



# **Clyde Terminal – SSD 5147**

## Annual Environmental Performance Review

Reporting Period: 1<sup>st</sup> January 2016 to 31<sup>st</sup> December 2016

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# 1 Introduction

Viva Energy Australia Pty Ltd (Viva Energy) operates the Clyde Terminal which receives, stores, doses and distributes finished petroleum products.

Following the closure of the Clyde Refinery at the Clyde Terminal in late 2012 and the cessation of refining activities, Viva Energy proposed to undertake the following works at the terminal:

- **Demolition works** – The removal of redundant refinery processing units, tanks and other infrastructure.
- **Construction works** – The carrying out of works including excavation, upgrades to tanks, bunds, drainage and instrumentation, replacement of electrical substations, upgrades to the fire water system and revised pumping and piping works.
- **Operation** – The operation of the site as a bulk fuel storage facility.

The main objectives of the conversion project are:

- To improve the efficiency of the Clyde Terminal by upgrading existing facilities and structures; and
- To improve environmental and safety performance of the Clyde Terminal while continuing to operate as a viable and efficient finished petroleum product receipt, storage and distribution terminal.

On 14 January 2015, the Planning Assessment Commission of NSW (as delegate of the Minister for Planning) granted Development Consent (SSD 5147) for the project subject to a number of conditions. The Clyde Terminal currently receives finished petroleum products from the Gore Bay Terminal. These products are distributed by pipeline from the Clyde Terminal to the adjacent Parramatta Terminal road gantry, to Sydney Airport, to Silverwater terminal and to Newcastle via existing infrastructure. Butane will be transported into the Clyde Terminal via truck. During the conversion works, the current terminal operations will continue and will be subject to the conditions and requirements under the existing Environment Protection Licence (EPL) No. 570 under the Protection of Environment Operations Act 1997 (POEO Act).

## 1.1 Scope

This Annual Environmental Performance Review (AEPR) has been prepared in accordance with Development Consent SSD 5147, Condition D4. Table 1-1 lists the requirements of condition D4 and the corresponding sections where each specific requirement is addressed.

**Table 1-1 Annual review reporting requirements**

Condition D4 requirement	AEPR Section
By the end of July each year, or other timing as may be agreed by the Secretary, the Applicant shall review the environmental performance of the Development to the satisfaction of the Secretary. This review must:	
(a) describe the construction and demolition activities that were carried out in the previous calendar year, and the construction and demolition activities proposed to be carried out in the coming calendar year;	Section 2
(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"> <li>• the relevant statutory requirements, limits or performance measures/criteria;</li> <li>• the monitoring results of previous years; and</li> <li>• the relevant predictions in the EIS;</li> </ul>	Section 3
(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;	Section 4.1
(d) identify any trends in the monitoring data over the life of the Development;	Section 4.2
(e) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and	Section 4.3
(f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the Development.	Section 5

## 1.2 Actions from last AEPR

An Independent Environmental Audit required under condition D7 of the development consent was completed during May – June 2016. Refer to Section 5 of this report for a list of outcomes and current status of audit findings.

## 2 Development activities

This Section describes the works undertaken in accordance with Development Consent SSD 5147 during the reporting period (1 January 2016 to 31 December 2016).

### 2.1 Works undertaken during this reporting period

#### 2.1.1 Demolition works

Table 2-1 shows % progress on demolition works undertaken during this reporting period for each of the designated areas. Refer to Appendix A.1 for location of demolition areas.

**Table 2-1 Demolition works progress during January – December 2016**

Demolition Area	% Progress – Last AEPR	% Progress – This AEPR
10	90%	100%
3	100%	100%
11	90%	100%
1	80%	100%
1A	70%	70%
4	90%	100%
5	90%	100%
6	80%	100%
12	90%	100%
13	100%	100%
14	100%	100%
15	80%	100%
17	40%	100%
18	20%	100%
19	20%	100%
20	100%	100%
21	60%	0% *
22	Not reported	0% **
Scrap processing		100% (for Stage 1)

\* Incorrectly reported as 60% in the 2015 AEPR – Stage 2 of Demolition works

\*\* Not reported in the 2015 AEPR – Stage 2 of Demolition works

## 2.1.2 Construction works

Construction works undertaken during the reporting period included:

- Refurbishment of the following storage tanks:
  - Tank farm B: Tank 50
  - Tank farm B1: Tanks 34 & 35
  - Tank farm E1: Tanks 37 & 39
  - Tank farm E2: Tank 87
- Commencement of construction of two new firewater tanks
- Electrical commissioning of substation 1, 30, 32 and MTS 3
- Installation of new Mogas sub manifold
- Installation of new import manifold
- Various piping installations and modifications
- Refurbishment of tank farm bund walls
- Overall minor civil works for associated equipment

Since the last AEPR, the timing of some activities have been rescheduled for project efficiencies. Construction schedule is still planned within the SSD consent period (i.e. five years).

Refer to Appendix A.2 for location of construction areas.

## 2.1.3 Operations

Operation of bulk fuel storage facility

As per Condition B8 of SSD 5147, Viva Energy operated in accordance with the SSD consent conditions from 14 July 2015.

Operational activities undertaken from 1 January – 31 December 2016, according to EPL570 consisted of the following:

- Petroleum Products Storage; &
- Non-thermal treatment of hazardous and other waste.

## 2.2 Proposed works for the next reporting period

### 2.2.1 Demolition works

The scope of the Liberty demolition contract has been completed and no demolition works are planned for 2017 (the next reporting period).

### 2.2.2 Construction works

Construction works planned for the next reporting period are as follows:

- Refurbishment of the following storage tanks:
  - Tank farm B1: Tank 42
  - Tank farm B2: Tank 33 completion
  - Tank farm E1: Tanks 36, 38, 40 & 41
  - Tank farm E2: Tank 84, 86 & 87
- Construction of the following storage tanks:
  - Firewater area: Firewater tanks x 2
  - Tank Farm B2: Tanks 78 & 79
- Various piping installations and modifications, including;
  - Mogas tanks and Quick Flush Tanks (QFT's) in Tank farms E1 and E2

- Jet tanks & transfer pit and QFT's in Tank farm B1
- Firewater area
- Automotive Gas Oil (AGO) tanks, Manifold, pump pit and QFT's.
- General utilities
- Various electrical and instrumentation works, including;
  - Decommissioning of 33kV switchyard
  - SUB 2, SUB 15 and SUB 30LV
- Instrumentation for Tanks in Tank farms E1, E2 and B1, foam skids, jet filters.
- Various civil works for associated equipment

Refer to Appendix A.2 for construction area locations.

### 2.2.3 Operations

Operational activities proposed for the next reporting period will be consistent with the previous reporting period and in compliance with EPL570:

- Petroleum Products Storage; &
- Non-thermal treatment of hazardous and other waste.

## 3 Monitoring results

### 3.1 Review of monitoring results and complaint records

Environmental monitoring and complaints are associated with demolition, construction and operation activities for this reporting period.

A review of the relevant results is presented below, with Appendix A.3 providing more detailed information:

#### 3.1.1 Complaints

No complaints were received relating to odour, noise, vibration, air quality or traffic.

#### 3.1.2 Visual Observations

##### Demolition and Construction Activities:

Liberty Industrial, Principal Demolition Contractor, conducted visual observations weekly during the reporting period via Liberty Form 'FRM-013 – Work Area Inspection'.

Visual observations included soil and water discharges, sediment and erosion control measures in place as well as dust levels. No incidents were identified during the weekly inspections.

Terminal operations also conduct daily inspections of operational/construction areas, including drains and tank farms areas. Inspections include water and soil management. No incidents were identified during these inspections.

The above results demonstrate compliance with relevant statutory requirements and performance criteria. The visual observations related to sediment laden water and dust also reflect relevant EIS predictions (refer Appendix A.4).

##### Operation Activities:

Viva Energy personnel and contractors conduct visual observations during daily rounds and work activities. Observations of note are recorded in the daily log and actioned as required under EPL570 and site procedures.

#### 3.1.3 Wastes

##### Demolition and Construction Activities:

Liberty Industrial implemented and maintained a Waste Register during the reporting period (refer Appendix A.3). This register tracks the amount of waste (in tonnes) generated by the demolition works and details the date of disposal, transport company and disposal facility. A specific Asbestos Register is included in this tracking system.

Terminal operations also maintain a detailed waste tracking and asbestos register for the Site which includes the Construction Activities.

The volume of waste generated during this reporting period, including asbestos is provided in table 3-1 below.

##### Operation Activities:

Operations track all wastes leaving the site related to their activities. The volume of waste generated during this reporting period, is provided in table 3-2 below



**Table 3-1 Demolition and Construction Waste generation during this reporting period**

Waste stream	EIS estimate (life of project)	Actual – This AEPR	Notes
Scrap metal	28,000t	15,632.86	Includes brass, bitumen pipe, heavy steel, fin fan pipes, electric motors & Inconel 600 (nickel-chromium alloy)
Concrete	50,000m3	0	
Spent erosion and sediment control materials	2t	0	
Fencing	10t	0	
Soil	20t	0	
Contaminated soil	1,000m3	24	CCU stack ash
Timber, glass and plastics	500m3	2.92	
Asbestos	100m3	96.6	236.66t (assuming a density of 2.45 ton/m3)
PCBs	~1m3	0	
Potentially PCB impacted soils	160,000L	0	
General waste	4,000t	972.5	
Liquid Waste	N/A	3,082.72	Water from former Mobil tank farm – not predicted in EIS

**Table 3-2 Operation Waste generation during this reporting period**

Waste Stream	EIS Estimate	Actual	Notes
Sludge	50t	1,297.32	Includes: sludge, black slops, DAF scum, spent carbon Tanks and drain cleaning activities were responsible for increase in volumes.
Oil filters and packing	5t	0	
Oily rags	<1t	0	
Chemicals (organic solvents)	5t	9.82	Caustic-phenol waste
Contaminated blue metal (sludge drying bays)	10t	0	
Empty drums	5t	0	
Scrap metal	50t	38.97	
Spent erosion and sediment control materials	2t	0	
Contaminated soil	50t	2.74	
Soil	<100t	0	
General waste	2000t	471.36	Includes: General waste, paper, green waste, silica dioxide

## 4 Assessment of monitoring results

### 4.1 Compliance with relevant statutory requirements, limits and performance measures / criteria

Relevant statutory requirements, limits and performance measures / criteria are listed for each of the reported monitoring results, see Appendix A.4. These include:

- Development Consent SSD-5147
- Environmental Protection License EPL-570
- Relevant Management Plans

An assessment of the monitoring results against the above criteria found the following non-compliances:

- Discharge to surface waters in excess of TSS criteria (80mg/L within 48 hours of rainfall event) from EPL570 discharge points ID28 and ID29. The following exceedances were recorded;
  - 30/1/2016 – 420 mg/L TSS at discharge ID 29 (LBL Interceptor bay 3/4 overflow)
  - 31/1/2016 – 150 mg/L TSS at discharge ID 29 (LBL Interceptor bay 3/4 overflow)
  - 5/6/2016 – 86 mg/L TSS at discharge ID 29 (LBL Interceptor bay 3/4 overflow)
  - 20/7/2016 – 110 mg/L TSS at discharge ID 28 (LBL Interceptor bay 1/2 overflow)
  - 24/8/2016 – 210 mg/L TSS at discharge ID29 (LBL Interceptor bay 3/4 overflow)

These exceedances were noted as non-compliances and were notified to the NSW EPA and NSW DPE.

A further non-compliance was recorded when it was identified that a quantity of wash water from the cleaning of equipment used to apply a soil binding dust suppressant had been discharged to Duck River. The incident occurred on the 3<sup>rd</sup> and/or 4<sup>th</sup> November 2016 and was notified to the NSW EPA and DPE when Viva Energy became aware of the incident on the 23<sup>rd</sup> February 2017.

Details of these non-compliances will also be included in the Annual Return for the Clyde Terminal that will be submitted to NSW EPA by 31 August 2017.

### 4.2 Monitoring data trends

Monitoring data is consistent with that shown in the previous monitoring period.

### 4.3 Comparison with relevant predictions in the EIS

Relevant EIS predictions are listed for each of the reported monitoring results, see Appendix A.4.

Contaminated water (liquid waste) was present in the tanks and bund of the former Mobil Tank Farm which required disposal prior to the demolition of these tanks. This volume of water was not predicted in the EIS.

## 5 Improvement opportunity measures

The Independent Environmental Audit required under condition D7 of the development consent was completed by Ramboll Environ Australia Pty Ltd during May 2016. The final report of this Audit is dated 15 July 2016 and was provided to the Department of Planning and Environment on 15 July 2016.

The Audit identified four administrative non-compliances and a number of recommendations relating to observations made during the Audit.

The Audit report contained an Action Plan (table 5 of the report) that detailed actions recommended to be taken in relation to each of these audit items.

All Audit finding and recommendations were addressed during the reporting period. Actions taken to address the audit finding were formally communicated to the Department of Planning and Environment on 10 May 2017.

A summary of these items are provided in the table below.

### Action Item Summary

Item No	Title	Status	Date Completed
4824	Condition D9. A complaints register shall be publicly available on the Viva Energy website and be up to date	Closed	7/07/2016
4825	Publish a report addressing compliance with the conditions of the EPBC approval	Closed	24/08/2016
4826	Report noncompliance in 2015-16 Annual Return for samples from EPA Point 26 January 2016	Closed	30/08/2016
4829	Dust Management	Closed	1/11/2016
4830	Sediment and Erosion Control	Closed	1/11/2016
4831	Flood Management	Closed	29/09/2016
4832	Bunding	Closed	16/12/2016
4833	Waste Management	Closed	1/11/2016
4834	Surface Water Quality	Closed	31/10/2016
4835	Administration	Closed	25/08/2016
4836	Emergency Response	Closed	28/10/2016
4837	Surface Water Quality	Closed	21/07/2016

## Appendix A

- A.1 Figure A.1 Demolition staging plan
- A.2 Figure A.2 Construction works plan
- A.3 Monitoring results and complaints records
- A.4 Monitoring results and assessment criteria

A.1 Figure A.1 Demolition staging plan





A.2 Figure A.2 Construction works plan



A.3 Monitoring results and complaints records

Requirement	Aspect	Monitoring Description	Results
Noise and Vibration MP, Air Quality MP, Traffic MP	Complaints	Complaints register maintained in accordance with Section 3.3 of the EMS	No complaints received during this reporting period.
Noise and Vibration MP	Noise monitoring following complaint	Noise monitoring undertaken at the sensitive receivers if a noise complaint is received	Not triggered
Soil and Water MP	Sediment laden water	Visual observations to ensure sediment laden water is managed properly and not discharged off-site	Visual observations conducted weekly throughout various areas of demolition works.
Soil and Water MP	Pollutants in water for discharge	Monitoring requirements will be fulfilled as required in EPL 570	Water discharges only from operational activities.
Soil and Water MP	Testing of excavated soil	In accordance with Soil and Water Management Plan	Excavations associated with construction activities. Soil was tested and re-used or stockpiled on site.
Soil and Water MP	Testing of groundwater and surface water	In accordance with contractor developed groundwater and surface water management Work Method Statement	Not required during the reporting period. Monitoring of surface water discharges according to EPL570 were conducted. Details of results available in Appendix A.4
Noise and Vibration MP	Noise monitoring for Out of Hours works	Noise monitoring will be undertaken at the sensitive receivers identified in the EIS should noise generating construction or demolition works be required to be undertaken outside normal construction hours.	Not required during the reporting period.
Air Quality MP	Dust	Visual, no record required. May be noted in toolbox talks or daily log	Visual observations conducted weekly throughout various areas of demolition works. Low and controlled levels of dust during reporting period.
Waste and Resource Recovery MP	Demolition and construction waste	Waste tracking system will be implemented in accordance with NSW EPA requirements.	Waste tracking system implemented for demolition and construction works.
Waste and Resource Recovery MP	Demolition and construction waste	Six monthly audit of waste tracking system to confirm implementation in accordance with NSW EPA requirements	Audit undertaken by AECOM on 21 September 2016.

Requirement	Aspect	Monitoring Description	Results
Waste and Resource Recovery MP	Asbestos register	Maintain an asbestos register for all asbestos waste generated during demolition and construction	Asbestos Register included in waste tracking system implemented by Liberty Industrial for demolition works.
Biodiversity MP	Weeds	Monitoring of weed infestations to ensure noxious weed infestations found within the area are controlled in accordance with the Noxious Weed Declarations for Parramatta Local Government Area	<p>Specialised weed control continues monthly: Hand weeded throughout core bush areas prior to spot spray application. Continued to disperse native grasses and groundcovers. As thinning of Casuarinas continue, it is anticipated that these areas will be seeded with local provenance native grasses, groundcovers and herbs where regeneration and resilience is low.</p> <p>Weeds treated: <i>Bidens pilosa</i>, <i>Cardiospermum grandiflorum</i>, <i>Chloris gayana</i>, <i>Conyza</i> spp., <i>Ehrharta erecta</i>, <i>Juncus acutus</i>, <i>Sida rhombifolia</i>, <i>Solanum nigrum</i>.</p>
Biodiversity MP	GGBF	In accordance with the <i>Plan of Management GGBF Clyde</i> (White, October 2013) or updated approved version	<p>Preparation works have commenced. These consist of frog clearances prior to commencing construction (some areas only) and training contractors for frog identification (inductions).</p> <p>To assist in implementation of the GGBF management plan, Viva Energy commissioned a report titled <i>Restoration of Green and Golden Bell Frog Habitat – WRL Technical Report 2016/06</i> (Glamore et al. 2016)</p>



A.4 Monitoring results and assessment criteria

Aspect	Statutory requirements, limits, performance measures / criteria	Results – This reporting period (See Appendix A.3)	Results – Previous reporting period	Relevant EIS predictions
Complaints	<p>EPL 570: Condition M5 – Recording of pollution complaints</p> <p>Noise and Vibration MP: Effective management of complaints raised by the community / surrounding businesses / stakeholders with regards to noise and vibration related to demolition and construction</p> <p>Air Quality MP: No complaints raised by the community / surrounding businesses / stakeholders with regards to air emissions, dust or odour related to demolition / construction</p> <p>Traffic MP: No traffic related issues raised by the community and stakeholders during demolition and construction</p>	No complaints received	No complaints received	N/A
Sediment laden water	<p>SSD 5147: Condition C46 – The Development shall comply with section 120 of the Protection of the Environment Operations Act 1997, which prohibits the pollution of waters, except as expressly provided in an EPL</p> <p>Soil and Water MP: No concentrated overland flows onto adjacent properties</p>	Visual observations conducted weekly throughout various areas of demolition works. No off-site discharges during the reporting period.	Visual observations conducted weekly throughout various areas of demolition works. No off-site discharges during the reporting period.	There is potential for the Project to intercept, disturb, or mobilise contaminated soils, including Acid Sulphate Soils (ASS). If not appropriately managed, this has the potential to impact both on-site and off-site receivers.
Dust	SSD 5147: Condition C28 – The Applicant shall carry out all reasonable and feasible measures to minimise dust generated during	Visual observations conducted weekly throughout various areas of demolition works. Low and controlled levels of dust during reporting period	Visual observations conducted weekly throughout various areas of demolition works. Low and controlled levels of dust during reporting period	Construction and demolition works for the Project are likely to generate temporary and negligible impacts to the existing air quality. The primary

Aspect	Statutory requirements, limits, performance measures / criteria	Results – This reporting period (See Appendix A.3)	Results – Previous reporting period	Relevant EIS predictions
	<p>construction, demolition and operation</p> <p>EPL 570: Condition O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises</p>			air quality impact identified for these works is dust generation.
Demolition and construction waste	<p>Waste and Resource Recovery MP: Data and reporting to indicate a Waste Tracking System implemented during demolition and construction phases of the Project</p>	Waste tracking continued.	Waste tracking continued. Audit actions completed.	<p>Scrap metal : 28,000 t</p> <p>Concrete: 50,000 m3</p> <p>Spent erosion and sediment control material: 2 t</p> <p>Fencing: 10 t</p> <p>Soil: 20 t</p> <p>Contaminated soil: 1000 m3</p> <p>Asbestos:100 m3</p> <p>General waste: 4000 t</p>
Asbestos register	EPL 570: Condition L5 – note: POEO (Waste) Regulation 2014 – Schedule 1 – Waste to which waste tracking requirements under Part 4 apply	Tracking continued	Asbestos Register included in waste tracking system implemented for demolition works	As above
Blasting	<p>Noise and Vibration MP: Australian and New Zealand Environment Council (ANZEC, 1990) Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (measured at noise sensitive sites):</p> <p>Blast overpressure: &lt;120 dB (Lin Peak)</p> <p>Ground vibration: 10 mms</p>	<p>Blasting activities were undertaken in February 2016 as part of the demolition of five (5) stacks.</p> <p>Results for the monitoring of; Asbestos, Synthetic Mineral Fibres (SMF), Heavy metals (Pb, As, Cd, Cr, Cu, particulate Hg, Ni &amp; Zn, Dust (PM<sub>10</sub>), Noise, Vibration and Blast Overpressure are detailed in the Coffey report</p>	No blasting activities were undertaken in the previous reporting period	Demolition blasting is anticipated to comply with the relevant criteria.

Aspect	Statutory requirements, limits, performance measures / criteria	Results – This reporting period (See Appendix A.3)	Results – Previous reporting period	Relevant EIS predictions
		<p>“Environmental Monitoring During Stack Blasting – Clyde Refinery Terminal” dated 16 March 2016.</p> <p>All results were assessed as being within guidance levels.</p>		

**OPERATIONS – Discharge monitoring for the period 1 January to 31 December 2016**

EPL 570													
EPA ID No.1 – Biotreater Effluent													
Pollutant	Biochemical Oxygen Demand (BOD)	Fluoride	Nitrogen (Ammonia)	Oil and Grease	pH	Phenols	Total Nitrogen	Total Petroleum Hydrocarbons				Total Phosphorus	Total Suspended Solids
Licence Limit	45/95 (50%/90%)	25/40 (50%/90%)	6/30 (50%/90%)	8/10 (50%/90%)	6-9	0.5	35/100 (50%/90%)	C6-C9	C10-C14	C15-C28	C29-C36	1.5/6 (50%/90%)	30/60 (50%/90%)
Units of Measure	mg/L	mg/L	mg/L	mg/L	units	mg/L	mg/L	ug/L				mg/L	mg/L
Freq. as per EPL	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly				Monthly	Monthly
21/01/2016	<5	1.3	0.04	<5	7.5	<0.01	3.1	<0.2	<0.05	<0.2	<0.2	0.27	<5
4/02/2016	24	0.84	0.09	<5	7.0	0.05	1.5	0.68	0.58	1.1	<0.2	0.7	35
3/03/2016	<5	2.0	<0.1	<5	7.7	<0.01	5.0	<0.04	<0.05	0.28	<0.2	0.22	<5
7/04/2016	<5	1.6	0.02	<5	7.7	<0.01	3.2	<0.2	<0.05	0.31	<0.2	0.14	<5
5/05/2016	<5	2.6	0.03	<5	7.4	0.02	5.4	<0.4	0.11	0.59	<0.2	0.24	<5
2/06/2016	12	1.2	<0.01	<5	7.6	0.07	1.4	<0.4	0.51	0.69	<0.2	<0.05	41
28/07/2016	<5	0.95	<0.01	<5	7.9	<0.01	0.2	<0.2	<0.05	<0.2	<0.2	0.15	<5
4/08/2016	<5	1.5	0.07	<5	7.3	0.02	0.88	<0.2	0.3	0.45	<0.2	0.2	6
1/09/2016	<5	1.2	0.43	<5	7.2	<0.05	1.8	<0.2	<0.05	<0.2	<0.2	0.24	<5
6/10/2016	<5	2.4	0.02	<5	7.8	<0.05	2.6	<0.04	<0.05	0.23	<0.2	0.16	<5
3/11/2016	<5	3.9	0.02	<5	7.5	<0.05	0.56	<0.2	<0.05	<0.2	<0.2	0.18	<5
15/12/2016	<5	1.3	0.01	<5	7.3	<0.05	4.0	<0.04	<0.05	<0.2	<0.2	0.2	<5

EPL 570

EPA ID No.2 – Main Interceptor Pumpout

<b>Pollutant</b>	<b>pH</b>	<b>Phenols</b>	<b>Total Organic Carbon</b>	<b>Total Suspended Solids</b>
Licence Limit	6.0-9.0	0.5	100	50
Units of Measure	units	mg/L	mg/L	mg/L
Frequency as per EPL	Daily when discharging	Daily when discharging	Daily when discharging	Daily when discharging
January 2016	No discharge			
February 2016	No discharge			
March 2016	No discharge			
April 2016	No discharge			
May 2016	No discharge			
June 2016	No discharge			
July 2016	No discharge			
August 2016	No discharge			
September 2016	No discharge			
October 2016	No discharge			
November 2016	No discharge			
December 2016	No discharge			

EPL 570

EPA ID No. 4 - B2 System Pump out

<b>Pollutant</b>	<b>pH</b>	<b>Phenols</b>	<b>Total Organic Carbon</b>	<b>Total Suspended Solids</b>	<b>Total Petroleum Hydrocarbons</b>
Licence Limit	6.0-9.0	0.5	100	50	n/a
Units of Measure	units	mg/L	mg/L	mg/L	µg/L
Frequency as per EPL	Daily when discharging	Daily when discharging	Daily when discharging	Daily when discharging	Daily when discharging
January 2016	No discharge				
February 2016	No discharge				
March 2016	No discharge				
April 2016	No discharge				
May 2016	No discharge				
June 2016	No discharge				
July 2016	No discharge				
August 2016	No discharge				
September 2016	No discharge				
October 2016	No discharge				
November 2016	No discharge				
December 2016	No discharge				

EPL 570			
EPA ID No.23, 24, 25, 27 – Flexible discharge outlets			
Pollutant	pH	Total Organic Carbon	Total Suspended Solids
Licence Limit	6.0-9.0	100	50
Units of Measure	units	mg/L	mg/L
Frequency as per EPL	<24 hrs prior to discharge	<24 hrs prior to discharge	<24 hrs prior to discharge
January 2016	No discharge		
February 2016	No discharge		
March 2016	No discharge		
April 2016	No discharge		
May 2016	No discharge		
June 2016	No discharge		
July 2016	No discharge		
August 2016	No discharge		
September 2016	No discharge		
October 2016	No discharge		
November 2016	7.1*	4.9*	<5*
December 2016	No discharge		

\*Sample taken from ID No.25 on 2/11/2016

EPL 570								
EPA ID No. 26 - B2 System Monitoring Point								
Pollutant	pH	Phenols	Total Organic Carbon	Total Suspended Solids	Total Petroleum Hydrocarbons			
					C6-C9	C10-C14	C15-C28	C29-C36
Units of Measure	pH	mg/L	mg/L	mg/L	ug/L			
Freq. as per EPL	Daily when discharging	Daily when discharging	Daily when discharging	Daily when discharging	Monthly			
4/01/2016	6.8	<0.01	7.6	20	-	-	-	-
5/01/2016	6.9	<0.01	5.6	11	-	-	-	-
6/01/2016	6.9	<0.01	4.8	11	-	-	-	-
7/04/2016	7.6	0.02	4.9	19	-	-	-	-
30/01/2016	7.5	<0.01	4.8	140	-	-	-	-
31/01/2016	7.3	<0.01	4.9	68	-	-	-	-
February 2016	No discharge							
March 2016	No discharge							
April 2016	No discharge							
May 2016	No discharge							
5/06/2016	7.6	0.01	6.0	70	<200	190	490	<200
7/06/2016	7.3	0.01	6.9	25	-	-	-	-
8/06/2016	6.9	0.07	13	21	-	-	-	-
9/06/2016	6.9	0.62	19	26	-	-	-	-
19/06/2016	7.5	0.005	6.4	73	<40	<50	<200	<200
20/06/2016	7.6	0.01	6.3	56	-	-	-	-
July 2016	No discharge							
24/08/2016	7.7	<0.05	5.2	55	<200	<50	610	<200
September 2016	No discharge							
October 2016	No discharge							
November 2016	No discharge							
December 2016	No discharge							



EPL 570				
EPA ID No. 28 – LBL Interceptor Bay 1&2 overflow				
Pollutant	pH	Oil and Grease	Total Organic Carbon	Total Suspended Solids
Licence Limit				80 (within 48hrs of rain event)
Units of Measure	units	mg/L	mg/L	mg/L
Frequency	Daily when discharging	Daily when discharging	Daily when discharging	Daily when discharging
8/01/2016	7.8	<5	4.8	<5
15/01/2016	8.4	<5	7.7	13
22/01/2016	8	<5	6.8	9
23/01/2016	8	<5	6.7	8
24/01/2016	7.8	<5	2.9	<5
26/01/2016	7.3	<5	12	15
March 2016	No discharge			
April 2016	No discharge			
May 2016	No discharge			
5/06/2016	7.0	<5	2.0	5
19/06/2016	7.6	<5	2.2	20
21/06/2016	7.4	<5	1.8	15
20/07/2016	8.1	n/a	2.6	110
21/07/2016	8.2	n/a	3.4	<5
23/07/2016	8.0	n/a	3.4	<5
3/08/2016	8.3	n/a	3.5	<5
5/08/2016	8.1	n/a	3.1	<5
4/08/2016	8.1	n/a	7.9	23
September 2016	No discharge			
October 2016	No discharge			
November 2016	No discharge			
December 2016	No discharge			

EPL 570			
EPA ID No. 29 – Basell Interceptor overflow			
Pollutant	pH	Total Organic Carbon	Total Suspended Solids
Licence Limit			80 (within 48hrs of rain event)
Units of Measure	units	mg/L	mg/L
Frequency as per EPL	Daily when discharging	Daily when discharging	Daily when discharging
4/01/2016	7.7	9.3	25
5/01/2016	7.6	2.8	<5
6/01/2016	7.6	7.0	15
15/01/2016	8.4	7.7	13
30/01/2016	7.7	5.1	420
31/01/2016	7.6	4.9	150
01/02/2016	7.7	5.4	70
March 2016	No discharge		
April 2016	No discharge		
May 2016	No discharge		
5/06/2016	8.1	8.4	86
7/06/2016	7.7	5.1	78
8/06/2016	7.6	3.8	39
24/8/2016	8.0	4.6	210
2/09/2016	7.7	3.9	13
3/09/2016	8.0	5.8	51
4/09/2016	7.9	5.0	22
October 2016	No discharge		
November 2016	No discharge		
December 2016	No discharge		

EPL 570

EPA ID No.30 – LBL Interceptor

<b>Pollutant</b>	<b>pH</b>	<b>Oil and Grease</b>	<b>Total Organic Carbon</b>	<b>Total Suspended Solids</b>
Licence Limit	6.0-9.0	10	100	50
Units of Measure	units	mg/L	mg/L	mg/L
Frequency as per EPL	Daily when discharging	Daily when discharging	Daily when discharging	Daily when discharging
January 2016	No discharge			
February 2016	No discharge			
March 2016	No discharge			
April 2016	No discharge			
May 2016	No discharge			
June 2016	No discharge			
July 2016	No discharge			
August 2016	No discharge			
September 2016	No discharge			
October 2016	No discharge			
November 2016	No discharge			
December 2016	No discharge			



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Viva Energy Australia Pty Ltd  
ABN 46 004 610 459  
Level 16, 720 Bourke Street Docklands Victoria 3008  
[Vivaenergy.com.au](http://Vivaenergy.com.au)