractor – Lipman Pty Ltd	richard.king@veolia.com 0410 667 631

Records of all complaints will be kept for at least four years after the complaint has been made.

A review of the complaint register found that no complaints have been received since the commencement of construction in October 2015.

## 2. Environmental Monitoring

### 2.1 Monitoring Performance Measures and Standards

The environmental issues of concern identified in the Environmental Assessment undertaken for the construction stage of the MBT Facility were notably surface water quality and air quality (mainly dust emissions). Monitoring locations were identified as background or sensitive indicators of environmental performance to ensure that no off site impacts were occurring.

Accordingly, a Construction Environmental Monitoring Schedule (CEMS) was prepared in accordance with regulatory requirements which specified the monitoring requirements. The objectives of the CEMS were to monitor the potential parameters that were likely to cause an environmental impact during the construction of the Woodlawn MBT Facility, as well as detail the responsibilities associated with carrying out monitoring activities.

The CEMS also detailed the specific performance measures and standards, relevant consent and licence conditions for the undertaking of environmental monitoring. These monitoring performance measures, standards and conditions are summarized in **Table 2.1** below.

**Table 2.1 – Monitoring Performance Measures and Standards**

Parameter	Monitoring Locations	Pollutant	Statutory Requirements	Performance Measures and/or Standards
Surface Water	Allianoyonyige Creek	Ammonia (NH3)	Consent Condition 20	Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales
		Biological Oxygen Demand (BOD)		
		Dissolved Oxygen (DO)		
		Electrical Conductivity	EPL Condition M2.3	
		pH		
		Potassium		
		Redox Potential		
		Total Dissolved Solids (TDS)	EPL Condition L2.4	
		Total Organic Carbon (TOC)		
		MBT Facility Discharge Point	pH	
Total Suspended Solids				
Air Quality	Pylara	Deposited Dust	Consent Conditions 23 and 24	Approved methods for sampling and analysis of air pollutants in New South Wales (EPA)
	West Void MBT Facility Lot 69		EPL Condition M2.2	

## 2.2 MBT Facility Monitoring Points

The monitoring locations selected have been included in EPL 20476. The monitoring type, sampling location, frequency and EPL ID for each of these licensed points are detailed in **Table 2.2** below.

**Table 2.2 – Details of MBT Licensed Monitoring Points**

Monitoring Location Type	Sampling Location	Frequency	EPA Monitoring Point ID No.
Surface Water	Site 115 – Allianoyonyige Creek	Quarterly	1
	Site 140 – Discharge Point	Daily, during any discharge	8
Air Quality	Residential Receiver – Pylara	Monthly	4
	Background receiver – Woodlawn Eco Project – West Void	Monthly	6
	Background receiver – Woodlawn MBT Facility – Lot 69	Monthly	7

Monitoring data collected from the points described in **Table 2.2** have been tabulated and provided within the following sections.

## 2.3 Monitoring Results

The results from the surface water and air quality monitoring at the identified monitoring points, required under the EPL and the CEMP are summarized in the following sections.

Comparison is also given to limit conditions stipulated in the EPL, where applicable, to describe the overall environmental performance of the MBT Facility during its construction stage.

As per the requirements of condition R6 of the EPL, environmental parameters monitoring undertaken and the results were provided as monthly monitoring summaries to the EPA. The information in these have been used to gauge the environmental performance of the MBT Facility in the construction stage. Copies of monthly monitoring summaries are provided in **Appendix B**.

**Table 2.2 – Monitoring Results**

Parameter	Monitoring Location	Results					
Table 2.2.1 – Surface Water Monitoring Results for Point 1.							
Water Quality	Site 115 Allianyonyige Creek	Pollutant	1/02/2016	10/05/2016	06/06/2016	20/06/2016	19/09/2016
		NH3	<0.1mg/L	<0.1mg/L	<0.1mg/L	<0.1mg/L	<0.1mg/L
		BOD	<2mg/L	<2mg/L	<2mg/L	<2mg/L	<2mg/L
		DO	6.79mg/L	7.25mg/L	9.15mg/L	9.00mg/L	9.41mg/L
		EC	2910µS/cm	3630µS/cm	553µS/cm	285µS/cm	1910µS/cm
		pH	7.96	7.93	7.67	7.62	8.16
		Potassium	5mg/L	3.4mg/L	3mg/L	16.2mg/L	1mg/L
		Redox Potential	300mV	276mV	228mV	226mV	238mV
		TDS	2470mg/L	2850mg/L	440mg/L	388mg/L	1310mg/L
		TOC	19mg/L	19mg/L	9mg/L	12mg/L	17mg/L
		TSS	<2mg/L	-	282mg/L	-	9mg/L
Table 2.2.2 – Surface Water Monitoring Results for Point 8							
Site 140 Discharge Point	Parameter	EPL Limit	1/02/2016	10/05/2016	06/06/2016	20/06/2016	19/09/2016
	pH	6.5-8.5	8.13	No flow	7.15	7.75	8.12
	Total Suspended Solids	<50mg/L	225mg/L	No flow	56mg/L	23mg/L	71mg/L

Parameter	Monitoring Location	Results			
Table 2.3.1 – Depositional Dust (g/m <sup>2</sup> /mth) Monitoring Results for Points 4,6 & 7					
Air Quality	Pylara, West Void and WMBT – Lot 69	Monitoring Month	Point 4 (Pylara)	Point 6 (West Void)	Point 7 (WMBT – Lot 69)
		Oct 2015	1.8	5.4	No data
		Nov 2015	5.7	5.5	No data
		Dec 2015	0.6	5.8	0.8
		Jan 2016	1.3	10	0.9
		Feb 2016	0.4	9	0.7
		Mar 2016	2.4	11	2
		Apr 2016	0.7	25.9	0.5
		May 2016	0.7	21	0.2
		June 2016	2.5	6	0.4
		July 2016	23.6	0.3	1.2
		Aug 2016	2.1	1.6	0.2
		Sep 2016	6.3	5.2	0.7

## 2.4 Monitoring Trends

**Table 2.3 – Description of Monitoring Trends**

EPA ID	Sampling Location	Discussion
1	Site 115 – Allianoyonyige Creek	<ul style="list-style-type: none"> <li>Ammonia and Biological Oxygen Demand (BOD) were detected below their respective limit of reporting (LOR) of &lt;0.1 and &lt;2mg/L respectively across all monitoring rounds.</li> <li>All parameters remained generally consistent across all monitoring rounds with exception to Potassium and Total Dissolved Solids. <ul style="list-style-type: none"> <li>Potassium ranged between 1 – 5mg/L with exception to the 20/06/2016 monitoring result whereby Potassium concentrations were recorded at 16.2mg/L.</li> <li>Total Dissolved Solids generally fluctuated throughout the reporting period between 1200mg/L and 3000mg/L with exception to the June monitoring periods whereby concentrations of TDS were recorded at 440mg/L and 388mg/L.</li> </ul> </li> </ul>

EPA ID	Sampling Location	Discussion
8	Site 140 – Discharge Point	<ul style="list-style-type: none"> <li>Results for pH were generally consistent throughout all monitoring rounds, and were within the limit conditions stipulated by EPL 20476.</li> <li>Total Suspended Solid concentrations were mostly above the limit conditions stipulated by EPL 20476 for most monitoring rounds with exception to the 20/06/16 result (23mg/L).</li> </ul>
4	Residential Receiver – Pylara	<ul style="list-style-type: none"> <li>Depositional dust levels at all three monitoring points (4, 6 and 7) generally ranged between 0.2 and 11 g/m2/month, with exception to dust levels recorded for Point 6 in April 2016 and Point 4 in July 2016 which recorded levels of 25.9 and 23.6g/m2/month respectively.</li> <li>No other significant trends for the results of depositional dust monitoring were identified.</li> </ul>
6	Background receiver – Woodlawn Eco Project – West Void	
7	Background receiver – Woodlawn Eco Project – Lot 69	

# 3. Environmental Performance

The environmental performance objectives that were set for the MBT Facility during its construction stage were as a result of the key risk environmental parameters identified, namely surface water and air quality.

These were included in the EPL and used to measure performance and as indicators for background quality to prevent off site impact.

Included in the information provided to the EPA monthly, were details of any exceedance of trigger values or non-compliances observed in the monthly monitoring periods.

As there were no monitoring criteria requirements stipulated in the Development Consent, no non conformances against any of its conditions were observed since the commencement of construction of the MBT Facility.

The performance against the EPL conditions were instead used as triggers for implementing corrective actions on site, as summarised in **Table 3.1** below.

**Table 3.1 – Corrective Actions Implemented during Reporting Period**

Date of trigger	Observation	Corrective Action Applied
<b>February 2016</b>	Concentration limit for TSS (50mg/L) was exceeded at monitoring point 8 which measured a TSS concentration of 225mg/L	Hay bale sedimentation traps were installed at monitoring location 8 to reduce and/or eliminate unfiltered discharge from the construction site;  Testing at monitoring point 1 was undertaken to ensure no discharges from the MBT Facility site were impacting sensitive receivers such as monitoring point 1 - Allianyonyige Creek.
<b>June 2016</b>	Concentration limit for TSS (50mg/L) was exceeded at monitoring point 8 which measured a TSS concentration of 56mg/L	Testing of TSS undertaken at Allianyonyige Creek to determine whether the impact was construction related.
<b>September 2016</b>	Concentration limit for TSS (50mg/L) was exceeded at monitoring point 8 which measured a TSS concentration of 71mg/L.	Testing of TSS undertaken at Allianyonyige Creek to determine whether the impact was construction related.

Results of the comparative testing between site monitoring point 8 and offsite monitoring point 1 are provided in the following table to demonstrate that any performance criteria exceedance were not as a result of the MBT Facility construction activities.

It should be noted that monitoring point 1 - Allianyonyige Creek (Point 1) is situated downstream from monitoring point 8, therefore any discharge from Point 8 would essentially impact the water quality of Point 1.

It should also be noted that although EPL 20476 defines monitoring point 8 as a discharge point, the MBT Facility, as part of the Eco Project Site is a zero discharge site.



**Table 3.2 – Total Suspended Solid comparisons**

Location	Total Suspended Solids (mg/L)					EPL Limit Condition
	1/02/2016	10/05/2016	06/06/2016	20/06/2016	19/09/2016	
<b>Point 8</b> Discharge Point (Site 140)	225	No flow	56	23	71	<50mg/L
<b>Point 1</b> Allianyonyige Creek	<2	-	282	-	9	<50mg/L

*Note: <sup>1</sup> – result obtained after two days of heavy rainfall*

Table 3.1 indicates that the high concentrations of TSS, in relation to the EPL Limit Conditions, had minimal to no impact on Allianyonyige Creek. The high concentration of TSS in Point 1 during the 06/06/2016 monitoring round is reflective of natural turbidity associated with a watercourse which has been exposed to a high amount of rainfall (approximately 142.5mm fell onto the MBT Facility and local areas prior to the collection of this sample). A sedimentation trap was installed following the February 2015 exceedance of TSS at Point 8. Table 3.1 also demonstrates the effectiveness of this sedimentation trap to reduce TSS concentrations in the proceeding monitoring rounds.

Based on the monitoring results as well as the comments made above, the overall environmental performance of the Woodlawn MBT Facility during this reporting period can be demonstrated as well managed.

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# References

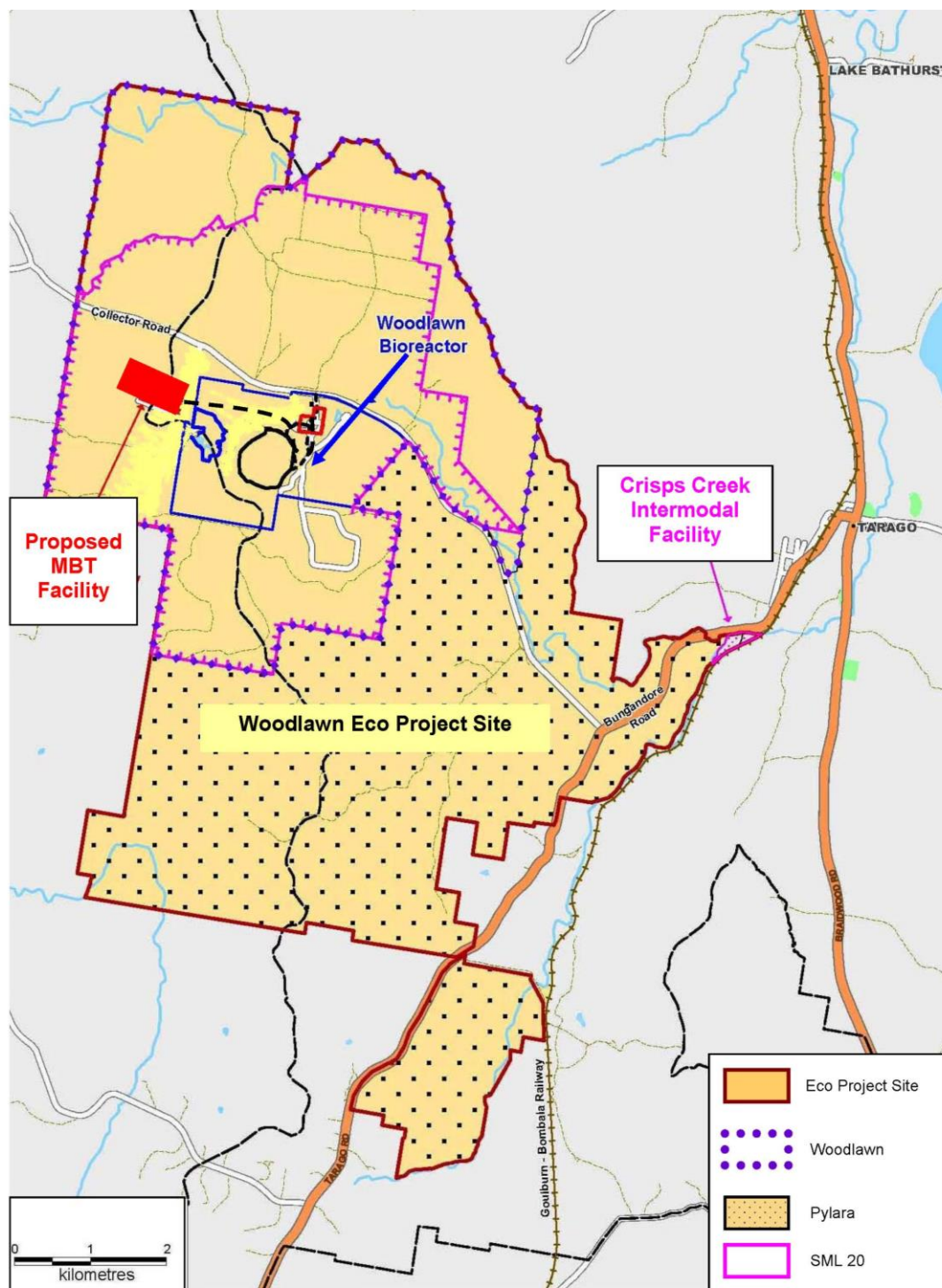
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# Appendices

## Appendix A Site Location Plan



Woodlawn MBT Facility Site Location Plan

## Appendix B Monthly Summaries

**Note:** To be provided electronically.

- October 2015 Monthly Summary
- November 2015 Monthly Summary
- December 2015 Monthly Summary
- January 2016 Monthly Summary
- February 2016 Monthly Summary
- March 2016 Monthly Summary
- April 2016 Monthly Summary
- May 2016 Monthly Summary
- June 2016 Monthly Summary
- July 2016 Monthly Summary
- August 2016 Monthly Summary
- September 2016 Monthly Summary



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 – 31 October 2015
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

Construction activity on site began with site set up, commencement of bulk and some detailed excavation, sedimentation ponds and fermentation concrete pads commencing. The silt fence erection and site run off controls were put in place for the work undertaken.

### B. Monitoring summary

Depositional Dust monitoring was undertaken during this reporting period.

### C. Monitoring data

Below are the results from the depositional dust monitoring for this period:

#### Point 4,6,7: Depositional Dust

Location	Unit	October 2015
Point 4 (Pylara)	g/m2/mth	1.8
Point 6 (West Void)	g/m2/mth	5.4
Point 7 (WMBT)	g/m2/mth	No data

### D. Concentration limits exceedances

Not applicable.

### E. Response to concentration limit exceedances

Not applicable.

### F. Licence non-compliances and investigations

No non-compliances or investigations were recorded.





## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 – 30 November 2015
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

Bulk excavation is progressing well with approx. 75,000m<sup>3</sup> cut to full completed to date.

- Fermentation, Buffer, Refining and Drum pads trimmed to level.
- Reception pit 95% excavated with remainder in rock to compete, this includes for the additional 20% building expansion depth.
- Pad footings are complete to the first stage of the Fermentation building, Organic Buffer Building at 75% complete to the Refining Building.
- Piling for the BRS Drum pads is complete.
- Pad footings to the BRS Drums is 40% complete.
- Sediment controls setup complete and are being continually monitored.
- The ponds road bore cross is complete.
- In ground services across the project are 50% complete.
- Structural steel erection for the Fermentation Building has commenced.
- Materials from the BRS drum containers has been removed, with sorting and pre-assembly Project approximately 10% complete.

### B. Monitoring summary

Depositional Dust monitoring was undertaken during this reporting period.

### C. Monitoring data

Below are the results from the depositional dust monitoring for this period:

#### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Unit	October 2015	November 2015
Point 4 (Pylara)	g/m <sup>2</sup> /mth	1.8	5.7
Point 6 (West Void)	g/m <sup>2</sup> /mth	5.4	5.5
Point 7 (WMBT)	g/m <sup>2</sup> /mth	No data	No data



**D. Concentration limits exceedances**

Not applicable.

**E. Response to concentration limit exceedances**

Not applicable.

**F. Licence non-compliances and investigations**

No non-compliances or investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 – 31 December 2015
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

Bulk excavation is progressing well with approx. 85,000m<sup>3</sup> cut to full completed to date.

- Reception pit excavated and reinforcement 70% tied.
- Pad footings are complete to the second stage of the Fermentation building.
- Main pad footings to the BRS Drums is complete.
- Sediment controls include V drains and are being continually monitored.
- The ponds road bore cross is complete.
- In ground services across the project are 50% complete.
- Structural steel erection for 50% of Fermentation & Organic Buffer complete.
- Structural steel erection for Refining Building commenced early January.
- Precast panels for Organic Buffer to be installed early January.
- Pre-assembly of materials from BRS drum containers progressing.
- Ponds road widening complete with monitoring now commenced.
- Construction of the haul road to commence early January.

Project approximately 17% complete

### B. Monitoring summary

A new depositional dust gauge was installed on 1 December 2015 to establish monitoring from Point 7 (Background receiver – Woodlawn Eco Precinct – Lot 69). This new monitoring site has been named 'DG33' internally.

### C. Monitoring data

Below are the results from the depositional dust monitoring for this period:

#### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Unit	October 2015	November 2015	December 2015
Point 4 (Pylara)	g/m <sup>2</sup> /mth	1.8	5.7	0.6
Point 6 (West Void)	g/m <sup>2</sup> /mth	5.4	5.5	5.8
Point 7 (WMBT)	g/m <sup>2</sup> /mth	No data	No data	0.8



**D. Concentration limits exceedances**

Not applicable.

**E. Response to concentration limit exceedances**

Not applicable.

**F. Licence non-compliances and investigations**

No non-compliances or investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 – 31 January 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

- Bulk excavation is progressing well with approx. 90,000m<sup>3</sup> cut to full completed to date, back fill to Reception pit, mat pad and haulage road areas continuing.
- Sediment controls include V drains and are being continually monitored.
- HV pole installation commenced along the haulage road
- Reception pit base slab pour complete.
- Reception pit first wall lift commenced.
- Drum pre-assembly, rear frame structures and girth gear continuing.
- Drum lift studies and drum lifting delivery sequencing complete
- Drum main footing survey recording ongoing – no compliance issues to report
- Refining building structural steel and precast walls complete.
- Refining building roof cladding commenced.
- Organic Buffer precast walls complete
- Organic Buffer building roof cladding and roof safety system complete.
- Organic Buffer building push wall formwork commenced.
- Structural Steel to the second stage of the Fermentation building commenced.
- Fermentation building maintenance corridor ground slab concrete works commenced.
- Preparation has commenced for the installation of the BRS Drum trunnions, with install to commence mid February.
- In ground services site wide are 50% complete.
- Ponds road monitoring complete ready for installation of next layer of dolerite.

Project now approximately 23 % complete

### B. Monitoring summary

Depositional Dust monitoring was undertaken during this reporting period.



### C. Monitoring data

Below are the results from the depositional dust monitoring for this period:

#### Point 4,6,7: Depositional Dust

Location	Unit	Oct 2015	Nov 2015	Dec 2015	Jan 2016
Point 4 (Pylara)	g/m2/mth	1.8	5.7	0.6	1.3
Point 6 (West Void)	g/m2/mth	5.4	5.5	5.8	10
Point 7 (WMBT)	g/m2/mth	No data	No data	0.8	0.9

### D. Concentration limits exceedances

Not applicable.

### E. Response to concentration limit exceedances

Not applicable.

### F. Licence non-compliances and investigations

No non-compliances or investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 February – 29 February 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

- ♣ Haul road bulk excavation complete with first layer of road base down
- ♣ Sediment controls including V drains and are being continually monitored and an area of sedimentation control outflow was identified and rectified by the use of hay bales.
- ♣ HV pole installation complete, overhead cable installation commenced
- ♣ Reception pit second lift complete, backfilling and first ring beam commenced.
- ♣ Drum pre-assembly, rear frame structures and girth gear continuing.
- ♣ Drum trunnion alignment for 3 & 4 complete, temporary stand setup commenced
- ♣ Refining wall cladding 85% complete.
- ♣ Refining slabs have been poured, switch room and workshop remain.
- ♣ Organic Buffer building push wall formwork commenced.
- ♣ Organic Buffer building push wall reinforcement installation 75% complete.
- ♣ Structural Steel to the second stage of the Fermentation building complete.
- ♣ Fermentation building maintenance corridor ground slab concrete works ongoing, mid height walls continuing and FRP works to push wall commenced.
- ♣ In ground services site wide are 75% complete.

Project approximately 31 % complete

### B. Monitoring summary

1 round of depositional dust and surface water monitoring was undertaken in February. A rainfall event on 1 February created flow and both Point 8 (Site 140) and point 1 (Site 115) were sampled. The depositional dust results for February have not been received back from the laboratory as yet (submitted 02/03/2016).

### C. Monitoring data

#### Point 1: Site 115

Analyte	Unit	1/02/2016
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Ammonia	mg/L	<0.1
Biochemical Oxygen Demand	mg/L	<2
Dissolved Oxygen	mg/L	6.79
Electrical Conductivity	µS/cm	2910
pH	pH	7.96
Potassium	mg/L	5
Redox Potential	mV	300
Total Dissolved Solids	mg/L	2470
Total Organic Carbon	mg/L	19
Total Suspended Solids	mg/L	<2

#### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Unit	Oct 2015	Nov 2015	Dec 2015	Jan 2016
Point 4 (Pylara)	g/m <sup>2</sup> /mth	1.8	5.7	0.6	1.3
Point 6 (West Void)	g/m <sup>2</sup> /mth	5.4	5.5	5.8	10
Point 7 (WMBT)	g/m <sup>2</sup> /mth	No data	No data	0.8	0.9

#### Point 8: Site 140

Analyte	Unit	1/02/2016
pH	mg/L	8.13
Total Suspended Solids	mg/L	225

#### D. Concentration limits exceedances

The concentration limit for TSS was exceeded at Point 8 (site 140). TSS was also tested at Point 1 which is located downstream of Point 8 on the boundary of the Woodlawn Bioreactor site. The result for TSS at Point 1 was <2mg/L demonstrating that there was no elevated discharge from the site.

#### Point 8: Site 140

Analyte	Concentration limit	Unit	1/02/2016
Total Suspended Solids	50	mg/L	225

#### E. Response to concentration limit exceedances

Veolia have engaged Lipman, the project managers to install a hay bale sedimentation trap at Point 8 to reduce and/or eliminate unfiltered discharge from the construction site.

#### F. Licence non-compliances and investigations

No non-compliances and investigations were recorded.







## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 March – 31 March 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

- Haul road base complete, carpark works to commence in April.
- Sediment controls include V drains and are being continually monitored.
- HV overhead cable installation 85% complete
- Reception pit third lift complete, ring beam 2 pour 2 works have commenced.
- BRS drum pedestals complete.
- Drum pre-assembly, rear frame structures and girth gear continuing.
- Drums 4 welding commenced.
- Drum 3 alignment complete.
- Drum 4 & 3 temporary stand setup ongoing.
- Drum trunnion alignment for 1 & 2 ongoing.
- Refining building wall cladding 95% complete.
- Refining building structural works complete.
- Organic Buffer building structural works complete, cladding 95% complete.
- Fermentation Building cladding 60% complete.
- Fermentation building push walls 55% complete, main building slabs to commence in April.
- Fermentation odour duct installation commenced
- In ground services for the site are 95% complete.

Project approximately 43 % complete

### B. Monitoring summary

1 round of depositional dust monitoring was undertaken in March. No surface water monitoring was conducted.

### C. Monitoring data

#### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Unit	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016
Point 4 (Pylara)	g/m <sup>2</sup> /mth	1.8	5.7	0.6	1.3	0.4
Point 6 (West Void)	g/m <sup>2</sup> /mth	5.4	5.5	5.8	10	9
Point 7 (WMBT)	g/m <sup>2</sup> /mth	No data	No data	0.8	0.9	0.7



#### **D. Concentration limits exceedances**

No concentration limits were exceeded during the reporting period.

#### **E. Response to concentration limit exceedances**

Lipman, the project managers for the WMBT project have installed a silt fence sedimentation trap at Point 8 to reduce and/or eliminate unfiltered discharge from the construction site.

#### **F. Licence non-compliances and investigations**

No non-compliances and investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 April – 30 April 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

- Haul road base complete and work commenced on facility internal roads
- Sediment controls include V drains and are being continually monitored.
- HV overhead cable installation complete preparing for testing
- Reception pit complete, structural steel commenced.
- BRS drum pedestals complete.
- Drum pre-assembly, rear frame structures and girth gear continuing.
- Drums 4 welding 90% complete repair painting to commence
- Drum 3 welding 80% complete.
- Drum 1 & 2 temporary stand set up to commence
- Drum trunnion alignment for 1 & 2 complete.
- Refining building wall cladding complete apart from equipment install gap.
- Organic Buffer building structural works complete, cladding complete.
- Fermentation Building cladding 90% complete.
- Fermentation building push walls 95% complete, aero grates commenced.
- Fermentation odour duct installation 90% commenced
- In ground services for the site are complete.
- Trommels, Ballistic separators and conveyors delivered to sit for installation in the from BRS Drums to the Refining Building.

**Project approximately 58 % complete**



## B. Monitoring summary

1 round of depositional dust monitoring was undertaken in April (laboratory results pending). No surface water monitoring was conducted due to insufficient rainfall.

## C. Monitoring data

### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Unit	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016
Point 4 (Pylara)	g/m <sup>2</sup> /mth	1.8	5.7	0.6	1.3	0.4	2.4
Point 6 (West Void)	g/m <sup>2</sup> /mth	5.4	5.5	5.8	10	9	11
Point 7 (WMBT)	g/m <sup>2</sup> /mth	No data	No data	0.8	0.9	0.7	2

## D. Concentration limits exceedances

No concentration limits were exceeded during the reporting period.

## E. Response to concentration limit exceedances

No concentration limits were exceeded during the reporting period.

## F. Licence non-compliances and investigations

No non-compliances and investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 May – 31 May 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project progress

- Haul road base complete, Veolia car park works/ changes to commence in June subject to design finalisation.
- Sediment controls include V drains and are being continually monitored.
- Reception building precast 85% complete.
- Reception structural steel 90% complete.
- Drum assembly, rear frame structures and girth gear continuing all 4 drums
- Defects rectification commence in Refining Building.
- Defects rectification commenced in Organic Buffer.
- Fermentation building cladding 95% complete.
- Fermentation slab installation 60% complete.
- Fermentation odour duct installation 90% complete.
- Organic Buffer & Refining Building odour duct installation 95% complete.
- In ground services site wide are 98% complete.
- Geofabric and dolerite installation to the Maturation pad 60% complete.
- Dolerite road installation 70% complete.

**Project approximately 67 % complete.**

### B. Monitoring summary

1 round of depositional dust monitoring was undertaken in May (laboratory results pending). April results are included below. Surface water monitoring was conducted and no flow was recorded at Point 8. A low flow was recorded at Point 1 (Site 115) and results are listed below:

#### Point 1: Site 115

Analyte	Unit	10/05/2016
Nitrogen (ammonia)	mg/L	<0.1
Biochemical Oxygen Demand	mg/L	<2
Dissolved Oxygen	mg/L	7.25
Electrical Conductivity	µS/cm	3630
pH	pH	7.93
Potassium	mg/L	3.4

Redox Potential	mV	276
Total Dissolved Solids	mg/L	2850
Total Organic Carbon	mg/L	19

### Point 8

No flow recorded. See photo below.



## C. Monitoring data

### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Point 4 (Pylara)	Point 6 (West Void)	Point 7 (WMBT)
<b>2015</b>			
October	1.8	5.4	No data
November	5.7	5.5	No data
December	0.6	5.8	0.8
<b>2016</b>			
January	1.3	10	0.9
February	0.4	9	0.7
March	2.4	11	2
April	0.7	25.9	0.5
May	Laboratory results pending	Laboratory results pending	Laboratory results pending

### D. Concentration limits exceedances

No concentration limits were exceeded during the reporting period.

### E. Response to concentration limit exceedances

No concentration limits were exceeded during the reporting period.

### F. Licence non-compliances and investigations

No non-compliances and investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 June – 30 June 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project construction progress

- Haul road base complete, Veolia car park works/ changes subject to design finalisation and some upgrade works.
- Sediment controls include V drains and are being continually monitored. An excessive rain fall event over a 48 hour period tested the controls but overall the system performed well.
- Reception building precast and structural steel complete.
- BRS Drum inlet segments lifted into position for drums 1 & 2 with crawler crane being relocated to north side to allow installation of inlet segments on drums 3 & 4.
- BRS drum girth gear installation and alignment ready to commence.
- Minor omissions and defect rectification continues on all buildings, biofilters and external works.
- Fermentation slab installation complete and building cladding 96% complete.
- Odour duct installation 90% complete in fermentation Building and 95% in both organic buffer and refining buildings.
- In ground services site wide are 98% complete.
- Geofabric and dolerite installation to the Maturation pad 60% complete.
- Dolerite internal road installation 70% complete.

**Project approximately 73% complete.**





## B. Monitoring summary

1 round of depositional dust monitoring was undertaken in June (laboratory results pending). Two rounds of surface water monitoring were conducted and flow was recorded at both Point 1 (Site 115) and Point 8 on both 06/06/16 and 20/06/16.

### Point 1: Site 115

Analyte	Unit	06/06/2016	20/06/2016
Nitrogen (ammonia)	mg/L	<0.1	<0.1
Biochemical Oxygen Demand	mg/L	<2	<2
Dissolved Oxygen	mg/L	9.15	9.00
Electrical Conductivity	µS/cm	553	285
pH	pH	7.67	7.62
Potassium	mg/L	3	16.2
Redox Potential	mV	228	226
Total Dissolved Solids	mg/L	440	388
Total Organic Carbon	mg/L	9	12

### Point 8: Site 140

Analyte	Unit	Concentration Limits	1/02/2016	20/06/16
pH	mg/L	6.5-8.5	7.15	7.75
Total Suspended Solids	mg/L	50mg/L	56	23

## C. Monitoring data

### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Point 4 (Pylara)	Point 6 (West Void)	Point 7 (WMBT)
<b>2015</b>			
October	1.8	5.4	No data
November	5.7	5.5	No data
December	0.6	5.8	0.8
<b>2016</b>			
January	1.3	10	0.9
February	0.4	9	0.7
March	2.4	11	2
April	0.7	25.9	0.5
May	0.7	21	0.2
June	Laboratory results pending	Laboratory results pending	Laboratory results pending

## D. Concentration limits exceedances

The concentration limit for TSS was exceeded at Point 8 (site 140) on 06/06/2016. TSS was also tested at Point 1 which is located downstream of Point 8 on the boundary of the Woodlawn Bioreactor site. The result for TSS at Point 1 was 282mg/L and is reflective of turbidity generated in a natural watercourse by 142.5mm of rainfall over the previous

two days. This demonstrates the capacity of the barrier to reduce sediment discharge from the construction site.

**Point 1:** Site 115 (06/06/16)



**Point 8:** Site 140 (06/06/16)



#### **E. Response to concentration limit exceedances**

The minor concentration limit exceedance at Point 8 on 06/06/16 demonstrates that the sediment barrier installed at this location is preventing sediment from leaving the construction site as demonstrated by the photos above. The second round of monitoring on 20/06/16 confirms this with TSS recorded below the concentration limit at 23mg/L.

#### **F. Licence non-compliances and investigations**

No non-compliances and investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 July – 31 July 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project construction progress

- Haul road base complete, car park works/ changes subject to design finalisation and upgrade works.
- Sediment controls include V drains and are being continually monitored.
- Reception building cladding 90% complete, overhead gantry crane installed and fit out continuing
- Remaining alignment and welding of drums/ girth gear currently being completed.
- Minor omissions and defects rectification to all buildings, biofilters & external works ongoing.
- Odour duct footing installation 75% complete.
- Fermentation slab installation complete.
- Fermentation odour duct installation 90% complete.
- Organic Buffer & Refining Building odour duct installation complete.
- In ground services site wide are 99% complete.
- Geofabric and dolerite installation to the Maturation pad complete.
- Weighbridge structure installation complete.

**Project approximately 78% complete.**

### B. Monitoring summary

1 round of depositional dust monitoring was undertaken in July (laboratory results pending). No surface water monitoring was undertaken at either monitoring location in July.



### C. Monitoring data

#### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Point 4 (Pylara)	Point 6 (West Void)	Point 7 (WMBT)
<b>2015</b>			
October	1.8	5.4	No data
November	5.7	5.5	No data
December	0.6	5.8	0.8
<b>2016</b>			
January	1.3	10	0.9
February	0.4	9	0.7
March	2.4	11	2
April	0.7	25.9	0.5
May	0.7	21	0.2
June	2.5	6	0.4
July	Laboratory results pending	Laboratory results pending	Laboratory results pending

#### D. Concentration limits exceedances

No concentration limits were exceeded.

#### E. Response to concentration limit exceedances

No concentration limits were exceeded.

#### F. Licence non-compliances and investigations

No non-compliances and investigations were recorded.



## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 August – 31 August 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project construction progress

- Haul road base complete,
- Sediment controls include V drains are continually monitored.
- Reception building cladding complete and fitout 80% complete with grapple to be fitted
- BRS drums/ girth gear currently complete with gearboxes being installed
- Refining building equipment installation 75% complete with trommels and ballistic separators
- Minor rectification work to all buildings, biofilters & external works ongoing to completion
- External odour duct footing installation 95% complete with internal ducting in buildings complete
- Fermentation building complete and fit out 90% complete.
- In ground services complete.
- Maturation pad civil works complete.
- Weighbridge 90% complete.
- Electrical power to site with substations energised.
- Progressively electrical power will be passed through the site.
- Electric motors, pumps, hydraulic and pneumatic systems are being energized and tested
- With systems being powered and tested a new safety regime is in place – Lock Out Tag Out for personnel safety and permits to restrict and control work in areas where energized systems exist.

**Project approximately 85% complete.**

### B. Monitoring summary

1 round of depositional dust monitoring was undertaken in August (laboratory results pending). Point 4 had elevated readings due to the presence of ash residue. A temporary campfire established 5 metres from the monitoring point during the month is representative of such an elevated reading. No surface water monitoring was undertaken at either monitoring location.



## C. Monitoring data

### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Point 4 (Pylara)	Point 6 (West Void)	Point 7 (WMBT)
<b>2015</b>			
October	1.8	5.4	No data
November	5.7	5.5	No data
December	0.6	5.8	0.8
<b>2016</b>			
January	1.3	10	0.9
February	0.4	9	0.7
March	2.4	11	2
April	0.7	25.9	0.5
May	0.7	21	0.2
June	2.5	6	0.4
July	23.6	0.3	1.2
July	Laboratory results pending	Laboratory results pending	Laboratory results pending

## D. Concentration limits exceedances

No concentration limits were exceeded.

## E. Response to concentration limit exceedances

No concentration limits were exceeded.

## F. Licence non-compliances and investigations

No non-compliances and investigations were recorded.





## Environment Protection Licence Monthly Summary

<b>Site</b>	Woodlawn Mechanical & Biological Treatment Facility
<b>Reporting Period</b>	1 September – 30 September 2016
<b>EPL</b>	20476
<b>Anniversary Date</b>	22 December

*This document provides a summary of published environmental monitoring data for the Woodlawn Mechanical & Biological Treatment Facility in accordance with Section 66(6) of the Protection of the Environment Operations Act (NSW).*

### A. Project construction progress

- MBT main intersection works planned to commence near bioreactor facility.
- Leachate pond final bund walls planned for north and east aspects.
- Building interconnecting conveyors installed 95% complete
- Installation of conveyor belts in progress at 60% complete
- Fermentation building overhead gantry installed.
- In ground services complete.
- Remaining push wall and stacker rail installation complete in Fermentation building.
- Landscape topsoiling works commenced.
- Odour Duct support steel installed and odour duct installation 80% complete.
- Commissioning works on track with power to MCC's, MSB's & PLC panels across the project.
- Weighbridge fitout works 60%.
- Reception grapple crane installation planned.
- Admin Building delivery in progress for installation.
- Site signage and access road installation planned.

**Project approximately 88% complete.**

### B. Monitoring summary

1 round of depositional dust monitoring was undertaken in September (laboratory results pending). Surface water monitoring was undertaken after a rainfall event on 19/09/16.

### C. Monitoring data

#### Point 4,6,7: Depositional Dust (g/m<sup>2</sup>/mth)

Location	Point 4 (Pylara)	Point 6 (West Void)	Point 7 (WMBT)
<b>2015</b>			
October	1.8	5.4	No data
November	5.7	5.5	No data
December	0.6	5.8	0.8

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2016			
January	1.3	10	0.9
February	0.4	9	0.7
March	2.4	11	2
April	0.7	25.9	0.5
May	0.7	21	0.2
June	2.5	6	0.4
July	23.6	0.3	1.2
August	2.1	1.6	0.2
September	Laboratory results pending	Laboratory results pending	Laboratory results pending

### Point 1: Site 115

Analyte	Unit	19/09/2016
Nitrogen (ammonia)	mg/L	<0.1
Biochemical Oxygen Demand	mg/L	<2
Dissolved Oxygen	mg/L	9.41
Electrical Conductivity	µS/cm	1910
pH	pH	8.16
Potassium	mg/L	1
Redox Potential	mV	238
Total Dissolved Solids	mg/L	1310
Total Organic Carbon	mg/L	17
Total Suspended Solids	mg/L	9

### Point 8: WMBT Discharge point

Analyte	Unit	19/09/2016
Nitrogen (ammonia)	mg/L	0.6
Biochemical Oxygen Demand	mg/L	<2
Dissolved Oxygen	mg/L	9.13
Electrical Conductivity	µS/cm	796
pH	pH	8.12
Potassium	mg/L	1.9
Redox Potential	mV	236
Total Dissolved Solids	mg/L	447
Total Organic Carbon	mg/L	6
Total Suspended Solids	mg/L	71





#### **D. Concentration limits exceedances**

The Total Suspended Solids (TSS) concentration limit of 50mg/L was exceeded at Point 8.

#### **E. Response to concentration limit exceedances**

Although the concentration limit for TSS was exceeded slightly at Point 8. The TSS result of 9mg/L for Point 1, located downstream of the facility, demonstrates nil detrimental effect beyond the site boundary.

#### **F. Licence non-compliances and investigations**

No non-compliances and investigations were recorded.