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Annual Review - 2018

Stolthaven Bulk Fuel Storage Facility, Mayfield

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Stolthaven Bulk Fuel Storage Facility, Mayfield

Client: Stolthaven Australia Pty Ltd

ABN: 26 075 030 992

Prepared by

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Prepared by Zoe Cox

Reviewed by Chad Whitburn

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1.0 Introduction

This Annual Review has been prepared by AECOM Australia Pty Ltd (AECOM) on behalf of Stolthaven Australia Pty Ltd (Stolthaven) to assess the environmental performance of the fuel import, storage and dispatch facility (the Site) on industrial land managed by the Port of Newcastle Pty Ltd (PON), Newcastle, New South Wales. The Site is operated under the State Significant Development (SSD) development consent SSD_6664 (as modified) issued on 16 April 2015 under Part 4 of the *Environmental Planning and Assessment Act* (EP&A Act). The Site was originally approved under the now superseded Part 3A of the EP&A Act, under Project Approval MP08_130 which has now been relinquished.

In accordance with Schedule 4 Condition 5 of SSD_6664 (as modified) and the letter addressed to Stolthaven from Department of Planning and Environment (DP&E) dated 23 February 2017 this Annual Review has been prepared to assess the environmental performance of the Site to the satisfaction of the Director-General. This Annual Review includes the reporting period from 1 January – 31 December 2018.

This Annual Review provides:

- An overview of the Site (**Section 2.0**);
- A description of the operations carried out over the past calendar year (2018) which represents the reporting period (**Section 2.1**);
- Analysis of the environmental monitoring results for the reporting period and a comparison of these results with relevant performance criteria and previous data (**Sections 3.0** to **7.0**);
- Identification of any non-compliances throughout the reporting period and actions taken to rectify the issue (**Section 10.0**);
- Identification of trends in monitoring data over the life of the Site (**Sections 3.0** to **7.0**); and
- A summary of recommendations to improve the environmental performance of the Site (**Section 11.0**).

Any trends identified in monitoring data will be limited to the available data set. As monitoring continues over the life of the Site, the reliability of any trends identified in monitoring data will improve with larger data sets being available.

1.1 Site Location and Description

The Site is located on part of the former BHP Steelworks Site, approximately 5 km north-west of Newcastle CBD. The land on which the Site is located is leased from the PON and is currently subject to concept approval MP 09_0096 held by PON. The Site is located within the Port of Newcastle, and the area surrounding the Site is characterised by a mixture of port related activities, industrial uses and residential and commercial areas. The Site is situated on the southern bank of the South Arm of the Hunter River, opposite industrial and port operations on Kooragang Island **(Figure 1**). The Site and adjoining land is topographically flat and lies at approximately 1.89m Australian Height Datum.

The storage terminal consists of:

- Ship unloading facilities at the Mayfield Berth 4 (M4) wharf facility (outside the project approval area);
- A delivery pipeline from M4 and M7 to the terminal;
- Nine (9) storage tanks from 535m^3 to 18,003m^3 as summarised in **Table 1**;
- A four (4) bay automated truck loading and unloading facility;
- Pumping capacity for bulk tanker (truck loading);
- Appropriate drainage and spill containment systems; and
- Fire protection systems.

The approved terminal layout is provided in **Figure 2** and the proposed Expansion Area includes the parcels of land (Lot 36, Lot 37 and Lot 38) south of the existing facility.

Table 1 Schedule of Fuels Storage Tanks

Tank ID No.	Design Product	Tank Diameter (m)	Shell Height (m)	Maximum Storage Volume (m^3)
1	Diesel	36.6	17.1	17,703
2	Diesel	36.6	17.1	17,695
3	Diesel	36.6	17.1	17,691
4	Biodiesel	7.6	12.0	535
5	Diesel	36.6	17.1	17,584
6	Diesel	36.6	17.1	17,611
7	Biodiesel	18.0	17.0	4,242
8	Diesel	36.6	17.1	17,998
9	Diesel	36.6	17.1	18,003
			Total	129, 062 m^3 or 129.06 ML

1.2 Site History

The Site is located on part of the former BHP Steelworks Site. BHP was located on the site from 1915 to 1999. In 2002, ownership of that part of the former BHP Steelworks Site known as the Closure Area Site was transferred to the State Government. In March 2007, the Hunter Development Corporation (HDC) (formerly the Regional Land Management Corporation Pty Ltd) was created by the Government to manage the day-to-day activities of the former BHP Steelworks Site and other Crown lands in the Lower Hunter Region, including remedial and redevelopment works for the Closure Area Site (SKM 2004).

On 14 June 2001, under former Section 21 of the *Contaminated Land Management Act 1997* (CLM Act), the Environment Protection Authority (EPA) declared the Closure Area Site to be a remediation site. A Remediation Action Plan (RAP) was prepared by SKM in 2004 to address contamination issues associated with soils and groundwater. A Voluntary Remediation Agreement (VRA No 26025) for the remediation of the Site was issued by the EPA on 30 August 2005. HDC undertook to fulfil these remediation commitments.

In March 2008, a Contaminated Site Management Plan (CSMP) for the Closure Area Site was prepared by HDC. The CSMP provided a common framework to be applied across the whole of the site for the design, implementation, completion, use and maintenance of remediation and project works. In mid-2008, HDC completed Stage 1 of the remediation works. Stage 2 of the remediation works were subsequently completed in 2013.

Following a handover in ownership to the Newcastle Port Corporation (NPC), now PON, a Concept Plan application for the future strategic development of the former BHP Steelworks Site was approved by the Minister for Planning in July 2012. The Concept Plan approval made provision for the future development of part of the former BHP site for bulk liquid related industries.

Stolthaven was the first operation active on the former BHP Steelworks Site, having received initial approval for their Site in June 2012. There is one other operation currently active on the former BHP Steelworks site, being the Cargo Storage Facility (DA 8137). PON also operates Mayfield No.4 berth (M4) within the Concept Plan area, which is a general purposes berth used by Stolthaven for the import of fuels until October 2018, when Mayfield 7 berth was commissioned.

1.3 Operations and Approval

The Site operates in accordance with SSD_6664 issued on 16 April 2015 under Part 4 of the EP&A Act. The operation of the new Mayfield No.7 Berth pipeline is carried out in accordance with SSD_7065 which was issued on 15 December 2016. The operation of the Site under development consent SSD_6664 and SSD_7065 is discussed further in **Section 1.3.2** and **Section 1.3.3**, respectively.

The Site was originally approved under Project Approval MP 08_0130, issued on 8 June 2012 under the former Part 3A (repealed) of the EP&A Act. Site operations are described below in sequence of approval history.

Table 2 Approvals

Approval	Section	Expiry Date
Original Project Approval MP08_0130	**Section 1.3.1**	NA
Current Development Consent SSD_6664	**Section 1.3.2**	NA
Development Consent SSD_7065	**Section 1.3.3**	As per Condition B5 of the SSD_7065, this consent lapses five years from the date of approval (i.e 15 December 2021)
Environment Protection Licence (EPL) 20193	**Section 1.3.4**	NA
Concept Plan MP09_0096	**Section 1.3.5**	NA

1.3.1 Original Project Approval MP08_0130

The original Project Approval MP08_0130 was approved by the Minister for Planning on 8 June 2012 under Part 3A (repealed) of the EP&A Act. In summary, the original project comprised the following elements:

- Use of an existing ship berthing facility via M4 to deliver fuels from bulk tankers. Fuel to be pumped along a 300 mm diameter steel pipeline from M4 to the Site;
- Storage of bulk fuels in above ground tanks (3 x 18ML diesel and 3ML biodiesel) with a total permitted annual throughput of 300 ML combined;
- Distribution of fuels by road tankers; and
- Ancillary components including site office, car parking and truck loading gantry.

Construction of the Site as approved under the original Project Approval was completed in late 2013, with the first shipment of fuels commencing 19 November 2013.

Subsequent modification to the original Project Approval included the following:

- MOD 1 – Two additional 18ML diesel tanks, one additional 4.2ML biodiesel tank and an additional 100ML pa throughput. Approved 26 July 2013;
- MOD 2 – Paper modification to the wording of Condition 6 to remove reference to the Department of Health. i.e. no changes to the composition of the approved Facility. Approved 15 November 2013; and
- MOD 3 – Increase throughput from 400ML pa to a total of 500ML pa. No additional tanks or infrastructure. Approved 10 July 2014.

1.3.2 Development Consent SSD_6664

Stolthaven operates under SSD development consent 6664 (SSD_6664) which was issued under Part 4 of the EP&A Act following a request for increase to the throughput of the facility and to construct two additional storage tanks. The current SSD_6664 consent transferred the Site from the MP08_0130 Part 3A approval to an SSD approval. One of the conditions of SSD_6664 included the requirement to surrender Project Approval MP08_0130. The SSD_6664 consent permitted the Facility's capacity to be increased through an additional:

- Two 18ML diesel storage tanks; and
- Throughput to total 1,010ML pa.

Following the approval of SSD_6664, a modification to SSD_6664 was approved to increase the annual throughput from 1,010 ML to 1,300 ML per year. SSD_6664 Modification 1 does not require an increase in storage capacity at the Site nor does it require construction of additional fuel storage tanks or associated infrastructure. This modification was approved on 28 September 2015.

1.3.3 Development Consent SSD_7065

Stolthaven applied to expand its existing fuel storage at Mayfield. This expansion involved:

- Increasing the throughput of the facility from 1,300ML to 3,500ML per year;
- Importing flammable fuels (petroleum, ethanol and jet fuel), in addition to combustibles (diesel and biodiesel) already imported;
- 17 new fuel storage tanks and bunds, in addition to the 10 existing tanks;
- A marine loading arm, pumps and dual pipeline to transfer fuels to the terminal from ships docking at the new Mayfield No.7 berth; and
- A new six bay truck loading gantry, vapour control system, office and firefighting systems.

DP&E approved the application on 15 December 2016. SSD_7065 was activated during the 2018 reporting period for the construction and operation of the new Mayfield No. 7 Berth and associated fuel pipeline. SSD_7065 allows for an increase in throughput of combustible liquids to a total of 3,500ML per year and the ability to store flammable liquids. However, the Site still operates under SSD_6664 and the total throughput of the facility currently remains at 1,300ML.

Accordingly, the Site EPL 20193 was amended in September 2018 to support the change in development consent and is discussed further below in **Section 1.3.4**.

Correspondence from DP&E regarding a progressive submission of the Stage 1 Construction Environmental Management Plan (CEMP) and Stage 1 Pre-Construction Hazard Studies (PCHS) for the works involved with SSD_7065 is provided in Appendix A. It is noted that approval was received from DP&E for the CEMP and PCHS for Construction Stage 1 only.

1.3.4 Environmental Protection Licence

The Site operates under EPL 20193 which is administered by the NSW EPA under the *Protection of the Environment Operations Act 1997* (POEO Act). A variation to EPL 20193 was approved on 2 October 2015 to incorporate the modifications made under SSD_6664 Modification 1.

Up until mid-2018, EPL 20193 permitted the scheduled activities of Chemical Storage, Shipping in Bulk and Extractive Activities on the site. The Extractive Activities approved under EPL 20193 related to the dredging operations being undertaken for construction of the Mayfield Berth No. 7, which is complying development (refer to **Section 1.3.5**). EPL 20193 was amended on 28 August 2017, to include updates to the groundwater monitoring well network, redefined noise criteria and the requirement to perform ambient monitoring during dredging operations.

EPL 20193 was further amended on 14 September 2018 which included the following changes:

- Removal of all dredging related conditions from the licence as capital dredging works associated with the establishment of Mayfield No. 7 berth had been completed;
- Removal of the requirement for monthly throughput monitoring and replacement with a requirement to notify the EPA if, and when, operating conditions occur that trigger the need for a Vapour Recovery Unit; and
- Addition of a new condition which requires Stolthaven to record temporary changes in the occupation of Mayfield No. 7 Wharf.

1.3.5 Other relevant approvals

Mayfield Concept Plan Approval

Concept Plan (MP09_0096) was approved by the Minister under Section 75M of the EP&A Act on 16 July 2012 to enable development of the former BHP Steelworks site (known as the Closure Area or Concept Plan area), a 90 hectare portside portion of land on the South Arm of the Hunter River within which the Site sits. The Concept Plan area is to be developed progressively in stages to accommodate anticipated future trade needs over a 20-25 year timeframe.

Mayfield Berth No. 4 DA-293-08-00

Development Consent DA-293-08-00 MOD 9, dated 29 August 2013, is applicable to the M4 berth, and ships filling or depositing at this berth must comply with relevant conditions of this consent (e.g. operational noise limits).

Mayfield Berth No. 7 – Complying Development Certificate

Stolthaven constructed a dedicated bulk liquids berth to service both the Site and other bulk liquid operators in mid-2018. Under the provisions of *State Environmental Planning Policy (Three Ports) 2013* (Three Ports SEPP) the construction of the berth is complying development. A complying development certificate was obtained from Newcastle City Council. The berth became operational during the 2018 reporting period and began accepting fuels in late October 2018.

G:\ENVGIS\Projects\60326869 Stolthaven\FIGURES\3500ML Modification\EIS\60326869 F1 Regional Context 06 10 2015 TO

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REGIONAL CONTEXT

Bulk Fuel Storage Facility
State Significant Development - Stolthaven Stage 3

FIGURE 1

G:\ENV\GIS\Projects\60326869 Stolthaven\FIGURES\3500ML Modification\EIS\60326869 F4 Approved Terminal Layout 30 11 2015.TO

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APPROVED TERMINAL LAYOUT

Bulk Fuel Storage Facility
State Significant Development - Stolthaven Stage 3

FIGURE 2

2.0 Site Operations

2.1 Description of Operations

Operations undertaken at the Site include the receipt, storage and dispatch of bulk diesel and biodiesel, as well as bulk tanker loading at M4 and the new Mayfield No. 7 Berth (M7). The Site operates 24 hours a day, seven days a week. The Site is partially automated and manned with Stolthaven personnel undertaking daily inspections. Primary operations include:

- The bulk storage of diesel and biodiesel at the Site in the storage tanks listed in **Table 1**;
- The bulk transfer of diesel fuel from berthed ships to the Site's above ground storage tanks; and
- The filling of road tankers with diesel and biodiesel products for transfer to customers.

2.2 Major Operational Changes in 2018

Mayfield Berth No. 7 Pipeline

The M7 Berth pipeline became operational within the reporting period, with the first ship arrival and import of fuels commencing in late October 2018.

The previous M4 berth was only rated for the import of combustible materials, meaning that no flammable liquids could be imported through the M4 berth. M7 has been designed specifically as a Bulk Liquids Berth (BLB) suitable for the ship to shore transfer of fuels including flammable liquids. The M7 berth pipeline is now operational and planning is currently underway to decommission and remove the pipeline that is connected to the existing terminal to M4.

EPL

A variation to EPL 20193 was issued on 14 September 2018 to support the activation of development consent SSD_7065. The variation included updates to remove all dredging related conditions from the EPL, changes in the requirements of monthly throughput monitoring and the requirement to record temporary changes in the occupation of Mayfield No. 7 Berth.

3.0 Groundwater

3.1 Groundwater Monitoring

Groundwater quality at the Site is managed in accordance with a groundwater monitoring program, adherence to the Site's Groundwater Management Plan (GMP) and the conditions of EPL 20193. Groundwater beneath the Site discharges into the Hunter River via groundwater migration.

Four groundwater monitoring wells were installed by Stolthaven in October 2013 (identified as Monitoring Points 1-4 in EPL 20193) and are identified as MW01, MW02, MW03 and MW04 in this report. Five additional groundwater monitoring wells were installed by Stolthaven in the proposed Expansion Area in July 2017 (identified as Monitoring Points 16-20 in EPL 20193) and are identified as MW05, MW06, MW07, MW08 and MW09 in this report (refer to **Figure 3**).

During the 2018 reporting period, an additional two groundwater monitoring wells were installed by Stolthaven following recorded exceedances of criteria at MW08. The two additional groundwater monitoring wells are referred to as MW08A and MW08B.

The groundwater monitoring program consists of quarterly data collection and samples from the groundwater wells. Monitoring events are scheduled so that groundwater conditions beneath the Site are investigated during both wet and dry seasons. The schedule of groundwater monitoring wells is provided in **Table 3**.

Table 3 Groundwater Monitoring Points at the Site

EPA Identification Number	Monitoring Well Reference in this Report	Type of Monitoring Point	Sampling Frequency
1	MW01	Groundwater	Quarterly
2	MW02	Groundwater	Quarterly
3	MW03	Groundwater	Quarterly
4	MW04	Groundwater	Quarterly
16	MW05	Groundwater	Quarterly
17	MW06	Groundwater	Quarterly
18	MW07	Groundwater	Quarterly
19	MW08	Groundwater	Quarterly
N/A	MW08A	Groundwater	Temporary
N/A	MW08B	Groundwater	Temporary
20	MW09	Groundwater	Quarterly

Background monitoring was conducted prior to commencement of operations in 2013 to assess the condition of groundwater entering and leaving the Site (particularly for the presence of petroleum hydrocarbons) in order to establish baseline groundwater quality within the Site. Background monitoring was conducted in the proposed Expansion Area during the fourth quarter of 2017 to begin assessing the groundwater quality prior to site operations within this area. The results of background monitoring are included alongside groundwater monitoring results for the reporting period in **Section 3.2**.

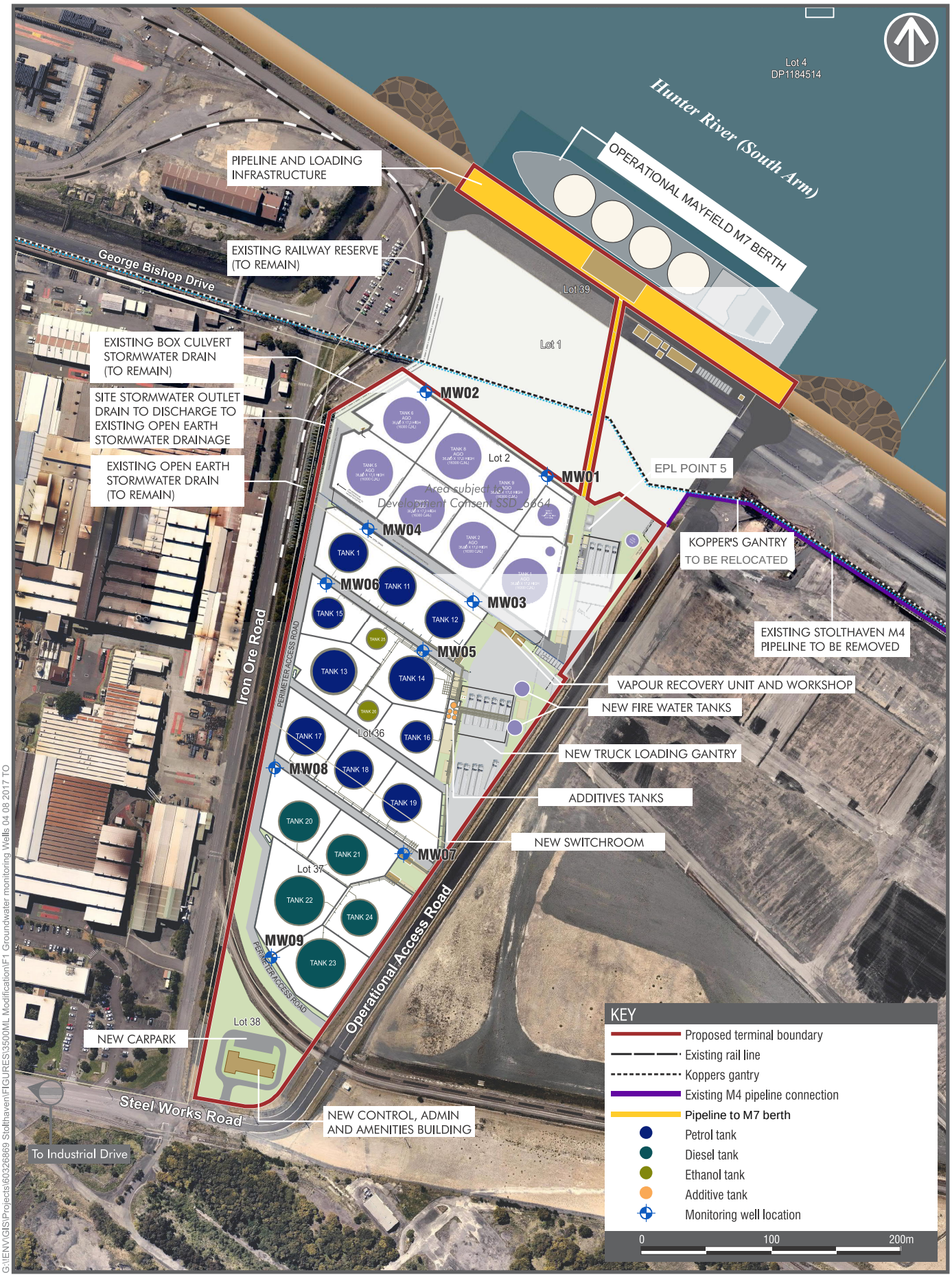
Groundwater monitoring results are assessed against the Site's Groundwater Assessment Criteria (GAC) as part of the GMP, and the background concentrations established in 2013. The thresholds that form the GAC are sourced from the ANZECC (2000) *Australia New Zealand Water Quality Guidelines for Fresh and Marine Waters,* 95% Species Protection for Marine Waters Criterion. Where trigger values have not been published, ANZECC (2000) low reliability trigger values were adopted. There are no groundwater quality requirements under the Site's EPL. The GAC is set out in **Table 4**.

Samples are analysed for pollutants by a NATA accredited laboratory. Indicators of potential adverse groundwater quality impact will include (but are not limited to) the following:

- Evidence of non-aqueous phase liquid (NAPL) (e.g. a separate fuel layer) on the groundwater table;
- Changes in clarity, colour and odour of groundwater; and
- Increases in concentrations of dissolved hydrocarbons.

Table 4 Groundwater Assessment Criteria

Compound	Units	ANZECC (2000) 95% Low Reliability Values	ANZECC (2000) 95% Trigger Values	EPL Concentration Limit
BTEX				
Benzene	(µg/L)	-	500	-
Ethylbenzene	(µg/L)	80	-	-
Toluene	(µg/L)	180	-	-
o-xylene	(µg/L)	350	-	-
p-xylene	(µg/L)	200	-	-
m-xylene	(µg/L)	80	-	-
Total Xylene	(µg/L)	-	-	-
Total Recoverable Hydrocarbons				
C6-C10 Fraction	(µg/L)	-	-	-
C6-C10 - BTEX	(µg/L)	-	-	-
>C10-C16 Fraction	(µg/L)	-	-	-
>C16-C34 Fraction	(µg/L)	-	-	-
>C34-C40 Fraction	(µg/L)	-	-	-
>C10-C16 Fraction – Naphthalene	(µg/L)	-	-	-



G:\ENV\GIS\Projects\60326869 Stolthaven\FIGURES\3500ML Modification\F1 Groundwater monitoring Wells 04 08 2017 TO

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TERMINAL LAYOUT

Bulk Fuel Storage Facility

FIGURE 3

3.2 Groundwater Monitoring Results

Groundwater monitoring results are presented in **Table 5** to **Table 14** with commentary on the analysis provided below in **Section 0**.

3.2.1 MW01

Table 5 Groundwater Monitoring Results for MW01

Analyte	Background range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 – 9.79	-	0.01	9.11	8.94	8.98	9.36
BTEX (µg/L)							
Benzene	<1 to 5	500	1	<1	<1	<1	<1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<100	<100	<100	<100
>C16-C34 Fraction	<100 to 380	-	100	<100	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

*Lesser value of m-xylene adopted as GAC

Bold denotes exceedance of adopted GAC.

3.2.2 MW02

Table 6 Groundwater Monitoring Results for MW02

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	7.66	7.65	7.48	7.55
BTEX (µg/L)							
Benzene	<1 to 5	500	1	<1	<1	<1	<1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<100	<100	<100	<100
>C16-C34 Fraction	<100 to 380	-	100	<100	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

*Lesser value of m-xylene adopted as GAC

3.2.3 MW03

Table 7 Groundwater Monitoring Results for MW03

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	7.93	7.90	7.92	7.88
BTEX (µg/L)							
Benzene	<1 to 5	500	1	<1	<1	<1	<1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<100	<100	<100	<100
>C16-C34 Fraction	<100 to 380	-	100	<100	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

*Lesser value of m-xylene adopted as GAC

3.2.4 MW04

Table 8 Groundwater Monitoring Results for MW04

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	8.23	7.98	7.94	8.06
BTEX (µg/L)							
Benzene	<1 to 5	500	1	<1	<1	<1	<1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<100	<100	<100	<100
>C16-C34 Fraction	<100 to 380	-	100	<100	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

*Lesser value of m-xylene adopted as GAC

3.2.5 MW05

Table 9 Groundwater Monitoring Results for MW05

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	8.51	8.39	8.82	8.47
BTEX (µg/L)							
Benzene	<1	500	1	<1	<1	<1	<1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<100	<100	<100	<100
>C16-C34 Fraction	<100 to 380	-	100	<100	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

*Lesser value of m-xylene adopted as GAC

3.2.6 MW06

Table 10 Groundwater Monitoring Results for MW06

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	9.15	7.83	7.79	8.91
BTEX (µg/L)							
Benzene	<1	500	1	<1	<1	<1	<1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<100	<100	<100	<100
>C16-C34 Fraction	<100 to 380	-	100	<100	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

*Lesser value of m-xylene adopted as GAC

3.2.7 MW07

Table 11 Groundwater Monitoring Results for MW07

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	8.93	9.16	9.20	9.01
BTEX (µg/L)							
Benzene	<1	500	1	<1	<1	<1	<1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<100	<100	<100	<100
>C16-C34 Fraction	<100 to 380	-	100	<100	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

*Lesser value of m-xylene adopted as GAC

3.2.8 MW08

The groundwater monitoring results for MW08 are provided in **Table 12.**

Following an elevated reading at MW08, an additional two ground water monitoring wells were installed on 28 March 2018, being MW08A and MW08B. Installation of the wells was undertaken to define the possible lateral extent of identified residual contamination in the vicinity of MW08. Both MW08A and MW08B were placed in locations both up and down-gradient hydrologically of MW08 and were sampled on 5 April 2018. The groundwater monitoring results for MW08A and MW08B can be seen in **Table 13**.

Table 12 Groundwater Monitoring Results for MW08

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	7.05	7.02	7.04	7.08
BTEX (µg/L)							
Benzene	<1	500	1	**6680**	**8130**	**10000**	**6120**
Ethylbenzene	<2	80	2	14	<20	23	<20
Toluene	<2	180	2	**248**	**433**	**497**	**325**
Xylene (o)	<2	350	2	39	61	84	58
Xylene (m&p)	<2	80*	2	73	**112**	168	**111**
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	7840	10600	10600	7470
C6-C10 minus BTEX (F1)	<20	-	20	790	1860	1860	860
>C10-C16 Fraction	<100	-	100	5240	5640	5640	7150
>C16-C34 Fraction	<100 to 380	-	100	1890	1450	1450	2280
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	660	420	420	1510

Notes:
*Lesser value of m-xylene adopted as GAC
**Samples required Dilution due to the presence of high level contaminants (e.g. sediment / hydrocarbon). LOR values have been raised accordingly.
Bold denotes exceedance of adopted GAC.

Table 13 Groundwater monitoring results for MW08A and MW08B in comparison to MW08

CoPC	Adopted GAC (µg/L)	Monitoring Well				
		MW08, 15 August 2017	MW08, 17 November 2017	MW08, 16 January 2018	MW08A, 5 April 2018	MW08B, 5 April 2018
pH	-	7.01	6.97	7.05	6.92	7.4
Benzene	500	**16000**	**16800**	**6680**	3	8
Ethylbenzene	80	<50*	<50*	14	<2	<2
Toluene	180	**725**	**568**	**248**	<23	<2
Xylene (o)	350	<50*	50	39	<2	<2
Xylene (m&p)	80	**113**	**88**	73	<2	<2
C_6-C_{10} Fraction	-	18200	16600	7840	50	<20
C_6-C_{10} Fraction less BTEX (F1)	-	1360	<1000*	790	20	<20
>C_{10}-C_{16} Fraction	-	20400	12300	5240	<100	<100
>C_{16}-C_{34} Fraction	-	6800	4700	1890	<100	<100
>C_{34}-C_{40} Fraction	-	<100	<100	<100	<100	<100
>C_{10}-C_{16} Fraction less Naphthalene (F2)	-	12000	7600	660	<100	<100

Notes:
*Samples required Dilution due to the presence of high level contaminants. LOR values have been raised accordingly

3.2.9 MW09

Table 14 Groundwater Monitoring Results for MW09

Analyte	Background Range	GAC	Laboratory Limit of Reporting	Q1 2018	Q2 2018	Q3 2018	Q4 2018
pH							
pH	7.0 to 9.79	-	0.01	9.11	7.38	7.86	7.93
BTEX (µg/L)							
Benzene	<1	500	1	6	2	2	1
Ethylbenzene	<2	80	2	<2	<2	<2	<2
Toluene	<2	180	2	<2	<2	<2	<2
Xylene (o)	<2	350	2	<2	<2	<2	<2
Xylene (m&p)	<2	80*	2	<2	<2	<2	<2
Total Recoverable Hydrocarbons (µg/L)							
C6-C10 Fraction	<20	-	20	<20	<20	<20	<20
C6-C10 minus BTEX (F1)	<20	-	20	<20	<20	<20	<20
>C10-C16 Fraction	<100	-	100	<20	<20	<20	<100
>C16-C34 Fraction	<100 to 380	-	100	120	<100	<100	<100
>C34-C40 Fraction	<100	-	100	<100	<100	<100	<100
>C10-C16 Fraction – Naphthalene	<100	-	100	<100	<100	<100	<100

3.3 Analysis of Results

A statistical trend analysis was undertaken for selected analytes at four monitoring locations, MW01-MW04 to determine if any trends were apparent in the dataset. An upper confidence level of 95% was set in order to determine if any trends identified were statistically significant. Trend analysis has not yet been undertaken for MW05 – MW09 due to the lack of available background data at this time.

Published guidance states that a minimum of six data points are required to perform statistical trend analysis, with greater sample sizes resulting in greater confidence in any trends that are identified. As of this Annual Review, 23 data points are available for trend analysis for MW01 – MW04, with monitoring at the Site having commenced in October 2013.

3.3.1 MW01

Recorded pH levels at MW01 for this reporting period ranged from 8.94 – 9.36, remaining within background levels recorded at the Site. Trend analysis concluded there was sufficient statistical evidence of a decreasing trend in pH at MW01 (refer **Figure 4**).

Total Recoverable Hydrocarbons (TRH) concentrations were below Laboratory Limits of Reporting (LOR) at MW01 and were consistent with background levels established for the Site for all four quarters of 2018. TRH concentrations at MW01 have been consistently below the laboratory LOR since monitoring records began in October 2013, with the exception of the 2017 fourth quarter result.

BTEX concentrations were below the LOR at this monitoring point and it appears that BTEX concentrations are stable below the LOR at MW01.

It is noted that in the 2017 reporting period, MW01 experienced some hydrocarbon results above the background range and the 2017 AEMR identified intent to closely monitor TRH in the 2018 reporting period. Within the 2018 reporting period, there were no recorded hydrocarbon results above the background range and as such, no further investigation was carried out.

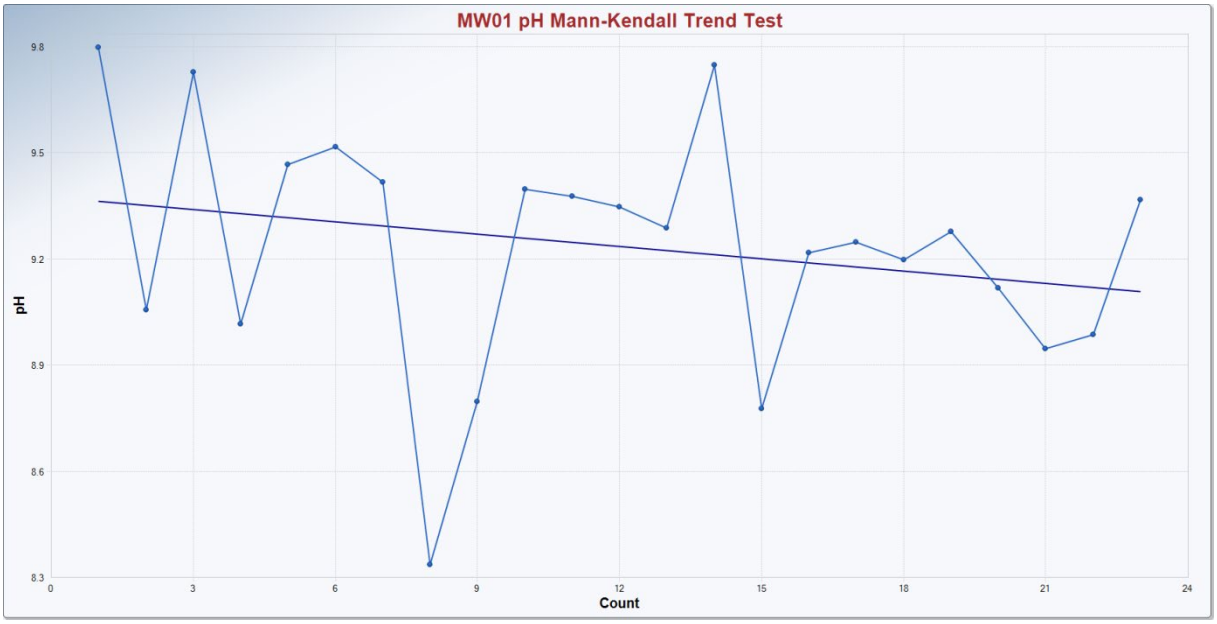

Figure 4 Statistical trend analysis for pH levels at MW01

3.3.2 MW02

Recorded pH levels at MW02 for this reporting period ranged from 7.48 – 7.66, remaining within background levels recorded at the Site. Trend analysis showed statistically significant evidence of a decreasing trend in pH at MW02 (refer **Figure 5**).

TRH concentrations were below the LOR at MW02 and were consistent with background levels established for the Site. TRH fractions have generally not been recorded at MW02 since monitoring at the Site began, apart from one recorded low concentration in the >C16-C34 fraction (380 µg/L) in October 2013. Overall, TRH concentrations appear to be stable at below LOR concentrations.

Consistent with the previous analysis undertaken since August 2015, BTEX concentrations were also below the LOR at this monitoring point. Therefore no trend analysis of these analytes was undertaken.

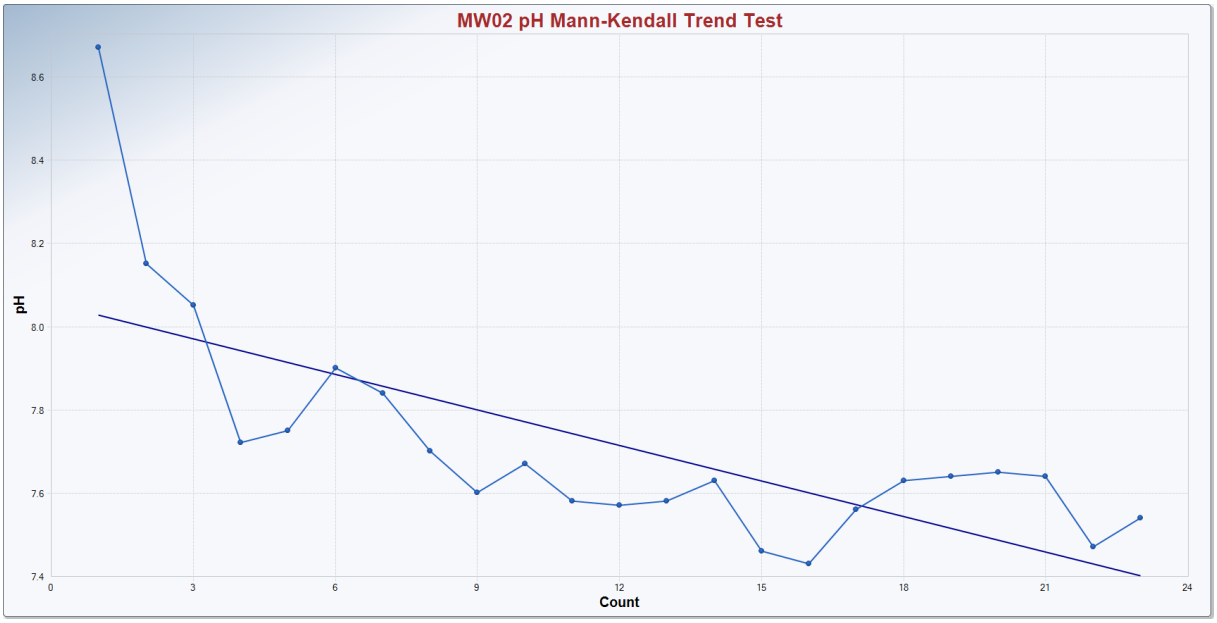

Figure 5 Statistical trend analysis for pH levels at MW02

3.3.3 MW03

Recorded pH levels at MW03 for this reporting period ranged from 7.88 – 7.93, remaining within background levels recorded at the Site. The pH values at this location had increased steadily since monitoring began, until the beginning of 2016 when pH levels decreased and have remained reasonably stable since. **Figure 6** below indicates no apparent trend in the pH data. Further monitoring events would be used to identify a trend in pH at MW03.

TRH concentrations were below the LOR at MW03 and were consistent with background levels established for the Site. TRH fractions have generally not been recorded at MW03 since monitoring at the Site began, apart from one recorded low concentration in the >C16-C34 fraction (180 µg/L) in October 2013. Overall, TRH concentrations appear to be stable at below LOR concentrations.

BTEX concentrations were also below the LOR at this monitoring point and it appears that BTEX concentrations are stable below the LOR at MW03.

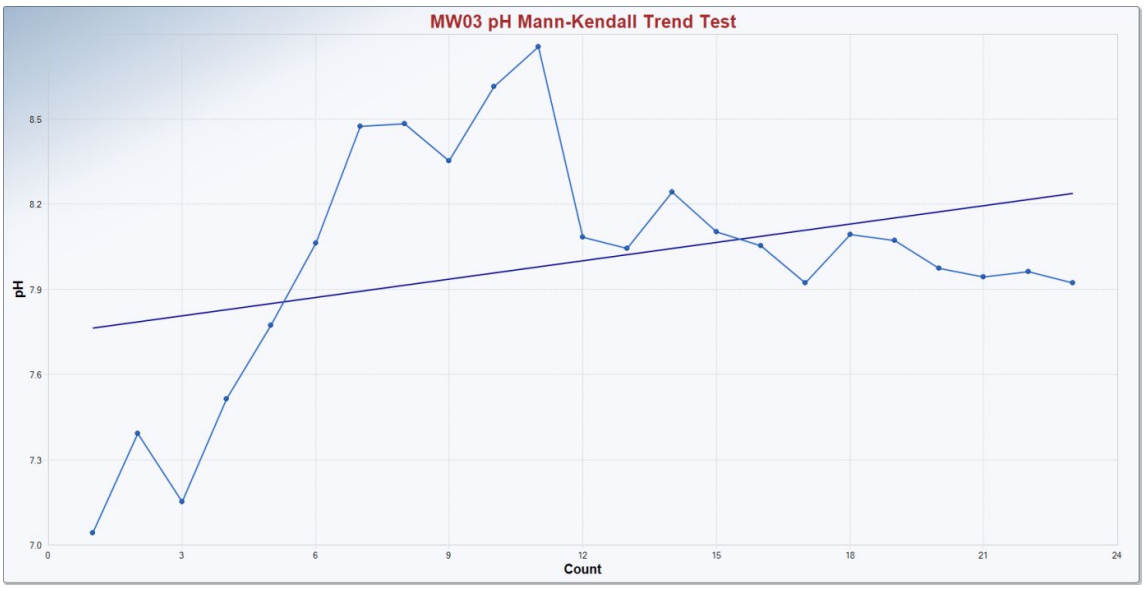

Figure 6 Statistical trend analysis for pH levels at MW03

3.3.4 MW04

Recorded pH levels at MW04 for this reporting period ranged from 7.94 – 8.22, remaining within background levels recorded at the Site. Trend analysis showed statistically significant evidence of a decreasing trend in pH at MW04 (refer **Figure 7**).

TRH concentrations were below the LOR at MW04 and were consistent with background levels established for the Site.

BTEX concentrations were also below the LOR at this monitoring point and it appears that BTEX concentrations are stable below the LOR at MW04.

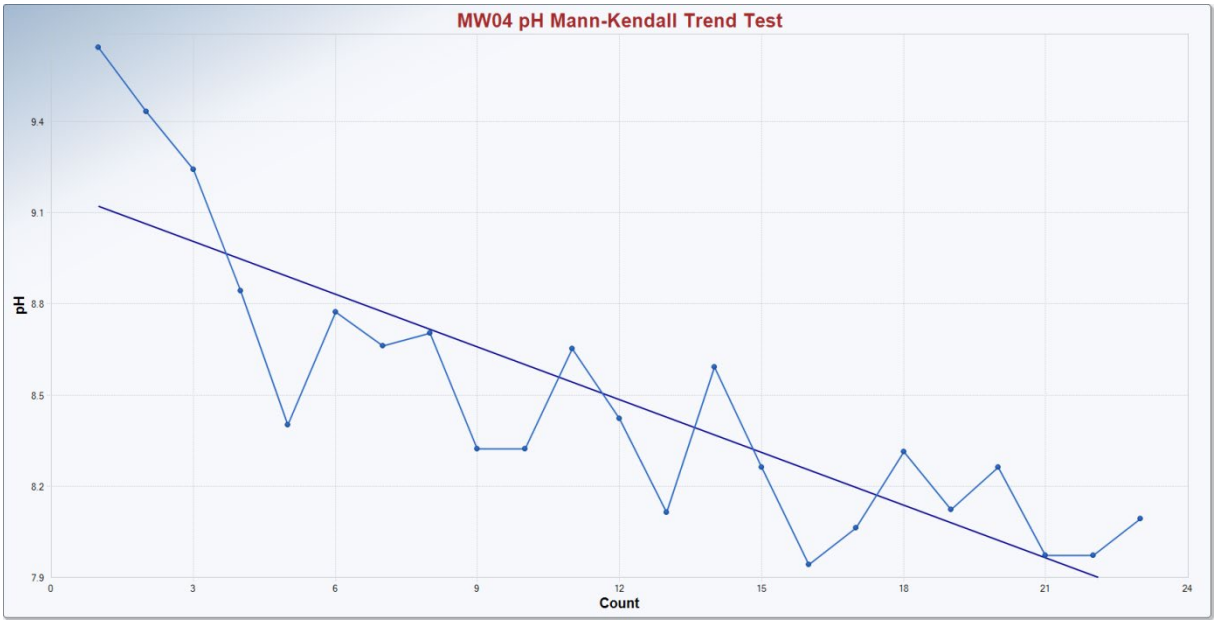

Figure 7 Statistical trend analysis for pH levels at MW04

3.3.5 MW05

MW05 is a new groundwater monitoring point in the proposed Expansion Area, with the first GME undertaken in the fourth quarter of the 2017 reporting period. Recorded pH levels at MW05 for this reporting period ranged from 8.39 – 8.82, remaining within background levels recorded at the Site.

TRH concentrations were below the LOR at this monitoring point, and may be considered typical for this site if future monitoring continues to return results less than LOR.

BTEX concentrations were also below the LOR at this monitoring point and may be considered typical for this site if future monitoring continues to return results less than LOR.

A preliminary statistical trend analysis has been carried out for pH at MW05 (refer to **Figure 8**), however there is insufficient statistical evidence of a significant trend at MW05, given the limited data points. As monitoring continues at this location the analytical results will be used to create a background range for the location.

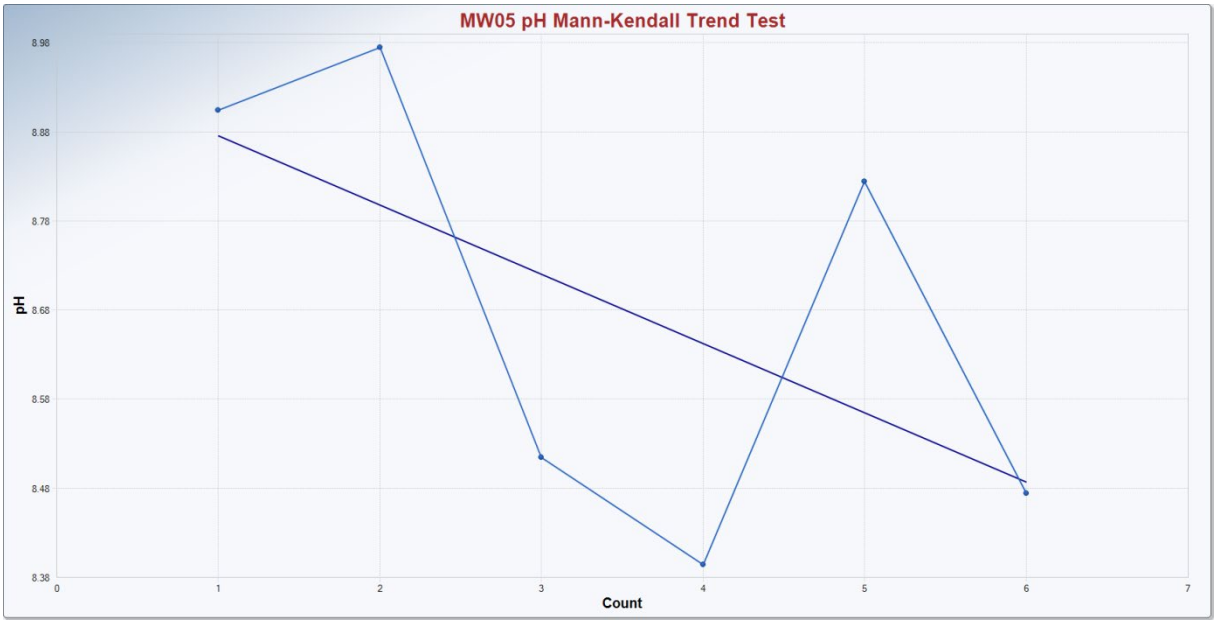

Figure 8 Statistical trend analysis for pH levels at MW05

3.3.6 MW06

MW06 is a new groundwater monitoring point in the proposed Expansion Area, with the first GME undertaken in the fourth quarter of the 2017 reporting period. Recorded pH levels at MW06 for this reporting period ranged from 7.79 – 9.15, remaining within background levels recorded at the Site. TRH concentrations were below the LOR at this monitoring point, and may be considered typical for this site if future monitoring continues to return results less than LOR.

BTEX concentrations were also below the LOR at this monitoring point and may be considered typical for this site if future monitoring continues to return results less than LOR.

A preliminary statistical trend analysis has been carried out for pH at MW06 (refer to **Figure 9**), however there is insufficient statistical evidence of a significant trend at MW06, given the limited data points. As monitoring continues at this location the analytical results will be used to create a background range for the location.

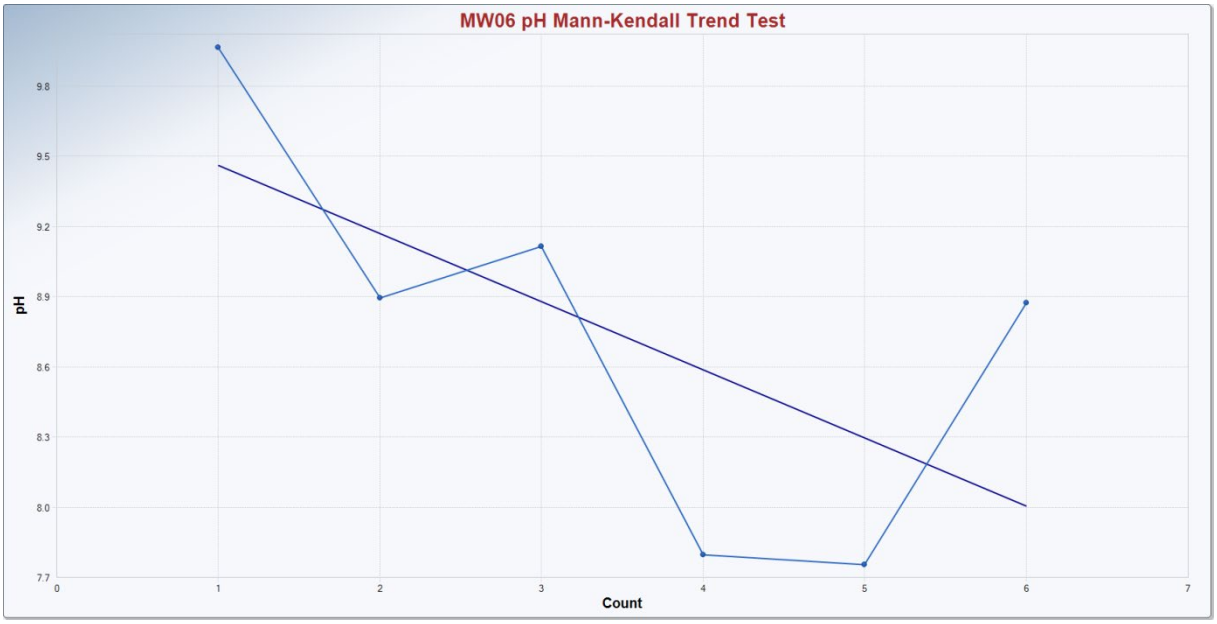

Figure 9 Statistical trend analysis for pH levels at MW06

3.3.7 MW07

MW07 is a new groundwater monitoring point in the proposed Expansion Area, with the first GME undertaken in the fourth quarter of the 2017 reporting period. Recorded pH levels at MW07 for this reporting period ranged from 8.93 – 9.20, remaining within background levels recorded at the Site. TRH concentrations were below the LOR at this monitoring point, and may be considered typical for this site if future monitoring continues to return results less than LOR.

Most BTEX concentrations were below the LOR at this monitoring point, with the exception of benzene which returned a result of 1 ug/L, which is below the adopted GAC for the location. Future monitoring will concentrate on Benzene concentrations and will determine if this is typical for this location.

A preliminary statistical trend analysis has been carried out for pH at MW07 (refer to **Figure 10**), however there is insufficient statistical evidence of a significant trend at MW07, given the limited data points. As monitoring continues at this location the analytical results will be used to create a background range for the location.

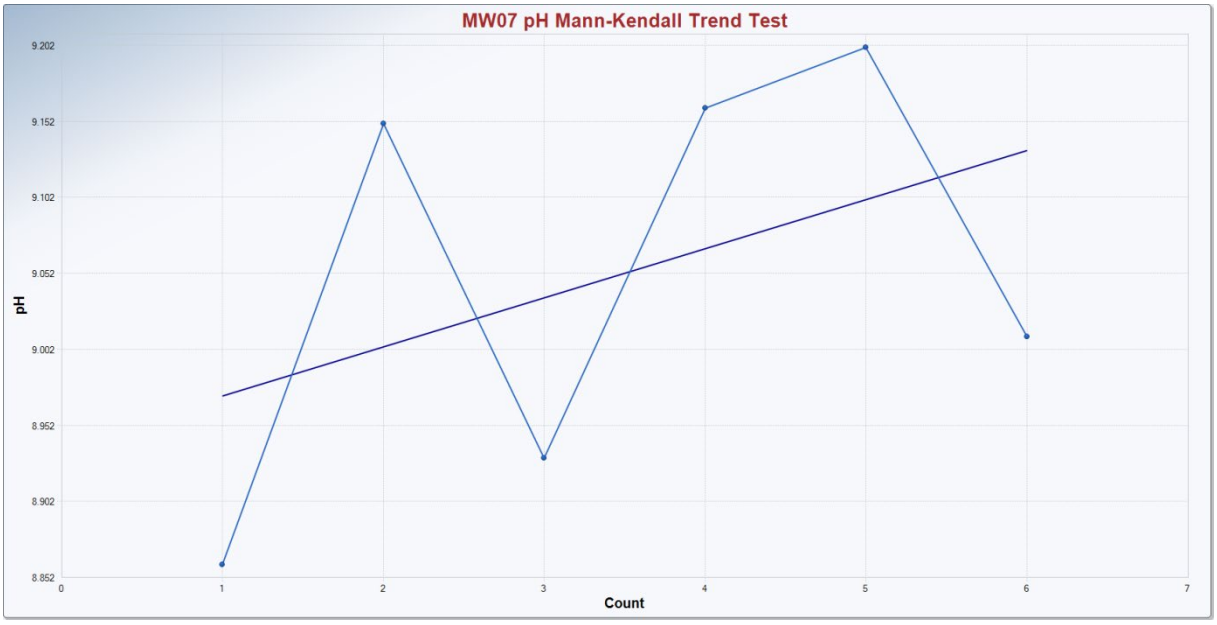

Figure 10 Statistical trend analysis for pH levels at MW07

3.3.8 MW08

MW08 is a new groundwater monitoring point in the proposed Expansion Area, with the first GME undertaken in the fourth quarter of the 2017 reporting period. Recorded pH levels at MW08 for this reporting period ranged from 7.02 – 7.08 remaining within background levels recorded at the Site.

During the 2017 reporting period, analytical results indicated elevated concentrations of TRH and BTEX. Concentrations of Benzene, Toluene and Xylene (m&p) also exceeded the adopted GAC at MW08. There is no adopted GAC for TRH. Concentrations of hydrocarbon chemicals of potential concern (CoPC) at these locations are inferred to be residual and related to the remediation of the former BHP Steelworks (which previously occupied areas of the Site and proposed Expansion Area), and unrelated to current operations at the Site.

Groundwater quality at the proposed Expansion Area is considered uncharacteristic of conditions at the Site, and should therefore not be assessed against background ranges (derived from pre-operational conditions) at the Site. As the 2017 fourth quarter sample contained a high level of contaminants, LOR values were raised accordingly. Future GME's will indicate whether this is typical of the groundwater quality at this location.

A preliminary statistical trend analysis has been carried out for pH at MW08 (refer to **Figure 11**), however there is insufficient statistical evidence of a significant trend at MW08, given the limited data points. As monitoring continues at this location the analytical results will be used to create a background range for the location.

Following the elevated concentrations identified within the 2017 reporting period, Stolthaven (in conjunction with PON) installed two additional groundwater monitoring wells to investigate the extent of the groundwater contamination plume in close proximity to and upstream and downstream of MW08.

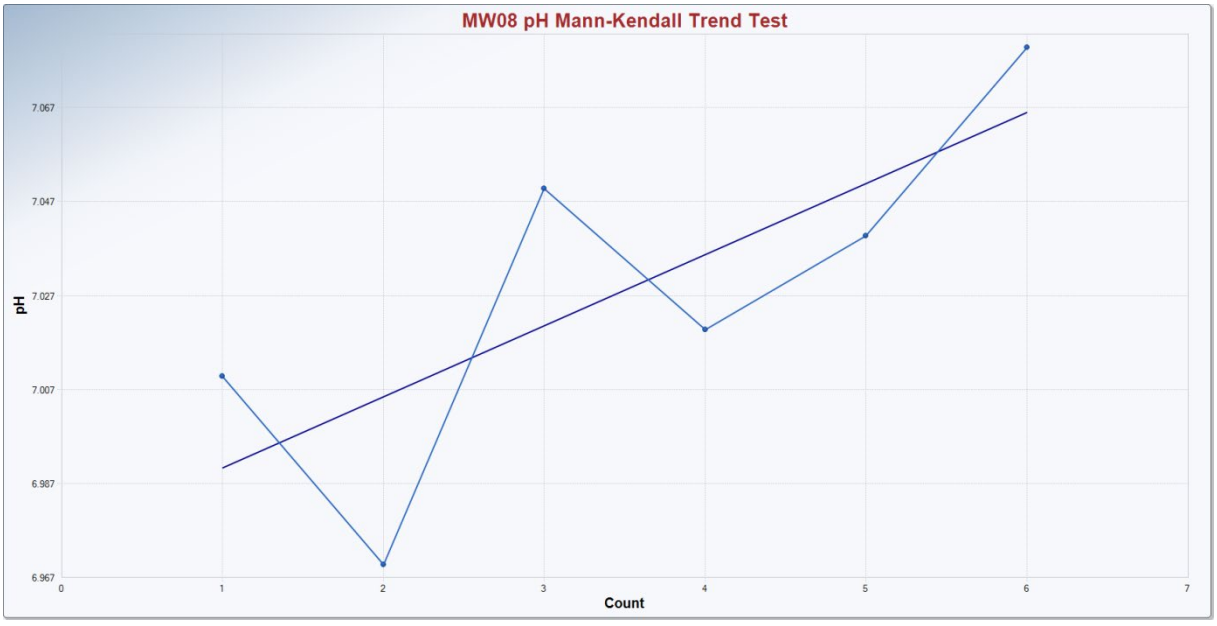

Figure 11 Statistical trend analysis for pH levels at MW08

MW08A and MW08B

These two additional groundwater monitoring wells are identified as MW08A and MW08B. MW08A recorded a pH reading of 6.92 which is slightly less than the normal range found at MW01- MW04, while MW08B recorded a pH reading of 7.4 which is within the normal range found at MW01 – MW04.

Some BTEX concentrations (benzene and toluene) were above the LOR but not above the GAC at MW08A and MW08B. TRH concentrations were below both the LOR and GAC at MW08A and MW08B.

It is considered that the residual contamination impacts at MW08 are sufficiently delineated to the north-east and south by MW08A and MW08B, respectively. MW08A and MW08B are considered temporary installations only and are expected to be decommissioned during development of the Proposed Expansion Area.

3.3.9 MW09

MW09 is a new groundwater monitoring point in the proposed Expansion Area, with the first GME undertaken in the fourth quarter of the 2017 reporting period. Recorded pH levels at MW08 for this reporting period ranged from 7.38 – 9.11, remaining within background levels recorded at the Site.

TRH and BTEX were below the LOR at MW09 and below the GAC for BTEX. There is no adopted GAC for TRH.

It is noted that in the 2017 reporting period, benzene returned a result of 7 ug/L, which is below the adopted GAC for the location. However, benzene was within normal ranges in the 2018 reporting period. Future monitoring will concentrate on Benzene concentrations and will determine if this is typical for this location.

Concentrations of hydrocarbon CoPC at these locations are inferred to be residual and related to the remediation of the former BHP Steelworks (which previously occupied areas of the Site and proposed Expansion Area), and unrelated to current operations at the Site.

Groundwater quality at the proposed Expansion Area is considered uncharacteristic of conditions at the Site, and should therefore not be assessed against background ranges (derived from pre-operational conditions) at the Site.

A preliminary statistical trend analysis has been carried out for pH at MW09 (refer to **Figure 12**), however there is insufficient statistical evidence of a significant trend at MW09, given the limited data points. As monitoring continues at this location the analytical results will be used to create a background range for the location.

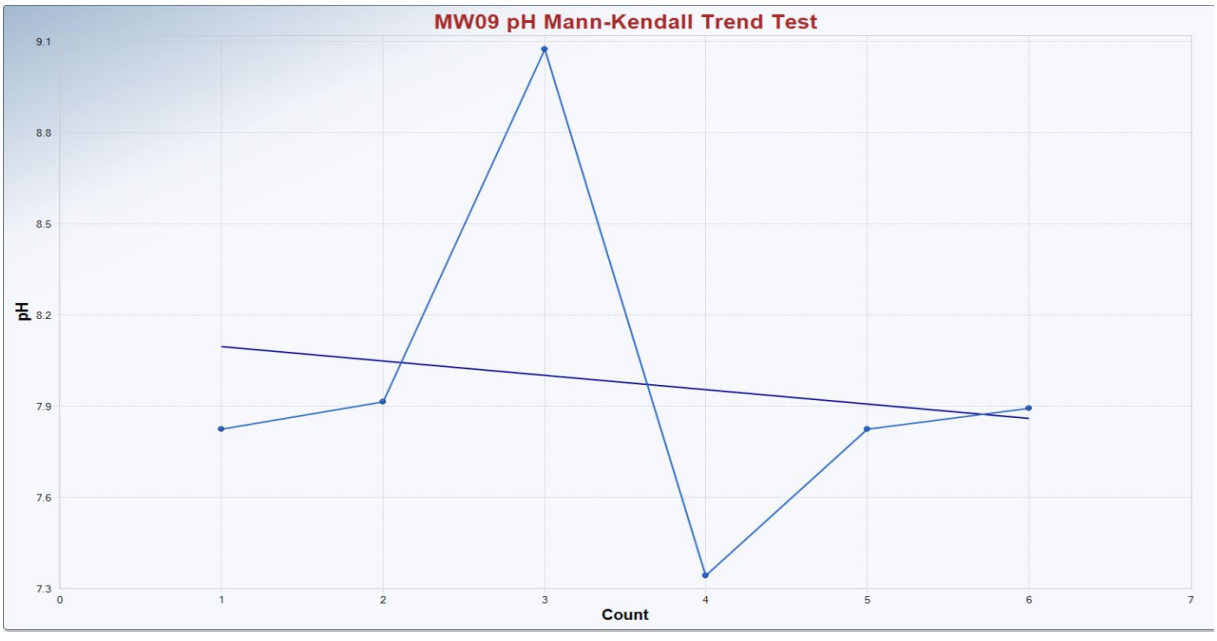

Figure 12 Statistical trend analysis for pH levels at MW09

3.4 Summary of Groundwater Results

Where appropriate, statistical trend analysis was undertaken on individual analytes at selected monitoring wells using an upper confidence level of 95%.

Some preliminary trends were identified for pH levels, including a decreasing trend at MW01, MW02 and MW04 and no trend at MW03. Further data obtained during future monitoring events will confirm the reliability of the preliminary trends identified above.

For the newer groundwater monitoring wells MW05 – MW09, statistic trend analysis identified a stable trend for MW05 and MW09, a probably increasing trend for MW06, a probably decreasing trend for MW08 and no trend for MW07. It is noted that MW05- MW09 only have the minimum amount of data available to perform the statistical trend analysis and as such, great confidence cannot be placed in the results.

Trends in BTEX and TRH concentrations were largely non-calculable given the small dataset available and the high proportion of Non-Detect values in the data (caused by data points with results below LOR concentrations). Benzene concentrations at MW02 appear to have stabilised at below LOR concentrations over the past fourteen monitoring events.

As at the Q4 2018 GME, six rounds of baseline groundwater monitoring have been undertaken on monitoring wells MW05 to MW09 at the Proposed Expansion Area. Baseline analytical results have identified consistent exceedances of the adopted GAC for Benzene, Toluene and meta & para Xylenes at MW08 and elevated TRH concentrations at MW08. It is considered residual hydrocarbon impacts identified at MW08 are localised within fill deposits immediately surrounding MW08, and are effectively laterally delineated to the north-east and south by MW08A and MW08B.

To date, no infrastructure related to storage and transfer of hydrocarbons is in place at the Proposed Expansion Area. It is considered that the elevated results related to residual historical contamination from the former BHP Steelworks (which previously occupied areas of the Current Site Area and Proposed Expansion Area) and are unrelated to current operations at the Site.

It is noted that background ranges (separate to those developed at MW01-MW04) will be developed for wells MW05-MW09 in the proposed Expansion Area, and will be assessed separately from the current Site well network. These background ranges will be developed from analytical results collected in the current reporting period and future monitoring events before any site operations occur in the proposed Expansion Area.

4.0 Stormwater

4.1 Stormwater Monitoring

Monitoring of stormwater discharges is undertaken as part of the Site's Stormwater Management Plan (SWMP) to assess the effectiveness of stormwater runoff quality controls implemented at the Site. Monitoring of stormwater at the Site consists of:

- Visual inspection of the site and areas receiving runoff from the Site; and
- Water quality is monitored after rainfall events.

Indicators of potential adverse water quality impacts as assessed through water quality monitoring include:

- Evidence of erosion and scouring around the stormwater pipe discharge outlets;
- Changes in clarity, colour and odour of receiving waters;
- Presence of debris and rubbish;
- Evidence of stress on flora or fauna;
- Presence of an oily film on water surfaces; and
- Orange/brown coating on banks, water surfaces or substrate.

There are currently eight concrete bund walls around the Site's bulk storage area designed to contain any spills onsite and prevent environmental harm. The bunds are referred to as Bund 1, Bund 2, Bund 3, Bund 5, Bund 6, Bund 7, Bund 8 and Bund 9. After every rainfall event all bunds are sampled and tested before release through the Puraceptor on Site according to the SWMP. In order to ensure the quality of stormwater collected from the bunds, the outlet from the bunds is kept closed at all times.

The Puraceptor is a water quality and hydrocarbon detector located at the Site's licenced discharge point at the Hunter River. In order to confirm that stormwater measures implemented at the site do not adversely impact on the Hunter River, samples are collected following rainfall events that result in sufficient stormwater discharge to collect surface water samples.

The water samples at Point 5 are analysed prior to discharge for the pollutants as shown in **Table 15**. Concentration limits are taken from EPL 20193. Once water quality results are obtained for the water in the Puraceptor, water is discharged into the Hunter River via an outfall drain. If water quality is found to be noncompliant with the parameters prescribed in the Site's EPL it is retested and if the results are above prescribed limits again a licenced trade waste contractor is engaged to dispose of the waste water. It is noted that Biological Oxygen Demand (BOD) was removed from the EPL criteria on 27 August 2015 and was not sampled during the 2017 or 2018 reporting period.

Table 15 Water Quality Criteria (EPL 20193)

Pollutant	Units of Measure	Frequency	Method	100 percentile concentration limit
Dissolved Oxygen	Milligrams per litre	Weekly during any discharge	Grab sample	>2
Oil and Grease	Milligrams per litre	Weekly during any discharge	Grab sample	10
pH	pH	Weekly during any discharge	Grab sample	6.5 – 8.5
Total Suspended Solids	Milligrams per litre	Weekly during any discharge	Grab sample	30
Volume	Megalitres per day	Continuous during discharge	Special Method 1	-

4.2 Stormwater Monitoring Results

Results from stormwater monitoring are presented below. Water quality results from the Site's licenced discharge point are presented in **Table 16** and water quality results from bund water sampling are summarised in **Table 17**. A full copy of the data from stormwater monitoring is provided in **Appendix B**.

Table 16 Discharged Water Quality Results (EPA Point 5)

Sample Date	Dissolved Oxygen (mg/L)	Oil and Grease (mg/L)	pH	Total Suspended Solids (mg/L)	Volume discharged (L)
Concentration Limit	>2	10	6.5-8.5	30	-
9/01/2018	7.50	< 2	7.50	12	35,000
5/02/2018	8.46	< 2	7.36	12	35,000
21/02/2018	7.49	< 2	7.39	12	70,000
26/02/2018	7.91	< 2	7.25	22	35,000
13/03/2018	7.83	< 2	7.86	2	5,000
22/03/2018	7.95	< 2	7.48	22	35,000
4/04/2018	7.83	< 2	7.40	19	35,000
20/04/2018	8.54	< 2	6.89	12	35,000
30/04/2018	8.88	< 2	7.17	8	35,000
14/05/2018	8.18	< 2	7.55	14	20,000
4/06/2018	8.57	< 2	7.62	27	35,000
12/06/2018	8.75	< 2	7.59	6	35,000
19/06/2018	9.90	< 2	7.27	19	35,000
2/07/2018	8.56	< 2	7.46	**41**	[1] Nil release
3/07/2018	6.42	< 2	8.11	12	35,000
28/08/2018	7.98	< 2	**6.41**	**56**	[1] Nil release
30/08/2018	8.86	< 2	8.12	20	35,000
10/09/2018	7.15	< 2	7.54	6	10,000
24/09/2018	8.32	< 2	7.42	24	35,000
5/10/2018	8.50	< 2	7.39	**38**	[1] Nil release
9/10/2018	7.39	< 2	8.10	20	20,000
22/10/2018	7.35	3	7.23	20	30,000
9/11/2018	7.78	< 2	7.48	15	25,000
MINIMUM	6.42	2	6.41	2	
MAXIMUM	9.90	3	8.12	56	
AVERAGE	8.05	2.5	7.46	19.28	

Bold indicates an exceedance of the criteria

Note 1: [1]Indictaes a resample and retest was subsequently undertaken.

Table 17 Bund Water Quality Results

Parameter	Minimum	Maximum	Average
pH	5.80	8.95	7.37
Total Dissolved Solids (ppm)	10.2	73.9	32.4
Dissolved Oxygen (%SAT)	30.6	137.7	59.7
Conductivity (µS/cm)	15.7	130.0	49.8

4.3 Analysis of Results

4.3.1 Discharged Water Quality Results

The water quality results recorded at EPA Monitoring Point 5 are summarised in **Table 16** and are analysed below. While the water sampling identified some exceedances of the EPA criteria, any water which exceeded EPA criteria was resampled and retested and met the allowable limits. Should any water sample exceed EPA criteria twice, Site procedures require the removal of this water by a licenced contractor. Within the 2018 reporting period, there were no occurrences where water was required to be removed offsite by a licenced contractor. All water discharged from the Site was compliant with all conditions of the Site's EPL.

The following sections identify trends that have emerged for each of the parameters. Considering the small sample size of available water quality data, it should be noted that only preliminary trends have been identified in the data and these trends could be subject to significant change in later reporting periods.

Dissolved Oxygen

The dissolved oxygen levels recorded at Monitoring Point 5 complied with the Site's EPL criteria, with all results above the prescribed minimum concentration limit of 2 mg/L. No exceedances of the criteria were recorded during the reporting period. The results for the reporting period are shown in **Figure 13** along with historical data. The average dissolved oxygen level recorded during the reporting year was 8.05 mg/L, with a minimum level of 6.42 mg/L and a maximum of 9.90mg/L. The historical results indicate that dissolved oxygen at Monitoring Point 5 is variable, however variation is seen to decrease in the 2017 and 2018 reporting periods.

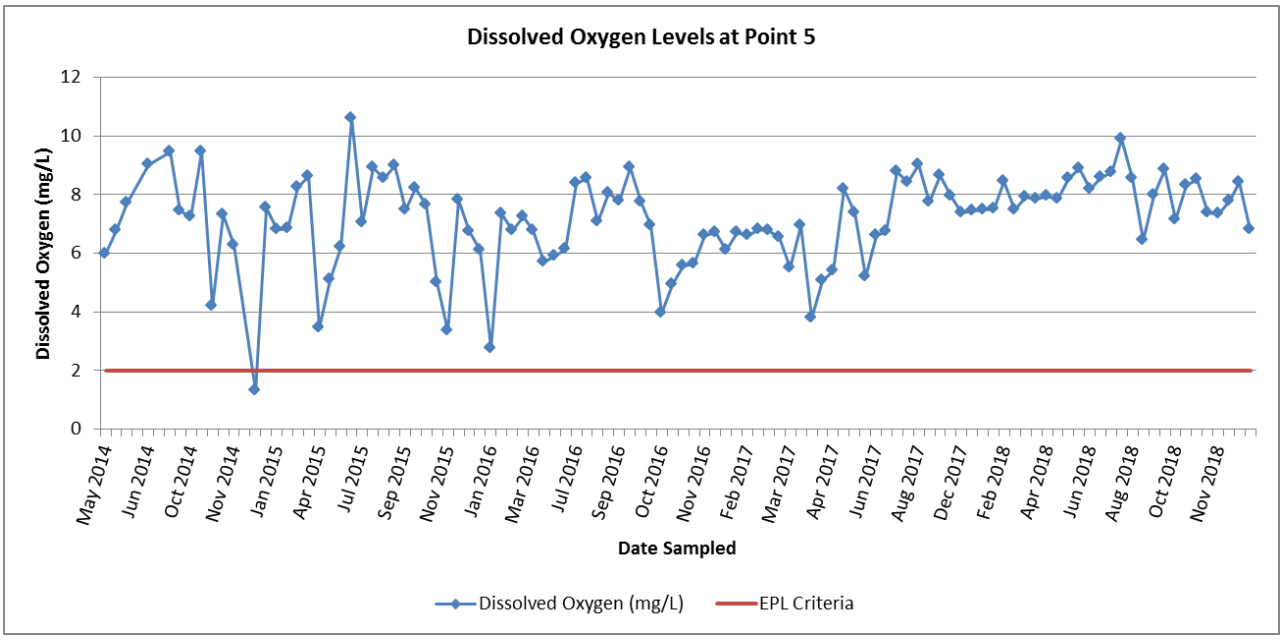

Figure 13 Dissolved Oxygen levels at Monitoring Point 5

Oil and Grease

The oil and grease levels recorded at Monitoring Point 5 during the reporting period were compliant with the EPL concentration limit of 10 mg/L. There were no exceedances of the criterion recorded during the reporting period. The results for the reporting period are shown in **Figure 14** along with the historical results for oil and grease levels recorded at Monitoring Point 5. The average level of oil and grease recorded during the reporting period was 2.5mg/L, with a maximum of 3mg/L. The results shown in **Figure 14** indicate that oil and grease levels generally remain < 2 mg/L.

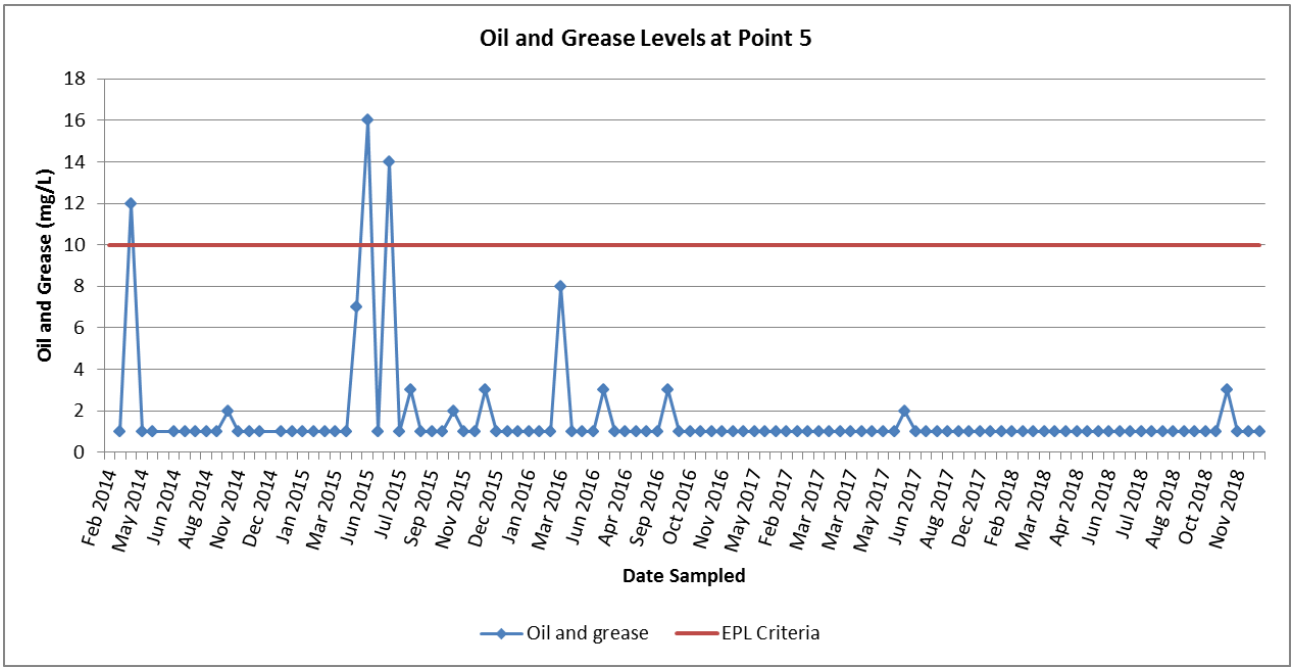

Figure 14 Oil and Grease levels at Monitoring Point 5

Note: Concentrations recorded as below the LOR for Oil and Grease (<2 mg/L) are represented as 1 mg/L

pH

The pH levels recorded at Monitoring Point 5 complied with the Site's EPL criteria, remaining within the prescribed pH range of 6.5 – 8.5. The results for the reporting period are shown in **Figure 15** along with the historical results for pH levels recorded at Monitoring Point 5. During the reporting period, the average pH level was 7.46 with a minimum of 6.41 and a maximum of 8.12. The minimum pH value is slightly less than the prescribed minimum pH of 6.5. However, the historical results indicate that pH levels at Monitoring Point 5 generally remain within the range of 6.5 to 8.5.

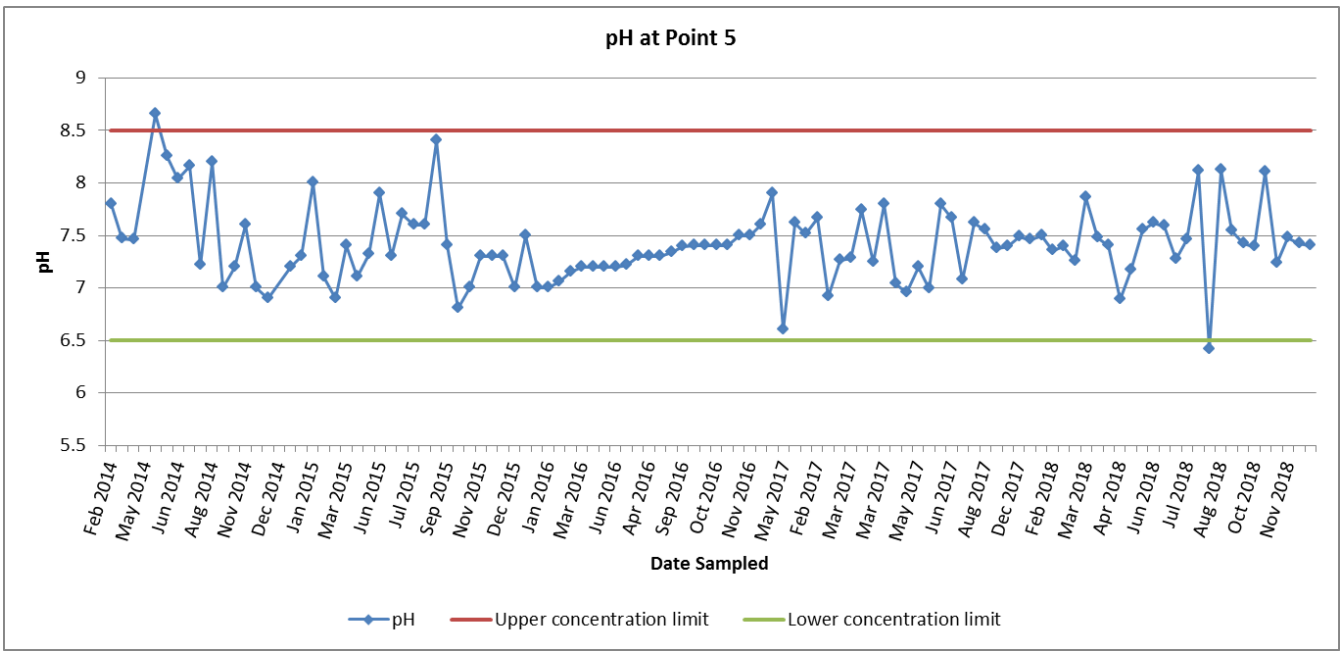

Figure 15 pH levels at Monitoring Point 5

Total Suspended Solids

The total suspended solids levels recorded at Monitoring Point 5 varied throughout the reporting period. There were three occurrences where total suspended solids were recorded to be above the maximum criteria and were released following re-sampling which confirmed that the TSS levels were within allowable levels.

Results for the reporting period are shown in **Figure 16** along with the historical results for total suspended solids levels recorded at Monitoring Point 5. During the reporting period, the average level of total suspended solids was 19.28mg/L, with a minimum of 2 mg/L and a maximum recording of 56 mg/L. The historical results indicate that the level of total suspended solids at Monitoring Point 5 is variable, with no apparent trend identified.

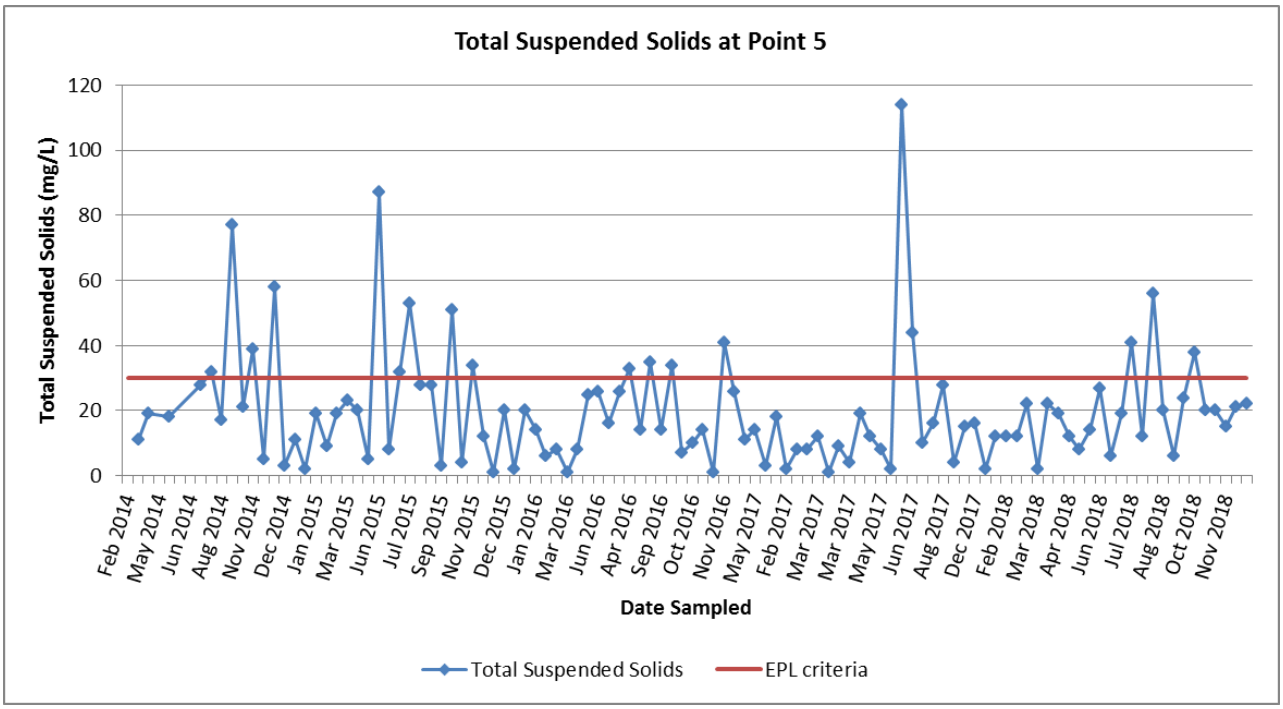

Figure 16 Total suspended solids levels at Monitoring Point 5

4.3.2 Bund Water Quality Results

The water quality results recorded for bund water following rainfall events are summarised in **Table 17** and are analysed below. There are no specific limits set for bund water quality. Bund water is sampled following rainfall and then released according to the site's Stormwater Water Management procedure through the site's Puraceptor to the Western channel.

The following sections identify trends that have emerged for each of the parameters. Bund water quality has been compared against the Site's own baseline data and significant deviations from this baseline data are highlighted and assessed. In future reporting periods, the data series will grow in accuracy and bund water quality trends and issues will be identified with greater confidence and appropriate management measures can be recommended to address any issues identified.

pH

The pH levels recorded in the bund water during the reporting period ranged from 5.80 to 8.95, with an average of 7.37. Results for the reporting period are shown in **Figure 17** along with historical results. The pH levels during the reporting period were generally within the pH range of 6.5 – 8.5 prescribed in EPL criteria for the licensed discharge point (Monitoring Point 5), however there were periods of upper and lower criteria exceedances. The pH of the bund water was lower than 6.5 on the following occasions:

- 22 March 2018 within Bund 1-9;
- 4 April 2018 within Bund 1-9;
- 4 September 2018 within Bund 1-9; and
- 10 September 2018 within Bund 1, 2 and 7.

The pH of the bund water was higher than 8.5 on the following occasions:

- 19 June 2018 within Bund 1-5;
- 28 August 2018 within Bund 3; and
- 30 November 2018 within Bund 7.

The linear trend shows pH is stable at an acceptable level. Nonetheless, this trend should be closely monitored in the future.

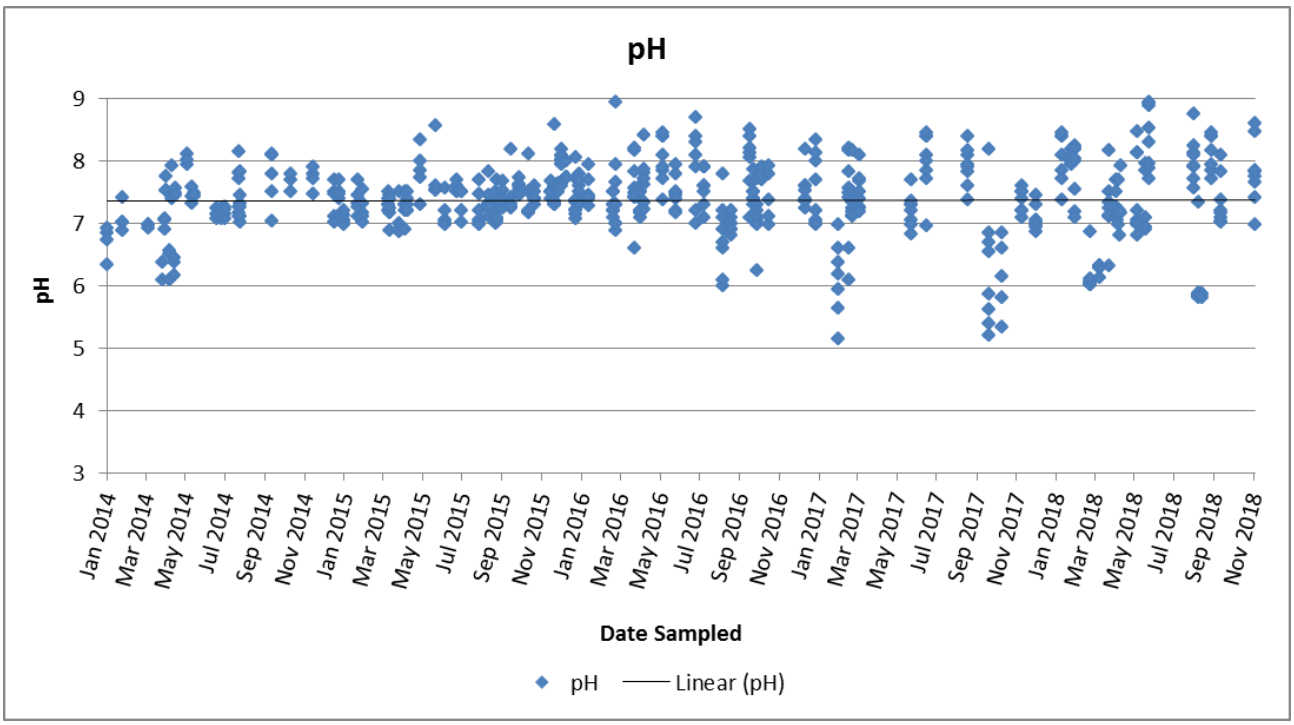

Figure 17 pH levels recorded in bund water at the Site

Total Dissolved Solids (TDS)

TDS levels in bund water during the reporting period ranged from 10.2 to 73.9 ppm, with an average of 32.4 ppm. Results for the reporting period are shown in **Figure 18** along with historical results. TDS levels at the Site during the reporting period were consistent with historic samples, which have been relatively stable between 0 -100 ppm. During the reporting period, there were no samples recorded at a higher level than 100 ppm. Comparison of historic and 2017 and 2018 data reveal a slight decreasing linear trend in TDS levels recorded in bund water at the Site.

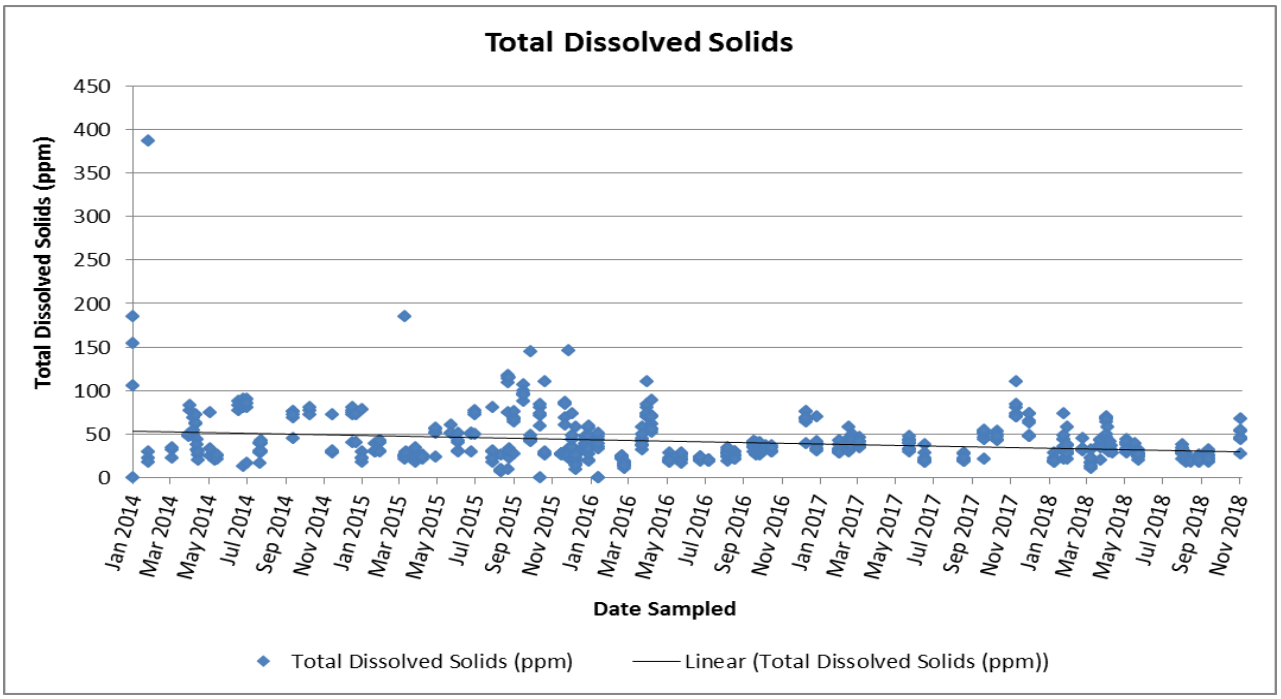

Figure 18 Total Dissolved Solids concentrations recorded in bund water at the Site

Dissolved Oxygen

Dissolved oxygen concentrations in bund water during the reporting period were measured in %SAT. It is noted that during other reporting periods, dissolved oxygen has also been measured in mg/L. However, a data collection error has resulted in dissolved oxygen in mg/L not being measured during the 2018 reporting period.

Concentrations ranged from 30.6 to 137.7%SAT, with an average concentration of 59.7%SAT. Results for the reporting period are shown in **Figure 19**. While dissolved oxygen concentrations were varied throughout the reporting period, an increasing linear trend was found for %SAT. It is recommended that data is captured and recorded in a consistent manner in the future regarding dissolved oxygen.

The gap in the data between July as seen in **Figure 19** is due to no bund water being tested at this time.

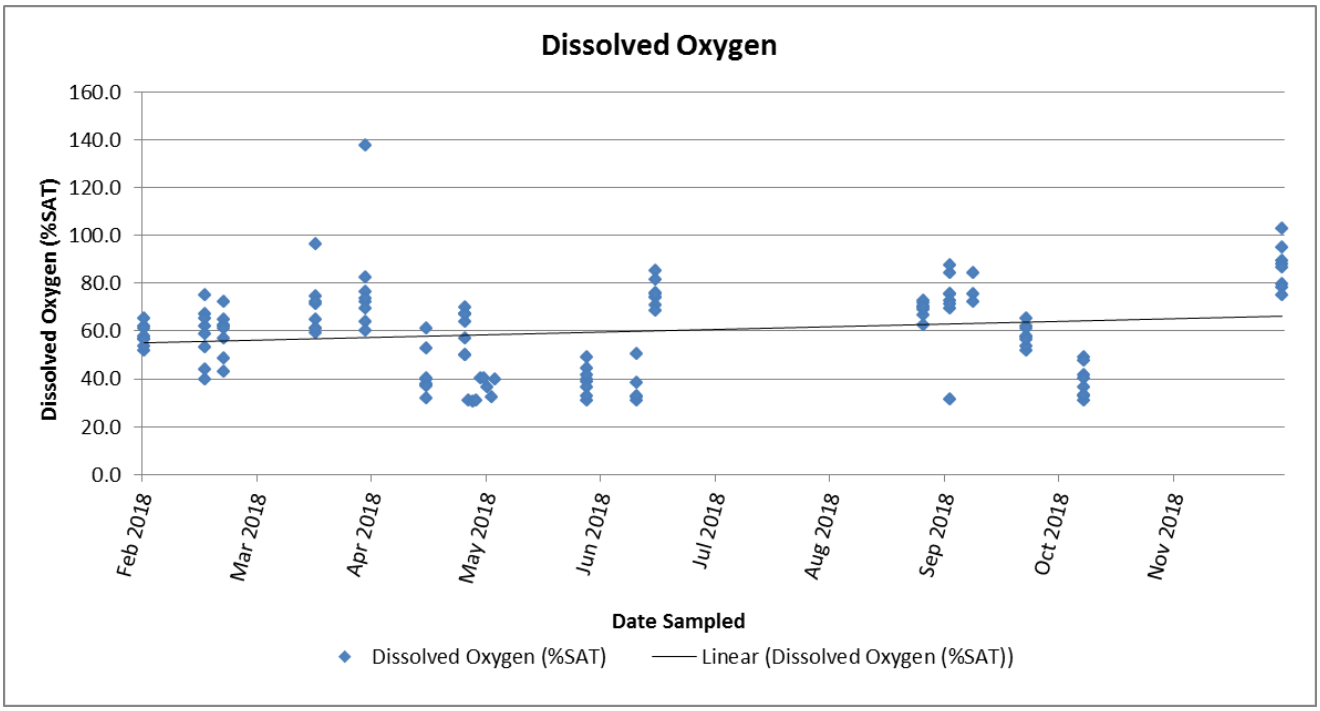

Figure 19 Dissolved oxygen levels in bund water at the Site

Conductivity

Conductivity levels in bund water during the reporting period ranged from 15.7 to 130 µS/cm, with an average conductivity of 49.8µS/cm. Results for the reporting period are shown in **Figure 20** along with historical results. While conductivity levels varied during the reporting period, a decreasing linear trend was identified, although the higher than normal conductivity levels are noted at the end of the 2018 reporting period. This trend is not of great concern at present, given the small data sample size (five years) and the treatment measures in place to control the water quality parameters for water discharged from the Site. Nonetheless, this trend should be closely monitored during future monitoring events.

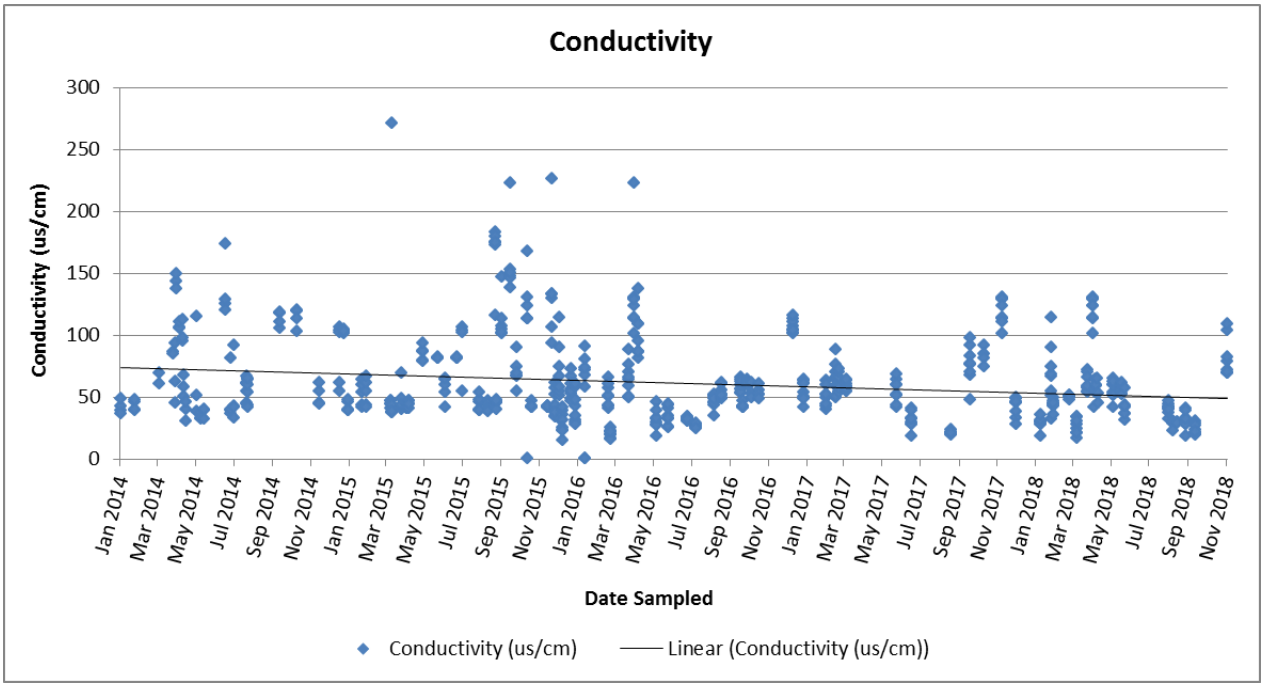

Figure 20 Conductivity levels in bund water at the Site

4.4 Summary of Stormwater Results

Stormwater management and monitoring measures implemented at the Site have been successful in preventing environmental harm in this reporting period. Sampling identified three exceedances of the EPL criteria, being TSS. Two of the three TSS exceedances are potentially related to heavy rain, while the third may be related to construction work adjacent to the site.

Other potential sources could be airborne material which have been blown onto the Stolthaven site, or tracked in from tyres of trucks moving through the site. Management measures implemented by Stolthaven, such as investing in a sweeper unit to manage materials on the sites driveway areas, appear to be successfully ensuring that all stormwater discharged from the Site is compliant with the requirements of EPL 20193.

Consistent future monitoring of bund water after rainfall events will improve the Site's available baseline data and ability to identify trends and issues as well as to identify necessary environmental management measures to improve the environmental performance of the Site.

5.0 Noise

5.1 Operational Noise

Operational noise generation is managed and monitored according to the Site's Noise Management Plan. The main noise sources at the site are summarised in **Table 18**. Up until 2018, ships would dock at M4 and pump fuel into storage tanks. Mayfield No. 7 Berth was commissioned within the 2018 reporting period and now services the Facility for the import and export of petroleum products.

Haulage trucks then receive the fuels and transport it through an access road leading to the intersection of Industrial Drive and Ingall Street. All these operations have the potential to result in noise emissions.

Table 18 Noise emitters at the Site

Operational Activity	Noise Source
Internal Private Access Roads	Moving trucks, idling trucks, airbrake event
Industrial Noise Sources*	Fuel pumps
	Haulage tanker trucks filling
	Compressor Operation

**Ships in berth and transferring fuel fall under the provisions of DA-293-08-00 as modified.*

The nearest residential areas to the site are located to the south-west of the Facility at Mayfield, with the closest receivers in Crebert Street, approximately 900 m away. To the south east there are residential receivers located in Carrington, approximately 2 km away, and residential receivers located in Stockton, approximately 3 km away.

Operational noise levels at the Site are required to be within limits set out in Condition L5.1 of EPL 20193. The operational noise criteria that have to be met as prescribed by the EPL are shown in **Table 19**.

The SSD_6664 consent requires operational noise levels at the Site to comply with the relevant noise goals contained in the Mayfield Concept Plan MP09_0096, or any noise quota established by the PON for the development. A methodology to deal with cumulative noise from the entire Mayfield Concept Plan area is currently in development and is yet to be finalised. Therefore, noise quota levels have not yet been issued for the facility.

EPL 20193 was varied during the previous 2017 reporting period, with changes to noise monitoring locations and limits. **Table 19** below details the updated monitoring locations and limits.

Table 19 Operational Noise Criteria

Receiver	Location	Day	Evening	Night	
		L_{Aeq} (15min)	L_{Aeq} (15min)	L_{Aeq} (15min)	LA1 (1min)
R1	Mayfield	35	35	35	45
R2	Mayfield	35	35	35	48
R3	Mayfield	41	41	41	49
R4	Mayfield	40	40	40	47
R5	Mayfield	42	42	42	51
R6	Mayfield	41	41	41	50
R7	Mayfield	35	35	35	50
R8	Mayfield	35	35	35	48

5.2 Noise Monitoring Results

Attended noise measurements were undertaken on 29 and 30 November 2018 at the closest nearby residential receiver locations. During the attended measurements it was not possible to quantify the noise contribution from operations at the Facility due to the influence from extraneous noise sources i.e. existing industrial noise from other industrial areas unrelated to the facility and traffic noise on Industrial Drive. The compliance assessment was therefore carried out using SoundPLAN noise modelling software, based upon on-site attended and unattended noise measurements, in accordance with the NSW EPA Industrial Noise Policy (INP). Noise emissions were assessed under worst case prevailing wind and temperature inversion conditions in two different operations scenarios on site. The results of this assessment are provided in **Table 20**, **Table 21** and **Table 22**.

Table 20 Predicted Intrusive Noise Levels - Reasonable worst case scenario (15 minute period)

Receiver	EPL noise limits $L_{Aeq,15min}$ dB(A)[1]	Predicted noise level, $L_{Aeq,15min}$ dB(A)		Compliance
		Neutral weather	Adverse weather[2]	
Worst case – truck movements				
R1	35	26	30	Yes
R2	35	28	32	Yes
R3	41	32	36	Yes
R4	40	31	36	Yes
R5	42	33	37	Yes
R6	41	33	36	Yes
R7	35	28	32	Yes
R8	35	28	32	Yes
Worst case – Site operations				
R1	35	26	30	Yes
R2	35	28	32	Yes
R3	41	32	37	Yes
R4	40	32	36	Yes
R5	42	33	37	Yes
R6	41	33	36	Yes
R7	35	28	32	Yes
R8	35	28	32	Yes

Notes:
1. Operational noise limits are based on the most stringent operational noise limits (i.e. night-time period).
2. Adverse weather considers the worst case of 3m/s source to receiver wind and temperature inversions.

Table 21 Predicted Amenity Noise Levels – Reasonable worst case scenario (whole of assessment period)

Receiver	MCP noise quota $L_{Aeq,period}$ dB(A)[1]	Predicted noise level, $L_{Aeq,period}$ dB(A)		Compliance
		Neutral weather	Adverse weather	
Daytime				
A	47	21	25	Yes
B	51	28	33	Yes
C	42	13	18	Yes
D	39	12	18	Yes
Evening				
A	36	23	28	Yes
B	40	31	35	Yes
C	30	18	23	Yes
D	28	18	24	Yes
Night-time				
A	30	19	24	Yes
B	34	27	32	Yes
C	25	13	18	Yes
D	22	12	18	Yes

Notes:

1. Operational noise limits are based on the most stringent operational noise limits (i.e. night-time period).
2. Adverse weather considers the worst case of 3m/s source to receiver wind and temperature inversions.

Table 22 Predicted Noise Levels – Sleep Disturbance Assessment, Night-time Period

Receiver	Criteria dB(A)	Predicted noise level, $L_{A1,}$ dB(A)		Compliance
		Neutral weather	Adverse weather[1]	
R1	45	40	44	Yes
R2	48	45	48	Yes
R3	49	45	48	Yes
R4	47	43	47	Yes
R5	51	48	51	Yes
R6	50	49	50	Yes
R7	50	43	47	Yes
R8	48	45	48	Yes

Notes:

1. Operational noise limits are based on the most stringent operational noise limits (i.e. night-time period).

5.3 Analysis of Results

Compliance was found against the requirements of all site approval documents, at all receiver locations, during all assessment periods under all prevailing meteorological conditions.

A Noise and Vibration Impacts Assessment was prepared as part of the Environmental Impact Statement (EIS) for the SSD_7065 development consent application to increase throughput to 3,500 ML per year.. Noise modelling was undertaken to examine the noise and vibration impacts of the construction and operational phases of the Project, as well as the cumulative impacts which may result from each phase of the proposed facility. The assessment concluded that there would be no exceedance of the noise criteria under all operational scenarios, for day and night activities. The results of noise modelling undertaken during this reporting period indicate that the Site is operating in accordance with the predictions made in the EIS.

It is noted that the Noise and Vibration Impacts Assessment prepared as part of the EIS identified a minor exceedance of 1dB(A) as potentially occurring of the site Mayfield Concept Plan noise criteria. It was found however that this exceedance would occur as a result of traffic noise and not the operation of the facility. Due to the minor nature of this exceedance it is considered that it would have a negligible impact on sensitive receivers.

Noise levels were found to be consistent with operations in previous years with small 1 dB to 2 dB increases due to different equipment measured on site.

Results of the noise compliance modelling showed that the operation of the facility complies with the noise limits stated in EPL 20193 and SSD_7065, in addition to the project specific noise goals in the MCP for all outlined receivers.

6.0 Fuel Storage and Transport

6.1 Fuel Storage

Approximately 742 ML of fuel (including additive) was received on site and 781ML of fuel (including additive) was transported off site during the reporting period. A breakdown of fuel stored, received, and dispatched is provided in **Table 23**. On balance, the combined volume of fuel initially stored at the start of the reporting period plus the volume of fuel received during the reporting period should approximately equal the combined volume of fuel dispatched throughout the reporting period plus the volume of fuel stored at the end of the reporting period. It should be noted however that Site measurement equipment has a tolerance of 0.3% which over the course of a year can lead to these amounts not matching. Other factors that contribute to the discrepancy include:

- Product volume onsite is accounted for by a daily and monthly reconciliation process;
- Some variation is caused by the heating and cooling of products being received and the temperature and therefore density at the different times of measurement/pumping;
- Bulk tanks are manually dipped by a third party Surveyor before and after every shipping receipt; and
- Shipping was occurring at midnight of 31 December 2018, therefore midnight figures at this time were used.

Gantry meters are calibrated on a 6 monthly schedule to minimise potential for measurement errors.

Table 23 Volume of fuel stored, received and dispatched

Fuel type	Volume Stored (at start of reporting period)	Volume Received (during reporting period)	Volume Dispatched (during reporting period)	Volume Stored (at end of reporting period)
Diesel (L)	50,809,389	741,737,320	780,366,912	12,640,809
Biodiesel (L)	0	0	0	0
Additive (L)	21,762	22,090	23,213	21,056
Slops (L)	13,695	*	219,950	6,040
Total (L)	**50,844,846**	**741,759,410**	**780,610,075**	**12,667,905**

**note that slops are not transported to Site but are generated onsite as a result of site activities.*

The annual throughput approved under SSD_6664 was increased via modification from 1,010 ML to 1,300 ML on 28 September 2015. The annual throughput approved under the EPL was amended on 2 October 2015 with the current annual throughput limit approved under Condition A1.4 of the EPL being 1,300 ML. SSD_7065 was only activated for the construction of the M7 pipeline and as such, the annual throughput will remain at 1,300ML. The annual throughput will not be increased up to 3,500 ML until the remaining features approved under SSD_7065 have been constructed and are operational.

No exceedances of throughput limits occurred during the reporting period.

6.2 Truck Movements

Over the reporting period there were a total of 32,478 truck movements at an average of approximately 2,707 each month. This equates to approximately 89 truck movements per day. A breakdown of hourly truck movements is provided at **Appendix C.**

A Traffic Impact Assessment (TIA) was conducted as part of the EIS for the SSD_7605 application to increase throughput to 3,500ML per year. The TIA assessed a worst case potential operational traffic scenario of 200 truck movements per day. Although there are no specific traffic movement requirements in either the Project approval or EPL, assessment of average daily truck movements at the site for this reporting period indicates compliance with this predicted traffic volume for all months.

Monthly traffic movements for the reporting period compared to those of the previous reporting years is provided in **Figure 21**.

6.2.1 Mayfield Concept Plan Traffic Movements

Condition 2.3 of the Mayfield Concept Plan Approval provides that the following truck numbers should not be exceeded prior to additional traffic monitoring being undertaken and any potential impacts to the road networks operation of infrastructure requirements identified:

- Total Mayfield Concept Plan Truck Movements per day – 1,268; and
- Total Mayfield Concept Plan Truck Movements per hour – 95.

During the busiest month of operations throughout the review period (May 2018), movements from Stolthaven averaged up to 106 movements per day which is the equivalent of approximately 4 per hour. This is well within the Concept Plan's limits listed above, with the level of truck movements gradually declining from 2015 which recorded the highest number of movements to date.

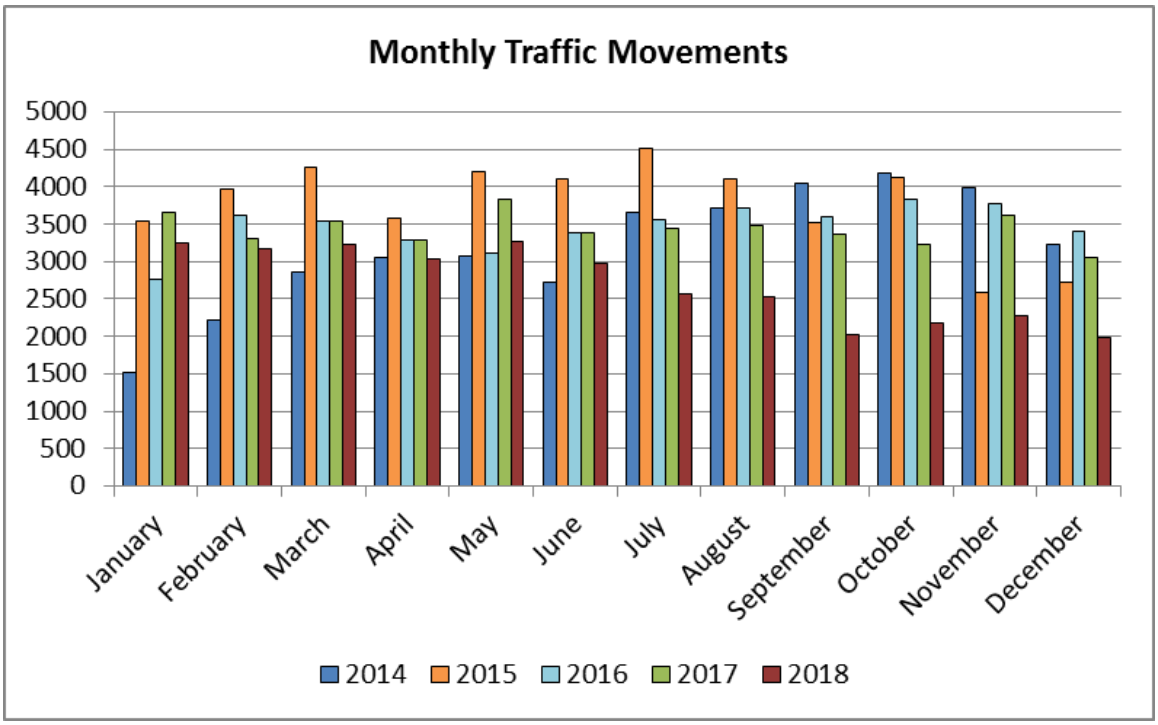

Figure 21 Comparison of monthly truck movements

7.0 Waste

Waste is managed according to the Site's Waste Management Plan (WMP) and is minimised or recycled where possible. Solid waste is disposed of in appropriate receptacles and removed by local waste contractors.

Liquid waste generated on Site is stored in the tanks listed in **Table 24**. Waste is discharged from the Site once it has been treated to an acceptable quality or is disposed of by an appropriately licenced waste collector. Waste removed from the Site in the current reporting period is summarised in **Table 24**.

Table 24 Waste Removal Totals

Date	Terminal quantity / Septic Tank effluent (L)	Mayfield No. 7 berth quantity (L)
5/01/18	3,000	
12/01/18	3,000	
19/01/18	3,000	
25/01/18	3,000	
2/02/18	3,000	
8/02/18	2,500	
15/02/18	3,000	
22/02/18	3,000	
1/03/18	3,000	
8/03/18	3,000	
15/03/18	3,000	
22/03/18	3,000	
29/03/18	4,000	
6/04/18	3,500	
12/04/18	3,000	
19/04/18	3,000	
26/04/18	3,000	
3/05/18	3,000	
10/05/18	4,000	
17/05/18	3,000	
24/05/18	3,000	
31/05/18	3,000	
7/06/18	3,000	
14/06/18	2,500	
21/06/18	4,000	
28/06/18	3,000	
5/07/18	3,000	
12/07/18	3,000	
19/07/18	3,000	
26/07/18	3,000	
2/08/18	3,000	
9/08/18	3,000	
16/08/18	2,500	
23/08/18	3,000	

Date	Terminal quantity / Septic Tank effluent (L)	Mayfield No. 7 berth quantity (L)
30/08/18	3,000	
6/09/18	3,000	
13/09/18	3,000	
20/09/18	2,000	
27/09/18	3,000	
4/10/18	3,000	
11/10/18	3,000	
18/10/18	3,000	
25/10/18	3,000	0
1/11/18	3,000	0
6/11/18	0	1,500
9/11/18	3,000	1,000
13/11/18	0	300
15/11/18	3,000	0
22/11/18	3,000	500
27/11/18	0	2,500
29/11/18	3,000	0
4/12/18	0	2,500
6/12/18	3,000	0
13/12/18	3,000	0
20/12/18	3,000	1,000
27/12/18	1,500	0
TOTAL (L)	**155,500**	**9,300**

Notes ;

Slops consists of a mix of diesel, motor spirit and water.

Mayfield 7 berth came into operation on the 24th of October 2018, starting the septic tank pump out requirement.

Table 25 Liquid hazardous waste total

Date	Quantity (L)
8/01/18	15,100
29/01/18	10,500
19/02/18	11,800
12/03/18	13,400
3/04/18	13,400
23/04/18	14,000
14/05/18	12,100
4/06/18	11,000
26/06/18	12,800
3/08/18	13,500
6/08/18	18,900
8/08/18	14,480
10/09/18	13,900
8/10/18	6,000
29/10/18	20,100
18/12/18	18,970
TOTAL (L)	**219,950**

7.1 Spills and Site Contamination

Records of reportable spills and site contamination are described in the incident register provided in **Appendix D**. Following incidents, Stolthaven prepares an Incident Report in accordance with their internal Incident Investigation procedure. These reports are saved against the incident in the Incident Register.

No non-compliances or reportable incidents in relation to spills and site contamination occurred during the reporting period. All incidents relating to potential spills and site contamination were minor and effectively managed on the Site.

8.0 Aesthetic

Weed control and vegetation management activities are conducted monthly according to the Site's maintenance checklist and in accordance with the Site's Landscape Management Plan. These controls ensure fire and safety risks are managed effectively at the Site through the prevention of any vegetation build-up. No complaints were received by Stolthaven regarding aesthetic issues at the Site.

9.0 Community Engagement and Complaints

9.1 Community Engagement

On 20 August 2018 and 15 October 2018, a representative from Stolthaven attended The Port of Newcastle Community Liaison group meetings. Stolthaven also hosted a bus tour of the Newcastle facility and Mayfield No.7 Berth on 10 December 2018.

Stolthaven was not the subject of any issues from community engagement activities during 2018.

9.2 Complaints

No complaints were received by Stolthaven during the reporting period.

10.0 Compliance

No non-compliances or reportable incidents were identified during the reporting period.

10.1 Statement of Compliance

The statement of compliance against the conditions specified in SSD_6664 as modified is presented in **Appendix E**.

There are no non-compliances to report for the reporting period.

10.2 Complaint Trending

Table 26 details historical complaints received by Stolthaven due to their operations. Since site operations commenced in November 2013 Stolthaven have not received any complaints.

Table 26 Complaints Received

Reporting Period	Number of Complaints
2014	0
2015	0
2016	0
2017	0
2018	0

10.3 Pipeline Integrity

An Annual Pipeline Pressure Test was conducted at the Stolthaven Terminal on the wharf pipeline on 19 October 2018 by Synertec. The test confirmed the integrity of the pipeline. A copy of the test report is included in **Appendix F**.

11.0 Conclusion and Recommendations

The data collected and reviewed for the reporting period indicates that the Site's impact on the surrounding environment is of an acceptable level and in accordance with the SSD_6664 consent and the Site Operational Environmental Management Plan. This level of environmental performance can be attributed to the design and operation of the facility as well as to the environmental management plans and measures undertaken at the Site.

Monitoring data collected and analysed during this reporting period has been analysed against baseline monitoring data for the Site, where possible. However, the dataset available is still relatively small given that the Site has only been operational since November 2013. In future reporting periods as the amount of monitoring data available for analysis increases, trends in monitoring data will be able to be identified with greater confidence. From the limited data available for this reporting period, no significant trends were identified that would necessitate environmental management actions from Stolthaven for the Site.

Data from the groundwater monitoring program could not identify trends in TRH and BTEX as concentrations were largely non-calculable given the small dataset available for analysis and the high proportion of Non-Detect values in the data (caused by data points with results below LOR concentrations). Some preliminary trends were identified for pH levels, including a decreasing trend at MW01, MW02 and MW04 and no identifiable trend at MW03.

The groundwater monitoring network was expanded in the fourth quarter of 2017 to provide monitoring of the proposed Expansion Area as described in SSD_7065. Monitoring of these additional wells (MW05 – MW09) will provide background groundwater quality data for the proposed Expansion Area. It should be noted that elevated levels of TRH and BTEX were found at some of the new monitoring locations, and will be closely monitored by future GME's. It should be noted that elevated results in the proposed Expansion Area are not considered to be caused by Site operations, and are considered to be BHP legacy contamination.

Throughout the 2018 monitoring period, baseline analytical results have identified consistent exceedances of the adopted GAC for Benzene, Toluene and Xylenes (m & p) at MW08 and elevated TRH concentrations at MW08, as discussed in **Section 3.4**. Two additional groundwater monitoring wells (MW08A and MW0AB) were installed to define the possible lateral extent of identified residual contamination in the vicinity of MW08.It is considered residual hydrocarbon impacts identified at MW08 are localised within fill deposits immediately surrounding MW08, and are effectively laterally delineated to the north-east and south by MW08A and MW08B. Results of groundwater monitoring will continue to be analysed quarterly to assess the development of these trends

Stormwater management and monitoring measures implemented at the Site have been successful in preventing environmental harm in this reporting period. All stormwater discharged from the Site was compliant with the requirements of EPL 20193. Consistent future monitoring of bund water after rainfall events will improve the Site's available baseline data and ability to identify trends and issues as well as to identify necessary environmental management measures to improve the environmental performance of the Site.

Noise monitoring identified compliance with all site approval documents at all receiver locations. Truck movements during the reporting period remain consistent with the predictions made in the EIS for the SSD_6664 application as modified.

Appendix A

DPE Correspondence Letters

Appendix A DPE Correspondence Letters

NSW GOVERNMENT | Planning & Environment

Contact Name: Bruce Zhang
Number: 02 9274 6137
Email: bruce.zhang@planning.nsw.gov.au

Mr Simon Murphy
IAP Team Lead
AECOM
17 Warabrook Boulevard
WARABROOK NSW 2304

Dear Mr Murphy

Stolthaven Mayfield Terminal Stage 3
Approval of Progressive Submission of Construction Environmental Management Plan and Pre-Construction Hazard Studies, Stage 1 Construction Environmental Management Plan and Stage 1 Pre-Construction Hazard Studies
(SSD 7065)

I refer to your letter dated 11 September 2018, seeking approval for the progressive submission of Construction Environmental Management Plan and Pre-Construction Hazard Studies in accordance with Condition B22 of Schedule B of SSD 7065.

The Department reviewed the request and concludes adequate justification has been provided to stage the submission of Construction Environmental Management Plan and Pre-Construction Hazard Studies. It is understood that Stage 1 works include:

- new ship hose connections (2 x 8" hoses) on Berth M7 including pumped draw down piping and pigging facilities (excluding marine loading arms installed under the initial scope)
- a new 400NB diesel fuel line from Berth M7 to the existing Lot 2 diesel facility to replace the existing 300NB diesel line from Berth M4
- a new berth fire protection system comprising of pumped firewater and self-oscillating foam monitors connected to IBC foam supply
- compressed air and potable water services at the berth
- operational shelters and huts on the berth.

I also refer to your letter dated 18 May 2018, seeking approval for the Construction Environmental Management Plan (CEMP) and Pre-Construction Hazard Studies (PCHS) for Stage 1 construction activities as required by Condition D1 of Schedule D of SSD 7065 and Condition C4 of Schedule 4 of SSD 7065 respectively.

In accordance with Condition D1 of SSD 7065, the CEMP includes the following sub-plans:

- Soil and Water Management Plan
- Contaminated Materials Management Plan
- Traffic Management Plan
- Noise and Vibration Management Plan
- Air Quality Management Plan
- Utilities and Services Management Plan
- Waste Management Plan.

In accordance with Condition C4 of SSD 7065, the PCHS includes the following documentation:

- Construction Safety Study
- Fire Safety Study

- Hazard and Operability Study
- Final Hazard Analysis.

The Department has reviewed the revised CEMP and sub-plans and concludes the plans address the relevant conditions of the development consent. As such, the following plans are approved for Stage 1 works only:

- Construction Environmental Management Plan including sub-plans, prepared by Stolthaven Australia Pty Ltd, dated October 2018, Revision 4, and the Traffic Management Plan, dated August 2018, Revision 4 which was provided as a separate document.

Please note the Department is only approving the Traffic Management Plan for Stage 1 construction activities only and not any operational activities. Please also note you must resubmit the CEMP and relevant sub-plans to the Department and obtain the approval of the Planning Secretary prior to any future construction stages.

The Department has also reviewed the PCHS and concludes the PCHS address the relevant conditions. As such, the following documentation are approved for Stage 1 works only:

- Construction Safety Study, prepared by Sherpa Consulting, dated 23 April 2018, Revision C
- Stolthaven Newcastle M7 Berth Fire Safety Study, prepared by Aurecon, dated 27 August 2018, Revision 4
- Hazard and Operability No 3 Report & Risk Assessment, prepared by Cockshott Consulting Engineers Pty Ltd, dated 31 July 2018, Revision 2
- Fire Hazard Analysis, prepared by Cockshott Consulting Engineers Pty Ltd, dated 20 October 2017, Revision 0.

Please note the above-mentioned PCHS are approved subject to following conditions:

- the PCHS have only satisfied conditions C1 to C4 of Schedule C of SSD 7065 for Stage 1 construction activities only
- you must resubmit the PCHS to the Department and obtain the approval of the Planning Secretary prior to any future construction stages
- the future stages of PCHS should be reviewed, updated and resubmitted based on the final designs where necessary
- the Fire Safety Study for future stages is required to be approved by the Fire and Rescue NSW (FRNSW) at least one month prior to construction of new tanks under SSD 7065
- construction of new tanks under SSD 7065 must not commence until both Planning Secretary and FRNSW approvals have been granted.

Should you have any queries in relation to this matter, please contact Bruce Zhang, Environmental Assessment Officer on the above contact details.

Yours sincerely

C. Ritchie 16/10/18.

Chris Ritchie
Director
Industry Assessments
as delegate of the Planning Secretary

NSW GOVERNMENT | Planning & Environment

Contact Name: Bruce Zhang
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Email: bruce.zhang@planning.nsw.gov.au

Mr Simon Murphy
IAP Team Lead
AECOM
17 Warabrook Boulevard
WARABROOK NSW 2304

c/- Gordon Lasker, Stolt-Nielsen Australia Pty Ltd g.lasker@stolt.com
Paul Hayward, Stolt-Nielsen Australia Pty Ltd p.hayward@stolt.com

Dear Mr Murphy

Stolthaven Mayfield Terminal Stage 3
Approval of Progressive Submission of Environmental Management Strategy and Stage 1 Environmental Management Strategy
(SSD 7065)

I refer to your letter dated 17 October 2018, seeking approval for the progressive submission of Environmental Management Strategy (EMS) in accordance with Condition B22 of Schedule B of SSD 7065.

The Department reviewed the request and concludes adequate justification has been provided to stage the submission of EMS. It is understood that Stage 1 of the development includes:

- new ship hose connections (2 x 8" hoses) on Berth M7 including pumped draw down piping and pigging facilities (excluding marine loading arms installed under the initial scope)
- a new 400NB diesel fuel line from Berth M7 to the existing Lot 2 diesel facility to replace the existing 300NB diesel line from Berth M4
- a new berth fire protection system comprising of pumped firewater and self-oscillating foam monitors connected to IBC foam supply
- compressed air and potable water services at the berth
- operational shelters and huts on the berth.

I also refer to your submission on 17 October 2018 seeking approval for the EMS for Stage 1 operation as required by Condition D4 of Schedule D of SSD 7065.

In accordance with Condition D5 of Schedule D of SSD 7065, the EMS includes the following sub-plans:

- Air Quality Management Plan (Condition C19 of Schedule C)
- Noise Management Plan (Condition C34 of Schedule C)
- Stormwater Management Plan (Condition C44 of Schedule C)
- Water Management Plan (Condition C45 of Schedule C)
- Utilities and Services Plan (Condition C49 of Schedule C)
- Landscape Management Plan (Condition C50 of Schedule C).

The Department has reviewed the revised EMS and sub-plans and concludes the strategy and plans address the relevant conditions of the development consent. As such, the following plans are approved for Stage 1 construction only:

- Stolthaven Newcastle Mayfield Terminal Operational Environmental Management Plan, prepared by Stolthaven Australia Pty Ltd, dated 23 October 2018, Revision 8

- Air Quality Management Plan, prepared by AECOM, dated 2 May 2018, Revision E
- Traffic Management Plan, prepared by Stolthaven Newcastle Pty Ltd, dated August 2018, Issue 4
- Stolthaven Bulk Liquids Fuel Storage Facility, Mayfield – Operational Noise and Vibration Management Plan, prepared by AECOM, dated 10 May 2018, Revision 5
- Stolthaven Newcastle Stormwater Management Plan, prepared by Stolthaven Newcastle Pty Ltd, dated April 2018, Issue 4
- Water Management Plan, prepared by Stolthaven Newcastle Pty Ltd, dated June 2018, Issue 3
- Utilities and Services Management Plan, prepared by Stolthaven Newcastle Pty Ltd, dated June 2018, Issue 4
- Landscape Management Plan, prepared by Stolthaven Newcastle Pty Ltd, dated April 2018, Issue 3.

Pursuant to Condition D6 of Schedule D of SSD 7065, you must operate Stage 1 of the development in accordance with the above-mentioned EMP and sub-plans.

Please note that in accordance with Condition D6 of Schedule D of SSD 7065, you must resubmit the EMS and relevant sub-plans to the Department and obtain the approval of the Planning Secretary prior to any future operating stages.

Should you have any queries in relation to this matter, please contact Bruce Zhang, Environmental Assessment Officer on the above contact details.

Yours sincerely

C. Ritchie

Chris Ritchie 24/10/18.
Director
Industry Assessments
as delegate of the Planning Secretary

Appendix B

Stormwater Monitoring

Appendix B Stormwater Monitoring

2018 FIRST FLUSH RESULTS

Samples Collected:	Samples Tested:	Dissolved Oxygen (mg/L)	Oil and Grease (mg/L)	pH	Total Suspended Solids (TSS)	Volume (L)	Comments
9/01/2018	10/01/2018	7.5	< 2	7.5	12	35,000	
5/02/2018	6/02/2018	8.46	< 2	7.36	12	35,000	
21/02/2018	22/02/2018	7.49	< 2	7.39	12	70,000	Results for release received 23/02. Second Rain even prior pit being emptied - continued through 26/02
26/02/2018	27/02/2018	7.91	< 2	7.25	22	35,000	
13/03/2018	14/03/2018	7.83	< 2	7.86	2	5,000	Small quantity discharge
22/03/2018	23/03/2018	7.95	< 2	7.48	22	35,000	
4/04/2018	6/04/2018	7.83	< 2	7.4	19	35,000	Release delayed by ALS late issue of test results
20/04/2018	23/04/2018	8.54	< 2	6.89	12	35,000	Sampled Friday 20/04/18 @ 10:00 received results Monday 23/04/18 @ 15:45 Released 24/04/18
30/04/2018	1/05/2018	8.88	< 2	7.17	8	35,000	
14/05/2018	15/05/2018	8.18	< 2	7.55	14	20,000	Released 16/05/52018 - results received late 15/05
4/06/2018	5/06/2018	8.57	< 2	7.62	27	35,000	
12/06/2018	13/06/2018	8.75	< 2	7.59	6	35,000	
19/06/2018	20/06/2018	9.9	< 2	7.27	19	35,000	
2/07/2018	3/07/2018	8.56	< 2	7.46	41	_	No release - resampled for TSS 10:45hrs 03/07/2018. Rain event over extended period - very heavy storm cell
3/07/2018	4/07/2018	6.42	2	8.11	12	35,000	Resample passed - earlier samples had heavily agitated dirt content due heavy rain event
28/08/2018	29/08/2018	7.98	< 2	6.41	56	–	No release - resampled for TSS 10:55hrs 30/08/2018. Allowed to settle as adjacent construction work (concrete cutting) may have affected results
30/08/2018	31/08/2018	8.86	< 2	8.12	20	35,000	Started partial release 01/09. Recommenced 03/09 - rain event during release, continuation 04/09
10/09/2018	11/09/2018	7.15	< 2	7.54	6	10,000	Short rain event
24/09/2018	25/09/2018	8.32	< 2	7.42	24	35,000	
5/10/2018	8/10/2018	8.5	< 2	7.39	38	_	No release, resample.
9/10/2018	10/10/2018	7.39	< 2	8.1	20	20,000	
22/10/2018	23/10/2018	7.35	< 2	7.23	20	30,000	Results late PM 23/10 - release planned 24/10 AM
9/11/2018	13/11/2018	7.78	< 2	7.48	15	25,000	
29/11/2018	30/11/2018	8.42	<2	7.42	21	30,000	
14/12/2018	17/12/2018	6.8	2	7.4	22	35,000	
	MINIMUM	6.42	2	6.41	2		
	MAXIMUM	9.9	3	8.12	56		
	AVERAGE	8.05	2.5	7.46	19.28		

2018 BUND WATER RESULTS

Samples Collected:	Samples Tested:	Location	Temp (°C)	pH	Total Dissolved Solids (ppm)	Dissolved Oxygen (%SAT)	Conductivity (uS/cm)	Appearance	Volume (L) Approx.
5/02/2018	5/02/2018	Bund 1	20.1	8.39	17.1	52	18	Clear	15,000
		Bund 2	19.5	8.4	17.5	62.1	27.3	Clear	10,000
		Bund 3	22	8.1	19	65.3	30.1	Clear	10,000
		Bund 5	20.1	7.72	28.7	61	29.4	Clear	10,000
		Bund 6	21.3	8.45	22.4	57	28.7	Clear	20,000
		Bund 7	22	7.85	19.6	53.7	27.3	Clear	5,000
		Bund 8	20.5	7.38	19.2	58.1	31	Clear	10,000
		Bund 9	19.8	7.99	21.7	56.4	35	Clear	10,000
21/02/2018	21/02/2018	Bund 1	24.2	8.18	33.1	75.2	50.4	Clear	20,000
		Bund 2	24.5	8.01	31.1	67.3	31.3	Clear	20,000
		Bund 3	24.8	8.09	43.3	62.1	66.5	Clear	20,000
		Bund 5	23.8	8.02	35.4	58.7	54	Clear	20,000
		Bund 6	21.2	7.95	44	65.2	67.9	Clear	10,000
		Bund 7	26.1	8.08	73.9	39.6	113.8	Clear	20,000
		Bund 8	21.3	7.96	48	43.8	73.6	Clear	20,000
		Bund 9	21.6	8	57.5	53.1	89.2	Clear	20,000
26/02/2018	26/02/2018	Bund 1	24.4	8.19	36.2	72.1	42.1	Clear	100,000
		Bund 2	23.9	8.24	21.4	64.9	34.9	Clear	100,000
		Bund 3	24.2	8.2	31.4	62.3	48.5	Clear	100,000
		Bund 5	23.8	8.03	28.4	62.5	44.2	Clear	100,000
		Bund 6	23.9	7.54	29.7	61.1	46.2	Clear	100,000
		Bund 7	25.2	7.19	26.8	56.9	44.1	Clear	100,000
		Bund 8	24.9	7.09	37.3	48.5	42.9	Clear	100,000
		Bund 9	25.1	6.86	44.9	42.9	44.3	Clear	100,000
22/03/2018	22/03/2018	Bund 1	24.7	6.04	31.9	71.5	48.7	Clear	100,000
		Bund 2	23.9	6.02	32.4	96.2	50.6	Clear	100,000
		Bund 3	23.6	6.02	32	74.6	49.7	Clear	100,000
		Bund 5	23.9	6.02	30.7	72.1	47.3	Clear	100,000
		Bund 6	23.5	6.05	32.3	64.7	49.6	Clear	100,000
		Bund 7	23.6	6.08	32.5	61.2	50	Clear	100,000
		Bund 8	23.7	6.11	32.7	59.3	50.2	Clear	100,000
		Bund 9	23.9	6.13	32	61.1	50.4	Clear	100,000
4/04/2018	4/04/2018	Bund 1	26.7	6.28	16.4	137.7	23.5	clear	60,000
		Bund 2	26.5	6.31	17.7	82.7	27.2	clear	60,000
		Bund 3	26.3	6.3	13.3	72.1	20.4	clear	60,000
		Bund 5	26	6.31	21.9	76.6	33.5	clear	60,000
		Bund 6	26.8	6.31	10.2	63.7	15.7	clear	60,000
		Bund 7	26.4	6.3	13.4	73.5	20.6	clear	60,000
		Bund 8	26.1	6.29	21.8	69.7	33.5	clear	60,000
		Bund 9	26.3	6.31	19.6	60.3	30.1	clear	60,000
20/04/2018	20/04/2018	Bund 1	24.2	8.17	37.4	31.9	57.6	clear	20,000
		Bund 2	23.9	7.51	35.1	37.8	53.8	clear	20,000
		Bund 3	24	7.34	38.1	40	71.1	clear	20,000
		Bund 5	23.7	7.12	34.7	37.5	69.8	clear	20,000
		Bund 6	23.8	7.11	36.8	40.1	65.6	clear	20,000
		Bund 7	22.9	7.24	42.9	36.8	56.8	clear	20,000
		Bund 8	23.7	7.13	43.5	61.1	53.3	clear	20,000
		Bund 9	22.8	7.26	46.3	52.9	58.8	clear	20,000

2018 BUND WATER RESULTS

Samples Collected:	Samples Tested:	Location	Temp (°C)	pH	Total Dissolved Solids (ppm)	Dissolved Oxygen (%SAT)	Conductivity (uS/cm)	Appearance	Volume (L) Approx.
30/04/2018	30/04/2018	Bund 1	23.3	7.17	45	50.2	101	clear	100,000
		Bund 2	23	7.19	67	67	112.9	clear	100,000
		Bund 3	22.7	7.2	69.9	69.9	122.9	clear	100,000
		Bund 5	22.8	7.5	67.3	67.3	113.8	clear	100,000
		Bund 6	22.6	7.7	64	64	130	clear	100,000
		Bund 7	22.9	7.1	68.1	67	129.3	clear	100,000
		Bund 8	23.2	7.2	50.2	50	128.4	clear	100,000
		Bund 9	23.1	7.2	58.3	57	122.7	clear	100,000
14/05/2018	14/05/2018	Bund 1	19.2	7.05	43	30.9	41	clear	10,000
		Bund 2	19.8	6.98	31.6	30.56	63.2	clear	10,000
		Bund 3	20.1	7.7	29.4	30.8	52.8	clear	10,000
		Bund 5	19	7.2	41.6	40.4	58.6	clear	15,000
		Bund 6	18.4	6.8	36.7	40.1	59.2	clear	5,000
		Bund 7	20.3	7.17	32.4	36.7	64.7	clear	5,000
		Bund 8	21.2	7.92	28.6	32.6	44.3	clear	5,000
		Bund 9	20.6	8.14	37.6	39.8	52.6	clear	10,000
1/06/2018	1/06/2018	Bund 1	16.7	7.2	29.4	40	58.9	clear	80,000
		Bund 2	16.9	6.98	28.6	44.6	64.4	clear	80,000
		Bund 3	16.5	7.05	43.7	38.8	52.8	clear	80,000
		Bund 5	17	7.02	40.2	30.9	51.7	clear	100,000
		Bund 6	17.9	8.13	32.6	36.7	50.6	clear	80,000
		Bund 7	16.4	6.8	40	41.8	41	clear	50,000
		Bund 8	17.2	8.48	31.7	49.3	59.2	clear	80,000
		Bund 9	17.1	7.97	28.9	32.8	61.7	clear	80,000
14/06/2018	14/06/2018	Bund 1	12.9	7.1	28.5	38.6	56.4	clear	60,000
		Bund 2							
		Bund 3	13	6.9	32.8	30.9	52.1	clear	60,000
		Bund 5	13.2	6.95	38.6	32.3	51.7	clear	100,000
		Bund 6							
		Bund 7							
		Bund 8	13.1	7.84	30.1	50.6	58.6	clear	20,000
		Bund 9	12.9	7.89	31.7	33	61.1	clear	20,000
19/06/2018	19/06/2018	Bund 1	14.7	8.89	27.2	76.1	41.9	clear	50,000
		Bund 2	14.7	8.95	19.9	70.9	30.9	clear	30,000
		Bund 3	14.5	8.53	23.7	68.5	36.2	clear	30,000
		Bund 5	14.4	8.93	27.9	74	42.7	Clear	40,000
		Bund 6	14.3	8.3	26.5	74.1	40.8	clear	30,000
		Bund 7	14.2			85.1		clear	20,000
		Bund 8	14.3			75.3		clear	30,000
		Bund 9	14.4			81.7		clear	30,000
28/08/2018	28/08/2018	Bund 1	16.2	7.72	28.2	62.7	31.6	clear	10,000
		Bund 2	16.7	7.91	21.6	71.6	36.7	clear	10,000
		Bund 3	16.2	8.76	27.4	70.4	41.2	clear	20,000
		Bund 5	16.9	8.25	29.3	70	43.8	clear	10,000
		Bund 6	16.2	7.93	32.4	72.8	41.7	clear	10,000
		Bund 7	16	8.14	31	66.7	40.2	clear	10,000
		Bund 8	16.3	8.1	33.7	68.9	39.6	clear	10,000
		Bund 9	16.1	7.34	28.6	70.1	46	clear	10,000

2018 BUND WATER RESULTS

Samples Collected:	Samples Tested:	Location	Temp (°C)	pH	Total Dissolved Solids (ppm)	Dissolved Oxygen (%SAT)	Conductivity (uS/cm)	Appearance	Volume (L) Approx.
4/09/2018	4/09/2018	Bund 1	18.1	5.8	20.8	31.6	28.6	clear	50,000
		Bund 2	17.7	5.82	19.2	84.5	29.4	clear	50,000
		Bund 3	17.5	5.83	18.9	75.3	29.1	clear	50,000
		Bund 5	17.5	5.85	18.6	75.4	28.6	clear	50,000
		Bund 6	17.6	5.85	17.1	87.5	29.5	clear	50,000
		Bund 7	17.5	5.86	19.1	72.6	29.3	clear	50,000
		Bund 8	17.7	5.88	18.7	69.5	28.7	clear	50,000
		Bund 9	17.4	5.87	19.3	71.4	21.8	clear	50,000
10/09/2018	10/09/2018	Bund 1	17.5	5.86	20.2	84.5	28.7	clear	2000
		Bund 2	17.4	5.87	17.1	75.4	29.1	clear	1000
		Bund 3						clear	NIL
		Bund 5						clear	NIL
		Bund 6						clear	NIL
		Bund 7	17.7	5.8	19.2	72.5	28.3	clear	1000
		Bund 8						clear	NIL
		Bund 9						clear	NIL
24/09/2018	24/09/2018	Bund 1	18.6	8.39	17.5	52	18	clear	20,000
		Bund 2	18.5	8.4	17.1	62.1	27.3	clear	20,000
		Bund 3	19	8.16	19.6	65.3	32.1	clear	20,000
		Bund 5	18.7	7.72	19	61	29.4	clear	20,000
		Bund 6	18	8.45	25.7	57.5	40.1	clear	20,000
		Bund 7	19.2	7.85	22.4	53.7	27.3	clear	30,000
		Bund 8	18.5	7.94	19.6	58.1	32	clear	20,000
		Bund 9	18.8	7.38	19.2	56.4	38.6	clear	30,000
9/10/2018	9/10/2018	Bund 1	18.9	7.2	18.2	30.8	19.4	clear	30,000
		Bund 2	19.2	7.82	26.4	36.7	22.7	clear	30,000
		Bund 3	19	8.1	22.3	49.2	20.3	clear	30,000
		Bund 5	19.3	7.17	24.8	41.6	29.8	clear	30,000
		Bund 6	18.2	7.09	31.7	32.8	19.1	clear	30,000
		Bund 7	18.6	7.026	29.6	47.8	28.4	clear	30,000
		Bund 8	18.1	7.04	21.7	40.4	26.7	clear	30,000
		Bund 9	18.2	6.98	26.7	33.2	21.2	clear	30,000
30/11/2018	30/11/2018	Bund 1	24.3	7.41	53.6	102.9	78.2	clear	25,000
		Bund 2	23.8	7.65	46.6	95	71.2	clear	25,000
		Bund 3	23.6	7.76	44.3	89.6	68.8	clear	25,000
		Bund 5	23.4	7.82	45.1	87.9	69.1	clear	30,000
		Bund 6	23.4	7.84	44.8	86.5	69.5	clear	25,000
		Bund 7	23.9	8.6	54.5	79.5	82.1	clear	25,000
		Bund 8	23.3	8.47	67	78.3	102.9	clear	25,000
		Bund 9	22.7	8.43	73.3	74.9	108.1	clear	25,000
		MINIMUM	12.9	5.8	10.2	30.6	15.7		
		MAXIMUM	26.8	9	73.9	137.7	130		
		AVERAGE	20.2	7.4	32.4	59.7	49.8		

Appendix C

Hourly Truck Movements

Appendix C Hourly Truck Movements

REPORTING PERIOD: January 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	13	20	25	19	12	20	13	13	19	7	8	11
Bay 2	31	34	37	34	23	31	25	24	25	20	10	18
Bay 3	19	13	14	6	15	19	22	11	18	21	27	28
Bay 4	8	8	3	5	7	10	13	15	9	10	20	21
Total	71	75	79	64	57	80	73	63	71	58	65	78

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	17	29	32	26	13	11	16	11	12	3	1	6
Bay 2	36	44	36	35	25	24	31	28	21	13	17	8
Bay 3	24	17	14	15	15	18	10	21	12	15	10	4
Bay 4	23	19	9	3	6	12	10	14	8	6	7	3
Total	100	109	91	79	59	65	67	74	53	37	35	21

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/01/2018	2	3	2	2	3	3	1	1	3	0	2	4
2/01/2018	3	1	6	2	0	2	2	1	3	0	1	3
3/01/2018	4	0	2	3	2	3	3	1	2	1	5	3
4/01/2018	3	4	3	1	1	6	3	0	2	4	5	0
5/01/2018	3	6	3	3	2	4	2	2	3	3	3	1
6/01/2018	1	0	4	2	0	4	0	3	3	2	2	1
7/01/2018	3	0	0	0	1	3	1	2	1	0	2	1
8/01/2018	5	5	1	2	4	2	7	2	2	3	1	4
9/01/2018	1	3	3	2	5	2	1	1	3	2	2	2
10/01/2018	1	2	2	3	1	2	2	2	1	3	1	3
11/01/2018	2	2	5	1	1	0	1	1	0	5	2	2
12/01/2018	1	3	3	2	0	4	2	2	3	3	0	4
13/01/2018	1	3	0	0	0	1	1	2	1	0	0	2
14/01/2018	2	1	4	0	0	0	3	2	3	0	0	2
15/01/2018	3	3	2	2	1	1	2	4	1	1	3	4
16/01/2018	1	4	2	3	1	2	5	1	1	2	0	6
17/01/2018	3	2	2	4	3	3	3	3	2	2	5	2
18/01/2018	1	1	3	4	3	2	1	3	3	1	5	3
19/01/2018	2	0	3	1	3	2	2	1	4	1	5	3
20/01/2018	2	1	1	1	2	3	2	1	2	2	1	1
21/01/2018	2	1	0	1	0	4	3	1	2	0	3	1
22/01/2018	3	1	3	5	2	2	1	4	2	5	2	2
23/01/2018	3	2	1	3	3	5	0	3	1	1	4	1
24/01/2018	0	4	4	6	2	4	6	2	4	2	1	3
25/01/2018	0	4	4	3	3	3	4	3	5	2	2	4
26/01/2018	2	2	3	1	4	2	1	2	1	3	0	2
27/01/2018	4	2	0	1	2	0	5	0	2	2	2	2
28/01/2018	2	2	3	0	1	4	1	3	1	1	2	3
29/01/2018	5	4	3	2	4	3	2	2	5	2	2	5
30/01/2018	3	4	4	3	2	1	2	5	2	2	2	3
31/01/2018	3	5	3	1	1	3	4	3	3	3	0	1
Total	71	75	79	64	57	80	73	63	71	58	65	78

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/01/2018	5	3	2	4	1	3	1	3	1	0	2	0
2/01/2018	2	4	3	4	5	1	4	3	2	2	1	1
3/01/2018	2	4	2	2	3	1	3	0	3	4	1	0
4/01/2018	6	6	2	3	3	2	2	2	3	3	0	2
5/01/2018	6	3	5	5	2	3	3	2	3	0	1	0
6/01/2018	2	3	1	2	0	1	2	2	1	0	1	1
7/01/2018	1	5	2	1	0	2	1	3	1	1	1	0
8/01/2018	3	4	4	2	2	3	2	1	1	2	1	1
9/01/2018	6	2	4	4	2	2	3	1	2	1	1	2
10/01/2018	5	4	5	2	2	1	3	5	2	1	1	0
11/01/2018	1	5	2	4	5	2	3	2	2	0	2	0
12/01/2018	2	4	6	2	2	2	2	2	2	0	1	0
13/01/2018	4	1	1	0	0	3	0	2	0	0	1	1
14/01/2018	2	1	1	1	0	1	2	3	0	0	0	0
15/01/2018	3	2	4	3	2	1	4	3	1	2	1	1
16/01/2018	4	2	3	2	4	2	0	3	2	1	2	0
17/01/2018	7	5	3	4	2	5	3	3	2	2	2	1
18/01/2018	2	4	3	1	4	2	0	3	4	1	1	0
19/01/2018	1	2	4	5	3	2	2	2	3	1	1	0
20/01/2018	3	4	0	2	0	1	4	1	0	1	0	0
21/01/2018	3	2	0	0	1	2	0	1	0	1	0	1
22/01/2018	4	4	3	2	3	1	3	1	0	2	0	2
23/01/2018	1	4	4	2	3	2	3	3	2	1	2	2
24/01/2018	3	3	4	4	2	1	1	4	3	0	3	1
25/01/2018	1	3	3	3	1	1	3	1	4	2	0	1
26/01/2018	3	4	2	2	2	3	3	1	4	0	1	0
27/01/2018	4	3	1	1	0	2	2	4	0	1	1	1
28/01/2018	2	2	3	1	1	2	0	2	0	0	2	0
29/01/2018	4	5	3	4	1	4	3	3	2	1	2	1
30/01/2018	3	6	3	3	3	4	2	4	3	3	2	2
31/01/2018	5	5	8	4	0	3	3	4	0	4	1	0
Total	100	109	91	79	59	65	67	74	53	37	35	21

REPORTING PERIOD: February 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	24	24	27	20	19	19	27	25	19	18	9	14
Bay 2	14	14	29	20	24	17	20	25	20	12	7	14
Bay 3	18	14	11	13	17	15	31	18	16	25	24	27
Bay 4	17	8	2	8	4	14	16	15	7	12	14	22
Total	73	60	69	61	64	65	94	83	62	67	54	77

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	28	31	22	21	22	20	16	21	18	13	6	8
Bay 2	28	24	23	21	13	13	17	14	11	9	6	5
Bay 3	23	19	24	11	21	20	19	17	15	14	16	3
Bay 4	19	11	13	10	14	18	17	9	8	11	6	6
Total	98	85	82	63	70	71	69	61	52	47	34	22

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/02/2018	4	6	4	2	4	1	4	5	5	2	5	1
2/02/2018	3	3	4	7	3	0	1	3	4	4	2	1
3/02/2018	2	0	1	2	2	2	5	1	1	3	1	2
4/02/2018	1	0	1	0	1	0	0	3	2	3	1	3
5/02/2018	2	2	3	2	1	2	4	3	0	2	1	3
6/02/2018	3	3	4	2	2	4	4	2	1	2	1	2
7/02/2018	3	2	2	3	1	2	5	2	0	2	1	2
8/02/2018	1	1	4	1	2	2	1	4	3	5	1	5
9/02/2018	2	2	2	1	4	2	2	4	3	2	4	2
10/02/2018	2	1	2	2	4	2	1	1	2	2	2	1
11/02/2018	2	0	2	2	2	0	3	2	3	1	1	1
12/02/2018	3	2	4	3	1	4	6	4	2	3	5	3
13/02/2018	5	5	0	1	4	3	3	4	3	3	0	5
14/02/2018	3	4	5	0	3	4	2	3	2	2	1	3
15/02/2018	3	2	2	3	5	2	2	3	3	2	2	2
16/02/2018	3	2	2	5	2	3	7	7	2	4	1	4
17/02/2018	0	3	2	2	2	3	4	2	0	2	3	1
18/02/2018	5	1	1	0	2	1	3	1	3	0	2	5
19/02/2018	2	3	2	1	1	4	4	3	2	3	2	3
20/02/2018	6	1	1	5	2	2	4	3	3	1	5	4
21/02/2018	2	3	4	2	0	4	4	4	2	4	3	2
22/02/2018	1	4	0	1	4	3	6	3	2	2	0	5
23/02/2018	2	2	4	2	3	3	2	3	3	1	4	2
24/02/2018	1	1	1	3	3	0	4	2	2	4	0	3
25/02/2018	2	1	1	2	1	2	2	1	1	3	1	3
26/02/2018	2	2	4	2	1	1	7	1	4	1	1	3
27/02/2018	4	2	5	1	2	3	3	4	2	2	3	4
28/02/2018	4	2	2	4	2	6	1	5	2	2	1	2
1/03/2018	0	0	0	0	0	0	0	0	0	0	0	0
2/03/2018	0	0	0	0	0	0	0	0	0	0	0	0
3/03/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	73	60	69	61	64	65	94	83	62	67	54	77

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/02/2018	4	3	5	5	1	1	1	5	1	2	0	0
2/02/2018	4	2	3	3	3	2	4	2	2	4	0	1
3/02/2018	5	1	4	3	1	2	2	1	1	1	0	2
4/02/2018	5	4	2	1	1	4	4	2	0	0	1	1
5/02/2018	2	2	4	4	3	4	1	2	2	3	0	2
6/02/2018	3	6	3	2	3	3	2	0	3	2	1	0
7/02/2018	4	3	2	3	7	1	2	3	6	1	2	1
8/02/2018	3	4	3	1	5	3	0	1	2	3	2	1
9/02/2018	0	7	1	3	3	1	6	1	2	1	1	1
10/02/2018	0	3	3	2	0	0	0	5	1	0	1	0
11/02/2018	3	2	2	1	1	3	0	1	1	1	0	0
12/02/2018	2	4	5	2	2	1	0	2	4	0	0	0
13/02/2018	7	2	3	0	4	4	4	1	2	2	3	0
14/02/2018	5	3	7	3	3	4	3	4	4	1	1	1
15/02/2018	6	2	2	5	5	3	3	4	1	5	2	1
16/02/2018	3	0	4	4	3	2	4	3	2	4	2	1
17/02/2018	4	1	3	0	2	1	3	1	2	1	0	0
18/02/2018	2	2	2	0	2	3	1	2	1	1	2	0
19/02/2018	4	5	4	1	2	5	4	2	2	2	0	1
20/02/2018	6	0	3	3	2	4	3	1	2	1	5	1
21/02/2018	5	3	5	5	0	3	6	0	3	3	1	2
22/02/2018	0	6	0	4	2	1	3	4	1	1	2	0
23/02/2018	2	5	4	4	3	1	4	2	1	1	1	0
24/02/2018	2	3	2	0	1	2	1	2	1	1	1	1
25/02/2018	1	2	1	1	0	2	0	3	1	1	0	3
26/02/2018	5	3	2	0	3	3	3	3	0	1	2	0
27/02/2018	5	3	1	3	3	3	4	1	1	3	1	1
28/02/2018	6	4	2	0	5	5	1	3	3	1	3	1
1/03/2018	0	0	0	0	0	0	0	0	0	0	0	0
2/03/2018	0	0	0	0	0	0	0	0	0	0	0	0
3/03/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	98	85	82	63	70	71	69	61	52	47	34	22

REPORTING PERIOD: March 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	29	22	27	20	23	29	31	29	24	14	11	23
Bay 2	16	20	24	20	24	30	24	26	17	7	5	14
Bay 3	17	16	12	9	21	15	25	15	18	33	22	38
Bay 4	4	4	10	2	8	7	8	9	10	16	17	21
Total	66	62	73	51	76	81	88	79	69	70	55	96

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	25	31	32	25	20	22	32	28	17	9	12	8
Bay 2	24	24	26	23	19	25	22	22	2	2	8	6
Bay 3	20	16	13	19	18	19	16	11	15	14	16	6
Bay 4	15	10	9	14	11	6	10	7	9	9	2	0
Total	84	81	80	81	68	72	80	68	43	34	38	20

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/03/2018	0	3	4	2	4	3	4	2	1	1	2	5
2/03/2018	2	1	2	3	2	4	2	3	2	3	1	5
3/03/2018	4	0	2	1	2	0	3	3	1	2	0	2
4/03/2018	2	1	0	0	2	1	6	2	0	1	0	3
5/03/2018	3	3	4	0	1	4	3	4	2	4	3	1
6/03/2018	3	3	1	2	6	4	4	4	1	3	4	6
7/03/2018	2	5	2	1	4	5	5	3	3	5	4	4
8/03/2018	1	3	3	3	1	1	4	2	5	2	3	3
9/03/2018	2	4	3	2	3	4	1	4	1	3	4	2
10/03/2018	2	2	0	0	1	3	4	1	1	1	0	4
11/03/2018	1	0	1	2	1	2	1	4	3	2	2	2
12/03/2018	2	3	5	4	2	2	0	4	4	1	4	2
13/03/2018	3	3	1	3	5	6	4	3	4	0	1	5
14/03/2018	1	2	3	2	6	3	3	2	3	3	1	2
15/03/2018	0	2	4	0	0	6	5	1	2	3	1	2
16/03/2018	4	0	0	2	3	4	4	2	1	2	5	3
17/03/2018	2	2	2	0	1	0	4	2	1	3	2	2
18/03/2018	2	1	4	0	0	1	3	0	2	1	0	2
19/03/2018	3	1	6	2	4	2	2	6	4	2	0	5
20/03/2018	3	1	3	1	3	1	1	5	6	2	2	4
21/03/2018	3	3	0	2	1	6	2	2	3	4	1	3
22/03/2018	2	3	2	3	4	3	3	1	4	3	2	2
23/03/2018	2	1	1	1	4	2	2	4	0	2	0	3
24/03/2018	1	1	1	0	3	3	0	2	1	2	0	4
25/03/2018	1	0	1	0	1	1	3	1	3	1	1	2
26/03/2018	4	2	4	5	1	2	3	0	1	3	1	3
27/03/2018	0	1	3	3	6	0	2	1	3	2	5	3
28/03/2018	3	3	3	3	2	1	2	2	2	2	1	2
29/03/2018	3	6	1	2	1	3	5	2	1	1	1	5
30/03/2018	3	2	3	2	1	2	2	4	2	3	4	2
31/03/2018	2	0	4	0	1	2	1	3	2	3	0	3
Total	66	62	73	51	76	81	88	79	69	70	55	96

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/03/2018	5	3	6	3	2	3	3	2	2	1	3	0
2/03/2018	4	1	2	6	2	3	3	1	1	1	1	0
3/03/2018	4	0	3	2	1	0	3	2	0	0	2	1
4/03/2018	2	2	1	0	2	2	1	2	1	1	1	0
5/03/2018	1	7	5	4	2	3	3	1	1	2	2	2
6/03/2018	4	3	2	5	3	4	4	2	2	1	1	1
7/03/2018	2	5	3	1	3	2	4	4	3	1	1	1
8/03/2018	5	3	3	4	0	3	4	0	3	0	1	0
9/03/2018	4	5	2	4	3	1	2	1	4	0	0	2
10/03/2018	4	1	1	1	2	0	4	1	1	0	1	2
11/03/2018	3	1	3	0	2	2	0	4	0	0	0	0
12/03/2018	2	4	3	2	3	3	1	2	0	4	2	1
13/03/2018	1	3	3	1	6	2	3	0	2	4	2	0
14/03/2018	2	2	1	3	3	5	0	6	2	1	1	2
15/03/2018	3	4	3	2	3	2	4	2	2	0	1	0
16/03/2018	2	2	3	5	1	0	3	3	3	1	1	0
17/03/2018	2	4	4	3	0	2	2	3	1	0	0	2
18/03/2018	3	2	1	1	1	2	1	1	0	1	1	0
19/03/2018	4	1	4	4	0	1	4	3	1	0	1	1
20/03/2018	2	2	2	4	3	5	3	3	2	0	3	0
21/03/2018	3	4	1	2	3	6	2	2	2	2	1	0
22/03/2018	3	2	0	2	2	5	3	4	0	0	2	1
23/03/2018	0	2	1	3	1	3	4	3	1	2	1	0
24/03/2018	2	2	2	1	1	2	4	1	0	3	1	0
25/03/2018	3	2	2	1	1	0	2	2	0	3	0	0
26/03/2018	2	3	5	1	3	4	1	3	1	0	3	1
27/03/2018	3	3	5	5	2	1	1	2	1	2	0	1
28/03/2018	3	3	4	2	5	0	4	2	1	3	0	0
29/03/2018	0	2	4	2	2	0	3	2	3	0	0	1
30/03/2018	3	2	0	3	5	2	3	3	1	1	2	1
31/03/2018	3	1	1	4	1	4	1	1	2	0	3	0
Total	84	81	80	81	68	72	80	68	43	34	38	20

REPORTING PERIOD: April 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	25	25	29	24	21	20	23	24	19	14	12	27
Bay 2	14	22	25	26	15	21	19	22	9	10	7	13
Bay 3	13	12	11	13	18	14	22	23	11	24	22	26
Bay 4	1	5	2	1	15	3	12	9	8	15	10	22
Total	53	64	67	64	69	58	76	78	47	63	51	88

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	28	32	26	25	25	18	27	25	19	12	13	5
Bay 2	18	31	26	27	21	15	20	16	7	7	6	3
Bay 3	21	18	16	19	19	18	12	15	20	14	17	1
Bay 4	13	12	10	12	17	6	6	4	10	8	1	0
Total	80	93	78	83	82	57	65	60	56	41	37	9

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/04/2018	0	1	1	1	1	1	2	1	1	2	1	1
2/04/2018	2	2	2	2	2	1	3	4	1	2	1	3
3/04/2018	0	2	4	4	1	0	0	3	0	3	2	2
4/04/2018	2	2	2	2	2	3	2	4	1	2	2	2
5/04/2018	3	0	4	2	0	3	6	2	1	1	1	2
6/04/2018	1	2	5	2	2	3	1	3	2	2	2	5
7/04/2018	4	2	0	2	2	1	2	4	1	3	1	3
8/04/2018	3	2	0	0	3	2	3	3	0	2	2	2
9/04/2018	3	4	3	3	5	4	1	5	2	2	2	5
10/04/2018	1	3	1	2	4	3	0	0	6	5	2	1
11/04/2018	1	1	5	3	1	1	2	3	1	2	2	3
12/04/2018	3	3	2	2	3	2	0	3	3	2	1	4
13/04/2018	2	6	6	2	1	2	1	6	1	2	0	2
14/04/2018	2	4	0	0	2	0	6	5	0	0	1	3
15/04/2018	2	3	2	1	0	1	4	3	1	4	2	0
16/04/2018	3	2	3	4	3	5	2	5	1	2	1	5
17/04/2018	2	1	3	2	5	3	5	1	1	2	4	5
18/04/2018	3	2	2	5	7	2	3	2	3	1	5	5
19/04/2018	1	2	1	3	3	3	3	1	2	3	2	4
20/04/2018	0	3	2	1	3	2	2	4	4	2	1	4
21/04/2018	3	0	1	3	3	3	3	1	3	0	1	3
22/04/2018	2	1	1	0	0	1	5	1	1	1	1	2
23/04/2018	1	2	4	2	2	2	3	2	1	1	0	3
24/04/2018	1	1	3	3	1	2	4	2	0	4	5	6
25/04/2018	0	1	2	1	3	0	2	1	1	2	2	1
26/04/2018	2	0	3	4	4	1	2	1	3	2	2	4
27/04/2018	1	5	3	2	2	3	0	3	2	3	2	2
28/04/2018	2	3	0	2	1	2	3	2	2	2	0	2
29/04/2018	1	1	1	0	1	1	1	2	1	2	0	0
30/04/2018	2	3	1	4	2	1	5	1	1	2	3	4
1/05/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	53	64	67	64	69	58	76	78	47	63	51	88

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/04/2018	3	0	1	2	0	1	1	2	3	0	2	0
2/04/2018	1	4	2	3	3	2	2	1	0	3	1	1
3/04/2018	2	4	3	1	3	2	1	2	4	0	0	1
4/04/2018	3	5	4	1	1	2	1	3	2	0	1	0
5/04/2018	4	3	2	2	3	3	3	2	4	2	2	0
6/04/2018	1	3	4	3	5	3	5	1	3	4	1	0
7/04/2018	3	1	1	1	2	2	2	3	1	0	1	0
8/04/2018	5	2	0	2	1	1	1	3	0	0	0	0
9/04/2018	4	6	3	2	3	2	4	3	0	2	2	0
10/04/2018	1	2	3	5	3	0	2	2	1	4	1	0
11/04/2018	0	3	6	1	1	2	2	2	0	2	0	1
12/04/2018	1	4	3	2	3	5	2	2	4	3	3	0
13/04/2018	4	3	4	3	4	2	5	1	5	1	0	0
14/04/2018	3	2	1	3	4	0	1	1	1	1	1	0
15/04/2018	5	3	2	3	1	2	1	2	1	0	1	0
16/04/2018	5	5	3	3	2	6	3	1	1	2	1	0
17/04/2018	3	1	2	3	3	4	4	1	1	4	1	1
18/04/2018	4	5	3	3	5	1	3	2	3	2	0	0
19/04/2018	3	4	1	4	4	1	2	2	2	1	1	1
20/04/2018	3	4	3	5	3	2	3	1	2	1	2	1
21/04/2018	2	2	5	2	3	0	0	1	1	3	2	0
22/04/2018	5	2	0	1	2	2	1	2	2	1	0	1
23/04/2018	3	4	2	5	5	2	0	1	3	2	3	0
24/04/2018	1	4	4	5	3	1	0	1	1	1	2	0
25/04/2018	1	3	2	1	6	0	1	4	1	0	0	1
26/04/2018	4	0	2	5	2	1	4	4	1	1	2	0
27/04/2018	0	6	4	3	2	0	5	5	2	0	1	0
28/04/2018	1	2	3	0	1	3	1	1	1	0	2	0
29/04/2018	2	3	2	2	1	1	3	1	4	0	1	1
30/04/2018	3	3	3	7	3	4	2	3	2	1	3	0
1/05/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	80	93	78	83	82	57	65	60	56	41	37	9

REPORTING PERIOD: May 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	33	27	25	21	32	28	30	26	22	17	11	22
Bay 2	22	16	23	30	19	28	25	11	21	7	5	19
Bay 3	18	20	15	13	15	15	26	14	20	23	22	30
Bay 4	8	3	7	3	19	9	11	8	6	10	9	24
Total	81	66	70	67	85	80	92	59	69	57	47	95

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	29	31	28	26	32	24	25	22	17	8	9	10
Bay 2	21	26	26	24	21	22	19	12	10	1	5	3
Bay 3	16	21	21	26	17	14	14	14	19	24	21	3
Bay 4	16	10	14	17	15	6	6	6	6	7	6	0
Total	82	88	89	93	85	66	64	54	52	40	41	16

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/05/2018	0	2	4	3	3	2	2	0	3	0	2	5
2/05/2018	3	2	2	3	2	2	5	2	3	3	1	5
3/05/2018	4	1	7	1	4	3	4	2	3	2	5	3
4/05/2018	3	2	8	3	4	3	3	3	4	2	3	3
5/05/2018	2	1	0	3	4	3	2	1	4	1	3	3
6/05/2018	2	1	1	1	3	0	3	2	1	4	0	4
7/05/2018	2	6	2	3	1	4	3	3	3	3	2	3
8/05/2018	2	2	3	4	5	2	2	3	4	0	1	3
9/05/2018	5	2	2	5	3	4	3	2	0	3	2	4
10/05/2018	2	2	4	3	4	3	1	1	3	3	1	2
11/05/2018	2	1	4	1	2	3	4	4	2	2	2	1
12/05/2018	4	2	1	1	1	3	4	2	2	2	0	2
13/05/2018	2	1	0	1	1	1	1	1	0	2	2	1
14/05/2018	5	3	1	2	1	2	1	4	3	1	0	4
15/05/2018	1	5	0	2	3	4	4	2	1	0	0	2
16/05/2018	0	2	4	3	3	2	0	3	4	0	2	4
17/05/2018	2	2	1	4	2	3	4	1	3	2	2	2
18/05/2018	1	3	2	3	2	2	5	2	2	0	1	4
19/05/2018	3	1	1	0	0	1	2	2	2	0	1	3
20/05/2018	2	1	0	1	0	0	5	1	1	0	0	3
21/05/2018	1	4	4	2	2	3	4	1	2	2	1	1
22/05/2018	3	2	2	1	4	4	2	2	1	5	0	2
23/05/2018	3	0	2	2	5	3	2	2	3	3	0	1
24/05/2018	1	1	1	1	2	2	2	2	1	1	0	5
25/05/2018	3	0	2	3	5	2	3	2	1	0	2	2
26/05/2018	1	1	2	0	2	4	1	1	2	4	2	3
27/05/2018	2	3	1	1	0	0	2	3	1	2	1	2
28/05/2018	5	3	3	1	4	2	4	2	0	4	3	5
29/05/2018	6	2	2	2	4	4	4	0	4	1	1	6
30/05/2018	3	6	2	4	3	5	3	1	3	2	1	5
31/05/2018	6	2	2	3	6	4	7	2	3	3	6	2
Total	81	66	70	67	85	80	92	59	69	57	47	95

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/05/2018	3	5	5	3	5	3	3	1	3	0	2	2
2/05/2018	3	1	4	5	6	2	3	2	3	3	2	0
3/05/2018	3	7	5	2	0	3	0	3	1	2	1	0
4/05/2018	3	3	5	4	5	1	3	3	3	2	1	1
5/05/2018	2	2	0	5	4	0	2	1	1	1	1	0
6/05/2018	3	2	2	1	3	2	0	2	1	2	0	1
7/05/2018	5	2	2	3	4	3	3	1	1	3	2	0
8/05/2018	1	4	4	5	2	3	2	3	3	3	3	0
9/05/2018	3	5	0	4	3	4	1	5	0	1	3	0
10/05/2018	0	2	8	2	2	2	3	2	0	1	1	2
11/05/2018	2	2	6	3	4	2	0	1	3	2	1	0
12/05/2018	2	3	1	2	2	1	2	1	0	0	0	1
13/05/2018	3	2	2	1	0	2	2	1	0	0	1	0
14/05/2018	6	5	4	2	1	3	3	0	2	1	3	1
15/05/2018	2	6	1	2	5	4	1	2	2	1	0	1
16/05/2018	2	3	2	2	1	2	2	0	2	0	2	1
17/05/2018	2	1	2	2	5	2	1	1	2	2	1	0
18/05/2018	1	5	1	4	5	3	1	1	3	1	1	1
19/05/2018	2	1	1	2	1	0	2	2	2	2	0	0
20/05/2018	2	1	0	1	2	3	0	1	1	2	2	1
21/05/2018	5	1	4	4	2	1	2	2	0	3	1	0
22/05/2018	2	3	0	4	3	1	6	2	2	1	2	0
23/05/2018	3	1	1	2	3	2	3	0	3	0	1	0
24/05/2018	3	2	3	4	2	4	1	2	2	0	1	2
25/05/2018	3	1	3	5	4	2	3	3	1	0	0	0
26/05/2018	2	0	5	1	1	0	1	2	2	1	1	0
27/05/2018	4	1	1	1	1	1	2	1	2	1	2	0
28/05/2018	2	5	5	4	3	2	4	2	2	2	2	0
29/05/2018	2	6	5	4	3	5	5	1	2	1	1	2
30/05/2018	4	4	3	5	2	2	1	4	2	1	1	0
31/05/2018	2	2	4	4	1	1	2	2	1	1	2	0
Total	82	88	89	93	85	66	64	54	52	40	41	16

REPORTING PERIOD: June 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	26	18	30	26	18	31	31	18	16	20	10	15
Bay 2	19	12	30	21	21	22	19	13	16	8	4	8
Bay 3	22	9	16	13	16	19	22	17	14	28	18	24
Bay 4	10	7	2	8	12	11	5	9	5	11	12	19
Total	77	46	78	68	67	83	77	57	51	67	44	66

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	36	23	22	23	23	25	22	23	10	7	11	6
Bay 2	21	27	23	23	20	16	22	15	5	5	4	3
Bay 3	23	18	18	19	14	19	11	17	17	15	18	6
Bay 4	15	7	8	9	9	10	12	6	8	3	5	3
Total	95	75	71	74	66	70	67	61	40	30	38	18

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/06/2018	2	2	0	4	3	2	3	1	2	1	4	3
2/06/2018	4	3	2	0	2	2	1	1	0	0	2	1
3/06/2018	4	1	1	1	3	2	1	4	1	3	1	1
4/06/2018	7	1	4	4	2	2	3	4	1	5	3	2
5/06/2018	4	1	3	2	4	4	3	1	3	2	0	2
6/06/2018	3	0	1	4	2	2	3	1	0	6	1	1
7/06/2018	3	4	4	3	1	3	4	0	2	3	0	2
8/06/2018	2	1	4	5	2	3	5	2	0	2	1	3
9/06/2018	2	1	3	1	1	1	2	0	2	0	1	0
10/06/2018	0	0	1	2	1	0	1	1	1	0	1	1
11/06/2018	0	1	3	2	2	0	1	1	1	1	2	0
12/06/2018	1	2	5	3	1	2	0	2	0	2	1	3
13/06/2018	1	0	1	2	4	5	2	1	3	2	1	2
14/06/2018	2	2	2	1	0	4	5	1	2	2	0	4
15/06/2018	2	1	1	3	3	3	6	2	2	2	2	1
16/06/2018	2	0	2	2	3	2	1	1	2	2	0	0
17/06/2018	2	1	2	1	4	1	3	2	0	4	2	2
18/06/2018	2	2	6	4	2	3	2	1	2	3	2	2
19/06/2018	1	2	3	2	4	4	1	1	1	1	2	3
20/06/2018	2	1	2	6	2	5	1	4	1	3	2	3
21/06/2018	3	4	3	2	1	5	4	1	2	3	3	4
22/06/2018	1	1	2	2	4	4	3	0	6	2	2	2
23/06/2018	3	0	3	0	1	2	3	3	1	2	0	3
24/06/2018	5	1	0	1	0	2	2	3	2	1	0	3
25/06/2018	2	0	5	2	1	4	3	3	1	4	1	4
26/06/2018	6	1	4	3	2	1	2	4	3	3	1	3
27/06/2018	5	4	3	1	4	3	4	3	3	4	3	2
28/06/2018	4	2	4	2	2	5	2	4	2	1	3	1
29/06/2018	1	3	3	1	5	5	4	3	4	2	2	4
30/06/2018	1	4	1	2	1	2	2	2	1	1	1	4
1/07/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	77	46	78	68	67	83	77	57	51	67	44	66

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/06/2018	4	3	3	3	2	1	2	3	1	2	1	1
2/06/2018	2	1	2	3	2	1	4	0	2	3	0	0
3/06/2018	7	2	2	1	1	1	1	2	3	0	2	1
4/06/2018	5	4	0	5	2	2	5	2	0	1	3	0
5/06/2018	2	3	0	3	3	3	3	2	0	0	1	1
6/06/2018	3	1	2	1	1	3	5	2	1	0	0	0
7/06/2018	3	1	1	3	3	5	2	1	2	0	1	0
8/06/2018	2	2	2	3	2	3	1	1	3	1	1	0
9/06/2018	4	2	2	1	1	1	0	0	0	0	1	0
10/06/2018	3	1	0	1	0	3	0	1	0	1	1	0
11/06/2018	3	3	1	1	1	2	1	1	0	1	2	1
12/06/2018	3	1	3	1	3	2	1	0	1	2	2	0
13/06/2018	0	2	2	2	2	4	1	2	1	0	0	0
14/06/2018	4	1	0	4	2	3	2	2	0	0	3	0
15/06/2018	3	3	1	4	4	2	3	2	2	0	3	0
16/06/2018	4	3	2	1	2	1	1	1	1	2	1	2
17/06/2018	2	1	2	1	2	2	1	2	0	1	3	1
18/06/2018	3	2	2	5	4	4	0	2	2	2	1	0
19/06/2018	1	2	4	2	2	1	3	2	1	0	1	1
20/06/2018	3	3	2	2	2	2	6	3	2	0	1	1
21/06/2018	2	3	5	2	3	2	3	4	2	1	2	0
22/06/2018	1	3	4	4	3	3	1	3	5	2	0	1
23/06/2018	4	3	3	0	2	1	2	3	1	0	0	0
24/06/2018	5	4	0	1	1	3	2	0	0	0	2	4
25/06/2018	5	2	6	5	3	3	2	4	3	1	2	1
26/06/2018	5	5	5	4	3	2	4	4	1	5	0	0
27/06/2018	1	4	5	3	5	4	3	4	1	2	2	1
28/06/2018	6	5	2	1	4	4	3	1	2	0	2	1
29/06/2018	2	3	4	5	1	2	2	4	3	2	0	1
30/06/2018	3	2	4	2	0	0	3	3	0	1	0	0
1/07/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	95	75	71	74	66	70	67	61	40	30	38	18

REPORTING PERIOD: July 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	38	28	31	28	30	31	39	31	29	19	17	33
Bay 2	15	22	33	29	28	30	28	35	16	17	25	19
Bay 3	0	2	3	2	1	2	0	3	3	3	3	2
Bay 4	0	0	0	1	1	0	0	0	1	0	0	1
Total	53	52	67	60	60	63	67	69	49	39	45	55

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	26	40	34	32	33	28	35	21	20	6	21	10
Bay 2	31	34	33	25	27	27	19	18	16	7	11	8
Bay 3	5	5	5	5	4	4	1	4	1	0	1	1
Bay 4	3	1	1	0	1	0	0	0	0	0	0	0
Total	65	80	73	62	65	59	55	43	37	13	33	19

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/07/2018	0	1	1	0	0	0	2	2	1	0	0	2
2/07/2018	1	1	4	2	0	2	1	1	1	2	0	1
3/07/2018	2	1	2	4	2	2	2	2	1	0	1	0
4/07/2018	3	2	3	1	1	4	1	1	2	1	0	4
5/07/2018	1	2	2	3	4	2	2	3	2	1	1	3
6/07/2018	1	2	5	3	0	3	2	4	1	2	1	0
7/07/2018	1	1	2	0	0	2	4	0	1	2	0	2
8/07/2018	2	1	0	0	1	0	2	2	0	1	0	3
9/07/2018	2	2	3	2	3	0	3	2	0	1	1	3
10/07/2018	1	3	2	3	1	3	0	4	1	3	1	1
11/07/2018	1	1	1	1	2	4	3	1	2	4	0	1
12/07/2018	2	1	2	2	2	3	2	4	1	0	1	2
13/07/2018	0	2	2	2	4	3	2	1	2	2	1	1
14/07/2018	2	0	1	2	2	2	4	1	0	0	0	1
15/07/2018	3	3	0	1	3	1	0	3	1	0	1	2
16/07/2018	5	3	3	2	2	1	2	4	6	0	4	3
17/07/2018	2	2	4	4	2	1	3	3	3	2	2	4
18/07/2018	2	3	4	1	4	3	2	3	0	2	3	1
19/07/2018	1	2	1	2	3	3	3	1	2	4	2	3
20/07/2018	1	2	2	4	3	2	1	3	3	0	1	3
21/07/2018	0	1	3	2	2	1	2	1	2	2	2	3
22/07/2018	3	0	1	1	1	2	2	2	2	1	0	2
23/07/2018	3	3	3	2	2	3	3	4	1	1	2	2
24/07/2018	3	3	2	4	5	0	4	2	2	0	2	1
25/07/2018	2	0	3	1	5	2	4	2	1	1	5	1
26/07/2018	1	0	3	1	2	3	2	3	2	3	4	2
27/07/2018	2	1	0	3	0	2	1	2	4	1	2	0
28/07/2018	1	2	0	0	1	3	2	2	0	0	0	0
29/07/2018	1	1	1	0	0	0	2	1	1	1	2	1
30/07/2018	2	2	4	2	0	0	2	2	1	2	1	1
31/07/2018	1	2	1	3	2	3	1	2	1	0	3	2
Total	52	50	65	58	59	60	66	68	47	39	43	55

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/07/2018	2	0	1	0	0	1	1	0	0	1	0	1
2/07/2018	2	4	1	4	2	4	1	1	2	1	0	0
3/07/2018	5	2	2	1	4	3	2	2	0	0	1	0
4/07/2018	4	2	1	4	4	2	1	2	0	0	0	0
5/07/2018	0	2	2	8	2	2	3	1	3	0	1	0
6/07/2018	3	5	3	1	4	1	2	4	0	0	0	1
7/07/2018	1	3	2	0	1	1	0	2	0	0	1	0
8/07/2018	2	0	0	1	0	1	1	1	0	0	2	1
9/07/2018	2	7	3	2	4	1	3	2	1	0	0	1
10/07/2018	3	4	2	1	2	2	1	2	2	0	0	1
11/07/2018	3	4	2	2	1	2	1	2	0	1	0	0
12/07/2018	0	2	5	2	2	1	0	1	3	0	2	0
13/07/2018	1	2	3	2	2	3	0	2	2	0	0	2
14/07/2018	2	2	3	1	2	0	2	1	2	0	2	0
15/07/2018	2	1	3	0	2	0	3	0	2	1	1	1
16/07/2018	1	4	4	4	2	2	2	1	4	1	1	0
17/07/2018	3	4	4	2	5	2	2	2	2	0	2	0
18/07/2018	3	4	2	3	2	4	1	1	0	1	2	2
19/07/2018	2	2	3	4	3	2	1	2	1	0	2	2
20/07/2018	1	2	4	4	4	2	1	0	3	1	2	1
21/07/2018	1	2	1	0	1	0	1	3	1	0	1	0
22/07/2018	2	3	2	0	1	1	3	3	0	0	2	1
23/07/2018	1	4	3	5	2	2	2	2	2	1	2	0
24/07/2018	4	3	2	0	3	3	2	0	0	0	2	0
25/07/2018	1	1	3	1	3	3	4	0	0	3	1	1
26/07/2018	0	0	3	3	1	0	3	2	1	1	0	1
27/07/2018	1	2	2	0	1	3	3	1	2	0	2	1
28/07/2018	2	0	0	3	0	2	2	0	1	0	2	0
29/07/2018	3	1	0	1	1	0	2	1	0	0	0	1
30/07/2018	3	4	3	2	1	2	2	0	1	1	1	0
31/07/2018	2	2	2	1	2	3	2	2	0	0	1	0
Total	62	78	71	62	64	55	54	43	35	13	33	18

REPORTING PERIOD: August 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	33	26	31	29	30	34	39	34	18	19	22	33
Bay 2	14	20	25	23	25	32	34	19	15	15	17	23
Bay 3	3	4	4	7	7	4	7	6	7	6	5	4
Bay 4	0	0	0	0	0	0	0	1	0	0	0	0
Total	50	50	60	59	62	70	80	60	40	40	44	60

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	27	35	30	39	24	38	23	24	25	19	17	8
Bay 2	22	32	23	27	23	25	21	18	15	13	13	12
Bay 3	6	1	4	6	5	3	1	1	3	2	1	2
Bay 4	0	1	1	1	0	0	0	0	0	0	0	0
Total	55	69	58	73	52	66	45	43	43	34	31	22

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/08/2018	1	2	2	2	1	3	1	1	2	0	2	0
2/08/2018	0	4	2	1	2	4	2	0	2	2	1	2
3/08/2018	3	1	2	0	3	4	1	1	1	1	2	2
4/08/2018	3	0	0	0	0	3	2	1	0	2	0	0
5/08/2018	2	0	0	0	2	1	4	2	0	2	1	3
6/08/2018	3	2	4	2	2	3	3	1	1	1	3	4
7/08/2018	1	1	4	3	3	3	4	2	2	2	3	2
8/08/2018	1	2	4	1	3	2	4	3	1	2	4	2
9/08/2018	2	2	3	4	4	3	3	4	1	0	2	2
10/08/2018	1	3	3	3	2	0	4	4	1	2	0	3
11/08/2018	1	1	0	2	0	0	2	1	0	0	0	0
12/08/2018	1	0	1	0	0	0	1	1	0	0	0	1
13/08/2018	1	0	2	0	1	0	0	0	0	1	1	0
14/08/2018	1	0	1	0	0	1	1	1	2	1	1	1
15/08/2018	2	2	3	3	2	2	1	5	0	0	3	2
16/08/2018	2	0	3	4	2	4	6	2	2	2	3	3
17/08/2018	2	0	1	4	2	3	1	3	1	2	0	1
18/08/2018	1	0	0	0	3	2	3	0	1	2	0	3
19/08/2018	2	2	1	0	0	1	1	2	0	2	0	2
20/08/2018	1	4	2	2	4	2	0	2	3	0	1	2
21/08/2018	1	1	4	4	2	0	3	3	2	2	2	4
22/08/2018	1	1	2	4	4	1	5	0	2	3	1	3
23/08/2018	3	1	4	4	1	5	4	1	2	2	3	1
24/08/2018	1	3	1	4	4	2	1	3	3	2	1	2
25/08/2018	3	3	0	1	3	1	3	2	2	0	2	1
26/08/2018	0	1	2	1	2	1	4	1	0	0	2	3
27/08/2018	2	3	4	2	2	4	2	2	0	3	2	1
28/08/2018	1	3	2	3	2	1	2	4	2	0	2	2
29/08/2018	2	4	1	4	2	3	1	4	4	3	1	0
30/08/2018	2	1	0	0	3	5	5	1	2	1	0	2
31/08/2018	3	0	1	1	1	4	3	3	0	0	1	4
Total	50	47	59	59	62	68	77	60	39	40	44	58

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/08/2018	3	2	2	0	1	4	1	0	2	0	0	1
2/08/2018	0	4	1	1	3	1	2	1	0	0	0	1
3/08/2018	1	4	0	3	1	1	3	4	0	0	0	0
4/08/2018	2	2	1	0	0	3	1	2	0	1	0	1
5/08/2018	2	2	1	1	0	2	0	2	1	0	1	1
6/08/2018	4	1	2	3	3	4	3	1	0	4	3	1
7/08/2018	0	3	3	4	4	2	0	2	1	4	2	0
8/08/2018	2	3	4	4	2	2	2	1	3	2	0	1
9/08/2018	3	4	3	4	0	3	2	3	3	0	1	0
10/08/2018	2	2	2	3	1	2	0	2	2	0	0	0
11/08/2018	1	2	0	2	0	1	0	2	0	0	0	1
12/08/2018	0	0	0	0	0	0	0	0	0	0	0	0
13/08/2018	1	0	1	1	0	1	0	1	1	0	0	1
14/08/2018	1	2	4	5	3	2	2	2	1	3	0	0
15/08/2018	1	3	4	4	4	2	2	1	4	1	2	0
16/08/2018	3	2	2	3	3	1	2	2	2	2	0	2
17/08/2018	2	2	2	1	1	3	2	1	2	1	2	2
18/08/2018	1	1	1	0	1	1	0	1	1	0	2	0
19/08/2018	2	2	0	1	0	1	1	1	0	0	1	0
20/08/2018	0	4	4	1	1	4	1	1	0	1	0	1
21/08/2018	1	1	1	3	3	3	1	0	1	0	1	0
22/08/2018	3	3	2	3	6	4	4	1	2	3	4	0
23/08/2018	1	1	3	5	2	2	2	3	4	1	1	1
24/08/2018	1	2	1	6	1	2	0	1	3	3	0	0
25/08/2018	3	0	4	1	0	1	1	0	2	2	0	3
26/08/2018	3	0	0	0	0	1	2	1	0	0	2	2
27/08/2018	3	4	1	2	3	3	2	0	1	1	2	0
28/08/2018	1	3	4	4	2	3	2	3	4	3	2	1
29/08/2018	2	4	1	3	4	4	2	1	2	0	2	1
30/08/2018	1	2	1	2	2	2	2	1	0	0	2	0
31/08/2018	1	2	2	3	0	0	2	1	0	2	1	0
Total	51	67	57	73	51	65	44	42	42	34	31	21

REPORTING PERIOD: September 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	28	16	31	21	21	15	32	24	15	12	13	21
Bay 2	14	20	27	27	15	10	24	21	13	11	7	22
Bay 3	3	3	7	10	5	4	3	6	6	3	6	7
Bay 4	2	1	3	4	1	0	2	5	2	2	3	2
Total	47	40	68	62	42	29	61	56	36	28	29	52

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	28	26	22	27	17	16	19	16	11	13	11	7
Bay 2	24	37	14	26	10	6	19	11	5	7	5	11
Bay 3	5	10	6	6	3	3	5	1	3	4	4	0
Bay 4	5	6	3	4	0	0	1	3	0	0	0	1
Total	62	79	45	63	30	25	44	31	19	24	20	19

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/09/2018	0	3	1	0	0	2	3	0	1	0	0	2
2/09/2018	1	1	0	0	0	0	2	0	1	1	0	2
3/09/2018	2	2	4	3	0	1	3	3	0	0	1	1
4/09/2018	2	0	4	1	3	0	1	2	1	2	1	1
5/09/2018	0	1	3	0	4	1	1	3	2	1	1	0
6/09/2018	1	0	0	1	1	0	3	1	1	2	1	0
7/09/2018	1	1	3	2	3	0	2	5	1	1	1	3
8/09/2018	1	1	1	1	1	0	2	2	0	0	2	1
9/09/2018	0	1	1	1	0	1	1	2	1	1	0	1
10/09/2018	3	2	3	3	1	3	0	1	1	0	0	4
11/09/2018	2	2	1	4	1	0	1	1	4	0	1	2
12/09/2018	2	0	4	2	0	1	4	0	3	1	3	1
13/09/2018	0	0	5	1	1	0	2	2	0	0	3	1
14/09/2018	2	4	4	2	3	0	3	3	2	0	2	2
15/09/2018	1	3	1	1	1	2	0	3	2	1	2	3
16/09/2018	4	1	0	1	0	1	5	0	0	2	1	3
17/09/2018	2	2	2	5	2	2	2	2	0	3	3	1
18/09/2018	1	3	3	5	4	2	3	2	0	5	1	3
19/09/2018	3	2	4	2	1	0	4	2	1	1	0	0
20/09/2018	0	3	2	4	3	2	1	1	0	2	2	1
21/09/2018	3	0	3	3	1	1	2	3	3	1	0	3
22/09/2018	0	0	0	3	2	1	1	0	1	0	1	2
23/09/2018	1	0	2	0	0	1	1	1	1	0	0	4
24/09/2018	4	0	7	3	1	1	2	3	1	1	1	3
25/09/2018	2	0	2	3	2	0	1	5	0	1	0	1
26/09/2018	2	1	2	0	2	1	3	0	3	1	0	2
27/09/2018	1	3	1	4	2	1	3	2	2	1	1	1
28/09/2018	2	1	2	3	1	2	1	4	1	0	1	1
29/09/2018	2	1	0	0	1	2	1	0	1	0	0	1
30/09/2018	1	0	0	2	0	0	2	1	1	0	0	1
1/10/2018	1	2	3	2	1	1	1	2	1	0	0	1
Total	47	40	68	62	42	29	61	56	36	28	29	52

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/09/2018	4	2	1	0	1	1	1	1	1	0	0	1
2/09/2018	1	2	0	0	0	2	1	0	0	0	1	0
3/09/2018	1	3	1	2	3	1	2	2	0	1	0	0
4/09/2018	0	3	1	3	1	0	2	1	1	2	0	2
5/09/2018	2	2	4	4	0	1	2	0	0	1	0	1
6/09/2018	2	2	3	1	0	0	0	0	2	0	0	0
7/09/2018	2	1	1	3	1	3	0	1	0	2	0	2
8/09/2018	3	2	0	1	1	1	0	1	1	1	0	0
9/09/2018	1	4	0	0	0	0	1	1	0	0	0	0
10/09/2018	2	3	3	3	2	0	2	0	1	0	3	0
11/09/2018	1	3	3	0	2	2	0	0	0	1	0	1
12/09/2018	1	3	0	3	1	0	1	0	0	0	1	0
13/09/2018	1	3	4	4	0	1	1	2	1	0	2	1
14/09/2018	6	4	2	5	2	1	3	1	2	3	1	1
15/09/2018	1	4	2	1	2	0	1	1	1	1	1	0
16/09/2018	2	2	0	1	0	1	2	1	0	2	2	1
17/09/2018	5	4	2	6	2	3	3	1	1	3	2	1
18/09/2018	2	6	4	4	2	0	5	4	4	2	0	1
19/09/2018	2	2	3	2	1	0	0	1	1	0	0	0
20/09/2018	2	2	2	1	1	0	2	1	0	1	0	0
21/09/2018	1	3	1	2	2	1	1	1	0	1	0	3
22/09/2018	4	2	0	1	0	2	2	0	0	1	1	1
23/09/2018	1	0	0	1	0	1	2	0	0	0	1	0
24/09/2018	1	3	1	3	0	1	3	2	0	0	1	0
25/09/2018	2	2	2	1	0	1	2	0	1	1	0	1
26/09/2018	1	2	2	5	3	1	0	3	2	0	0	1
27/09/2018	2	2	2	0	2	0	1	0	0	1	1	0
28/09/2018	2	3	1	3	1	0	2	3	0	0	0	1
29/09/2018	3	2	0	0	0	1	0	0	0	0	1	0
30/09/2018	2	1	0	0	0	0	1	1	0	0	1	0
1/10/2018	2	2	0	3	0	0	1	2	0	0	1	0
Total	62	79	45	63	30	25	44	31	19	24	20	19

REPORTING PERIOD: October 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	22	19	20	19	15	19	25	21	16	10	14	20
Bay 2	14	15	23	19	18	14	20	17	12	9	6	16
Bay 3	14	9	16	7	9	10	14	9	10	13	7	9
Bay 4	4	3	7	7	4	4	4	7	4	5	3	5
Total	54	46	66	52	46	47	63	54	42	37	30	50

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	21	22	19	19	17	16	13	13	11	9	13	5
Bay 2	23	16	18	26	10	11	15	10	5	8	6	6
Bay 3	17	12	15	11	10	10	10	8	3	7	7	4
Bay 4	7	13	11	9	5	4	3	2	0	2	0	0
Total	68	63	63	65	42	41	41	33	19	26	26	15

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/10/2018	1	2	3	2	1	1	1	2	1	0	0	1
2/10/2018	1	2	2	2	2	0	3	2	0	1	0	3
3/10/2018	3	3	1	3	0	1	1	3	1	1	2	1
4/10/2018	1	3	2	5	0	3	2	3	1	1	1	0
5/10/2018	4	0	2	2	3	3	1	4	1	1	0	2
6/10/2018	0	0	0	0	0	0	0	1	1	0	0	1
7/10/2018	3	1	0	0	1	0	2	0	0	0	0	1
8/10/2018	1	2	4	2	1	1	3	1	0	2	2	2
9/10/2018	0	1	6	1	2	0	2	1	1	0	0	2
10/10/2018	0	1	4	2	2	0	2	2	1	1	0	1
11/10/2018	1	2	2	0	1	3	3	0	0	1	1	2
12/10/2018	0	1	0	1	1	0	2	2	0	2	1	1
13/10/2018	3	0	0	2	0	2	1	1	1	0	0	3
14/10/2018	2	0	0	0	1	0	3	1	0	0	0	2
15/10/2018	2	0	4	1	1	2	3	1	4	0	0	1
16/10/2018	1	0	2	3	3	1	2	3	2	3	2	3
17/10/2018	1	1	3	5	1	4	1	3	3	3	1	3
18/10/2018	1	2	1	1	5	5	5	2	1	2	5	3
19/10/2018	3	2	0	0	6	2	3	1	1	3	1	2
20/10/2018	2	2	2	0	2	3	0	5	2	1	2	0
21/10/2018	2	0	3	2	0	4	0	1	2	2	0	2
22/10/2018	4	4	3	2	2	0	2	2	3	0	1	3
23/10/2018	1	1	4	2	0	2	1	2	3	0	3	0
24/10/2018	2	4	4	1	1	3	0	2	2	3	0	0
25/10/2018	1	1	1	1	2	0	1	1	2	1	1	1
26/10/2018	4	1	1	5	1	0	2	2	2	0	3	2
27/10/2018	3	0	0	0	0	1	4	1	0	1	1	3
28/10/2018	3	1	0	0	0	2	1	2	0	0	0	1
29/10/2018	2	1	2	3	1	1	4	2	1	3	0	0
30/10/2018	1	2	2	1	3	1	3	0	3	1	1	1
31/10/2018	0	5	3	2	1	2	3	0	3	4	1	1
Total	53	45	61	51	44	47	61	53	42	37	29	48

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/10/2018	2	2	0	3	0	0	1	2	0	0	1	0
2/10/2018	2	3	4	0	0	1	2	1	0	0	0	1
3/10/2018	1	2	2	2	3	0	1	0	1	0	0	1
4/10/2018	3	2	3	3	2	1	4	2	1	2	0	1
5/10/2018	2	2	1	4	1	3	2	0	1	2	1	1
6/10/2018	1	0	2	0	2	0	0	1	1	1	0	0
7/10/2018	3	0	0	1	0	1	1	0	0	1	1	1
8/10/2018	0	2	1	1	3	0	1	0	1	0	0	0
9/10/2018	0	1	1	5	1	4	0	1	1	1	0	2
10/10/2018	2	0	1	2	2	1	0	0	0	1	0	1
11/10/2018	1	0	0	2	1	0	0	0	2	0	0	0
12/10/2018	2	2	3	1	1	0	2	1	0	0	0	0
13/10/2018	2	4	0	0	0	1	2	0	0	0	1	0
14/10/2018	1	1	1	0	0	1	1	0	0	0	1	0
15/10/2018	2	4	1	5	0	2	3	1	0	0	1	0
16/10/2018	3	2	7	4	2	1	2	1	2	3	1	0
17/10/2018	4	3	1	8	4	1	0	0	3	4	1	0
18/10/2018	1	1	3	2	4	3	3	2	1	3	5	0
19/10/2018	3	1	5	3	1	1	3	7	1	0	2	2
20/10/2018	4	1	1	1	0	3	2	0	1	0	2	0
21/10/2018	0	0	1	0	2	2	0	2	0	0	1	1
22/10/2018	4	2	5	4	2	1	3	1	1	2	1	1
23/10/2018	1	5	3	1	1	1	1	1	0	1	1	0
24/10/2018	4	2	4	2	0	0	2	2	0	0	1	0
25/10/2018	3	4	3	1	1	0	2	1	0	0	0	0
26/10/2018	2	4	2	2	1	2	0	4	0	1	0	0
27/10/2018	3	1	1	0	2	2	1	0	0	0	3	0
28/10/2018	4	0	0	0	0	1	0	0	0	0	0	1
29/10/2018	2	3	2	4	1	3	0	1	0	2	1	1
30/10/2018	2	2	2	2	1	1	0	1	1	0	1	0
31/10/2018	1	4	3	1	1	2	0	0	0	1	0	0
Total	65	60	63	64	39	39	39	32	18	25	26	14

REPORTING PERIOD: November 2018

Bay Occupancy Data

Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
Bay 1	26	16	26	12	17	22	19	21	12	12	11	21
Bay 2	14	12	27	11	8	17	14	9	7	7	4	16
Bay 3	17	12	19	16	15	15	15	6	7	6	8	15
Bay 4	2	3	12	5	4	8	12	6	4	5	4	7
Total	59	43	84	44	44	62	60	42	30	30	27	59

Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
Bay 1	20	28	12	16	26	25	18	15	12	14	15	9
Bay 2	19	16	11	8	9	18	10	6	1	3	4	5
Bay 3	16	22	16	16	16	19	13	6	12	4	13	6
Bay 4	10	7	11	9	8	9	5	3	2	3	2	1
Total	65	73	50	49	59	71	46	30	27	24	34	21

Traffic Movement Assessment Data

	00:00 to 01:00	01:00 to 02:00	02:00 to 03:00	03:00 to 04:00	04:00 to 05:00	05:00 to 06:00	06:00 to 07:00	07:00 to 08:00	08:00 to 09:00	09:00 to 10:00	10:00 to 11:00	11:00 to 12:00
Start	12:00:00 AM	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM
Finish	1:00:00 AM	2:00:00 AM	3:00:00 AM	4:00:00 AM	5:00:00 AM	6:00:00 AM	7:00:00 AM	8:00:00 AM	9:00:00 AM	10:00:00 AM	11:00:00 AM	12:00:00 PM
1/11/2018	1	1	5	1	2	0	2	1	0	0	1	2
2/11/2018	2	4	1	2	1	0	3	1	0	2	0	1
3/11/2018	3	2	0	2	0	1	5	1	0	1	0	2
4/11/2018	2	1	2	0	1	1	1	2	0	1	1	2
5/11/2018	2	2	5	0	2	3	1	3	0	2	3	4
6/11/2018	2	2	3	1	3	4	1	1	1	1	2	1
7/11/2018	1	1	4	0	1	3	2	1	2	2	0	2
8/11/2018	1	3	3	1	3	0	2	2	0	2	1	8
9/11/2018	0	1	1	1	4	2	1	1	1	0	3	2
10/11/2018	3	0	1	0	0	3	3	0	0	0	0	2
11/11/2018	3	0	0	0	1	2	1	1	1	0	0	1
12/11/2018	2	0	4	2	0	0	1	1	0	1	2	2
13/11/2018	2	0	4	1	1	1	0	0	0	0	0	0
14/11/2018	1	1	5	2	2	1	3	1	0	0	1	2
15/11/2018	1	1	2	2	2	1	1	1	0	1	3	1
16/11/2018	1	1	1	4	1	3	1	1	2	2	0	4
17/11/2018	1	1	2	2	1	3	2	4	0	2	0	2
18/11/2018	4	3	1	1	1	1	5	3	1	0	1	4
19/11/2018	1	1	5	2	1	5	1	0	0	0	0	0
20/11/2018	1	2	4	3	2	2	4	0	1	2	0	2
21/11/2018	1	1	2	4	1	3	2	0	2	1	1	1
22/11/2018	3	1	2	3	0	6	1	0	1	0	1	2
23/11/2018	1	2	3	1	1	3	4	1	1	1	1	3
24/11/2018	3	1	1	1	1	3	3	1	0	1	1	2
25/11/2018	3	1	1	1	1	3	1	1	2	2	0	0
26/11/2018	4	3	3	2	3	3	1	4	1	1	1	1
27/11/2018	3	1	5	1	1	3	1	6	5	1	1	2
28/11/2018	2	3	6	2	3	0	3	1	3	3	1	2
29/11/2018	3	1	6	2	1	1	1	2	1	1	2	1
30/11/2018	2	2	2	0	3	1	3	1	5	0	0	1
1/12/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	59	43	84	44	44	62	60	42	30	30	27	59

	12:00 to 13:00	13:00 to 14:00	14:00 to 15:00	15:00 to 16:00	16:00 to 17:00	17:00 to 18:00	18:00 to 19:00	19:00 to 20:00	20:00 to 21:00	21:00 to 22:00	22:00 to 23:00	23:00 to 24:00
Start	12:00:00 PM	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM
Finish	1:00:00 PM	2:00:00 PM	3:00:00 PM	4:00:00 PM	5:00:00 PM	6:00:00 PM	7:00:00 PM	8:00:00 PM	9:00:00 PM	10:00:00 PM	11:00:00 PM	12:00:00 AM
1/11/2018	3	3	0	1	3	2	2	1	1	1	0	1
2/11/2018	2	3	3	4	1	1	3	1	0	2	1	1
3/11/2018	5	2	4	0	2	3	0	0	3	0	1	0
4/11/2018	4	1	2	1	1	2	3	0	3	0	0	2
5/11/2018	5	4	3	1	3	3	3	3	1	0	2	0
6/11/2018	2	4	0	3	2	3	1	1	0	2	1	1
7/11/2018	4	2	6	3	2	3	1	2	1	0	1	0
8/11/2018	2	7	2	0	5	3	3	0	1	0	0	3
9/11/2018	2	1	2	1	1	2	2	1	0	2	1	1
10/11/2018	2	1	0	0	2	1	0	2	0	0	1	0
11/11/2018	1	2	0	0	1	1	1	0	0	0	0	1
12/11/2018	2	3	0	2	2	1	1	0	1	1	2	0
13/11/2018	0	0	0	1	4	4	0	1	1	0	0	1
14/11/2018	2	0	0	2	4	1	3	0	2	1	1	1
15/11/2018	0	3	0	4	1	3	2	0	0	0	1	2
16/11/2018	1	3	0	3	3	6	4	0	0	1	1	0
17/11/2018	3	2	2	2	1	3	3	2	3	2	2	0
18/11/2018	1	1	2	1	2	1	1	0	1	2	3	0
19/11/2018	0	2	3	2	2	3	0	0	2	1	1	0
20/11/2018	1	1	3	1	1	2	0	1	0	1	0	1
21/11/2018	2	1	0	1	1	2	0	2	1	1	3	0
22/11/2018	3	3	1	0	1	5	1	1	1	0	2	1
23/11/2018	0	2	2	4	3	2	3	2	0	1	1	0
24/11/2018	2	2	0	1	1	3	1	0	0	2	1	1
25/11/2018	5	1	1	1	2	1	0	2	1	0	2	1
26/11/2018	2	6	1	3	2	3	1	1	2	1	0	2
27/11/2018	3	5	3	2	3	3	2	3	1	1	1	0
28/11/2018	3	1	6	1	0	1	2	1	0	0	2	0
29/11/2018	2	4	0	3	2	2	2	0	0	1	1	0
30/11/2018	1	3	4	1	1	1	1	3	1	1	2	1
1/12/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total	65	73	50	49	59	71	46	30	27	24	34	21

Appendix D

Incident Register

Appendix D Incident Register

Incidents

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00948 Australia, Newcastle - Near miss - Not significant - Auto rollover fail on FMS AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Dec 1, 2018	0	Near miss	During discharge of Nave Luminosity FM setup for auto rollver from tank NN2 to NN3 (short batch only - no SFL compromise) but failed to roll on hitting set level	Jan 7, 2019
00955 Australia, Newcastle - Near miss, Safety - Not significant - Truck refused access AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Dec 13, 2018	0	Near miss Safety	Driver arrived at site looking for assessment. Upon inspection noted his Prime Mover and Trailer had expired SLP stickers.	Jan 4, 2019

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00963 Australia, Newcastle - Near miss, Safety - Not significant - Vessel hydro interaction at berth AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Dec 31, 2018	0	Near miss Safety	Whilst discharging at Mayfield 7 vessel became subject to under keel wash from tugs positioning on vessel for lift off at K7	Jan 4, 2019
	00962 Australia, Newcastle - Near miss, Safety - Not significant - Reported intruder to site AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Dec 29, 2018	0	Near miss Safety	Duty personnel received call advising person had climbed site fence	Dec 31, 2018
	00959 Australia, Newcastle - Safety - Not significant - Foam controller valve failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Dec 19, 2018	0	Safety	Solenoid valve on foam deluge failed	Dec 21, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00950 Australia, Newcastle - Quality - Not significant - Helpdesk unable to recover backup AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Dec 11, 2018	0	Quality	Excel file	Dec 11, 2018
	00946 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Diesel Extra load multiple load errors AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Nov 30, 2018	0	Plant & Equipment Damage/Failure	Whilst loading B double Bay 2 mutiple load errors (additive pulse error) occurred, Accuload hangs onto errors and created issues for subsequent laods causing closure of load bay until Varec could dial in and assess	Dec 11, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00947 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Diesel Extra load multiple load errors AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Nov 30, 2018	0	Plant & Equipment Damage/Failure	Whilst loading B double Bay 2 mutiple load errors (additive pulse error) occurred, Accuload hangs onto errors and created issues for subsequent laods causing closure of load bay until Varec could dial in and assess	Dec 11, 2018
00940 Australia, Newcastle - Near miss, Plant & Equipment Damage/Failure - Not significant - High winds loosed cable covers AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Nov 22, 2018	0	Near miss Plant & Equipment Damage/Failure	During high wind event / dust storm recently installed cable tray covers were dislodged by the wind	Nov 26, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00941 Australia, Newcastle - Near miss - Not significant - B Trailer develops leak on No.4 compartment AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Nov 22, 2018	0	Near miss	Whilst loading his B trailer driver noted product leaking from underside of truck, pushed ESD button and contacted tareminal staff who were nearby. Whilst loading in Bay 1 trailer developed leak. Leak contained to run down line / valve assembly (trai...	Nov 26, 2018
00918 Australia, Newcastle - Near miss - Not significant - Driver breach of site rules AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Oct 20, 2018	0	Near miss	When reviewing CCTV driver noted not following switch loading procedures and using in cab phone in the gantry	Nov 7, 2018
00933 Australia, Newcastle - Safety - Minor - Water supply cut off AUSTRALIA MINOR NEWCASTLE	Nov 6, 2018	1	Safety	Water supply shut off to site without notice.	Nov 7, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00928 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Fire Pump coolant hose failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Nov 1, 2018	0	Plant & Equipment Damage/Failure	As part of monthly checks Fire maint. contractor was test running FP#02 when he noted leak from top radiator coolant hose, he immediately shutdown pump and requested terminal staff attend to witness	Nov 7, 2018
	00894 Australia, Newcastle - Near miss - Not significant - Auto Tank Valve open post rollover AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Oct 1, 2018	0	Near miss	Outlet valve for NN2 found in OPEN position post tank rollover (gantry service) after tank NN1 was online.	Oct 21, 2018
	00898 Australia, Newcastle - Near miss - Not significant - Mayfield 7 Security Breach AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Oct 7, 2018	0	Near miss	Contractors reported items stolen equipment, relocated cutting gear and evidence that pallets of lighting equipment had been opened	Oct 21, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00916 Australia, Newcastle - Near miss - Minor - Decommissioned pipework pressurized. AUSTRALIA MINOR NEWCASTLE	Oct 18, 2018	1	Near miss	Decommissioned pipework found to be full of Diesel and building presssure with no access to thermal relief path.	Oct 21, 2018
00915 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Site ESD activation (2) AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Oct 20, 2018	0	Plant & Equipment Damage/Failure	Site tripped ESD during storm activity	Oct 21, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00914 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Site ESD activation AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Oct 19, 2018	0	Plant & Equipment Damage/Failure	ESD alarm trip onsite	Oct 21, 2018
00900 Australia, Newcastle - Near miss - Not significant - Fire Pump Control Panel Water Ingress AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Oct 10, 2018	0	Near miss	During extreme weather event contractor had door to fire pump controller No.1 open and during extensive rain downpour water ingressed panel and tripped panel alarm	Oct 15, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00886 Australia, Newcastle - Quality - Not significant - Additive Comms Alarms Bay 1 AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Sep 24, 2018	0	Quality	Driver experienced Additive Comms alarms Bay 1 Arm 3	Oct 2, 2018
	00890 Australia, Newcastle - Near miss, Quality - Not significant - Injector failure Bay 2 Arm 3 AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Sep 26, 2018	0	Near miss Quality	Injector failure and strip down revealed bent rotors in injection meter assembly	Oct 2, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00875 Australia, Newcastle - Quality, Plant & Equipment Damage/Failure - Not significant - Loadtime exceeded 40mins AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Sep 13, 2018	0	Quality Plant & Equipment Damage/Failure	Whilst loading Diesel Extra load time exceeded 40mins	Oct 2, 2018
	00843 Australia, Newcastle - Quality - Minor - Tank floor poor condition AUSTRALIA MINOR NEWCASTLE	Aug 9, 2018	1	Quality	Poor paint condition found on NN8 floor during tank inspection	Oct 2, 2018
	00870 Australia, Newcastle - Plant & Equipment Damage/Failure - Minor - Pig stuck in pipeline AUSTRALIA MINOR NEWCASTLE	Sep 7, 2018	1	Plant & Equipment Damage/Failure	Pig got caught in Shipping manifold on mayfield 4 berth.	Oct 2, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00871 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Truck broken down Bay 1 AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Sep 8, 2018	0	Plant & Equipment Damage/Failure	Hills driver called Saturday 08/09/18 @ 18:00 and was unable to remove his truck from the Terminal.	Oct 2, 2018
	00887 Australia, Newcastle - Near miss - Not significant - Air solenoid Bay 4 failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Sep 24, 2018	0	Near miss	Start of day inspection found air solenoid in Bay 4 leaking air from casing body - no evidence of damage, wear and tear failure	Sep 24, 2018
	00878 Australia, Newcastle - Near miss - Not significant - Shipside Emergency Stop AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Sep 17, 2018	0	Near miss	During discharge of Scarlet Ibis an AMSA inspector activated emergency Shutdown of ships electrical system (to test) causing stoppage of cargo operations.	Sep 19, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00874 Australia, Newcastle - Quality - Not significant - Bay 2 Additive Injection Failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Sep 12, 2018	0	Quality	Additive system errors across multiple arms	Sep 12, 2018
	00863 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Damage to Laptop AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Aug 31, 2018	0	Plant & Equipment Damage/Failure	Laptop found to have damage	Aug 31, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00857 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Driver runs over drip tray AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Aug 22, 2018	0	Plant & Equipment Damage/Failure	After loading his A trailer driver pulled forward to load his B trailer and ran over a bonded drip tray crushing it beyond repair.	Aug 23, 2018
	00825 Australia, Newcastle - Near miss - Not significant - Leaking wharf hose - early detection AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jul 27, 2018	0	Near miss	During discharge of Alpine Duke Wharf Attendant spotted small weep / drip from wharf hose suspended between shore and ships rail	Aug 10, 2018
	00836 Australia, Newcastle - Quality - Not significant - Driver overfill loading AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jul 15, 2018	0	Quality	Driver identified exceeding 60 min load time (101 min). Upon investigation it was found he had overloaded one of his compartment and tripped the system. The delay was caused by correcting the issue.	Aug 7, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00835 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - gas monitor fail CO2 AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Aug 2, 2018	0	Plant & Equipment Damage/Failure	Gas monitor No 2 CO2 failed on bump test. Unable to put gas monitor into service.	Aug 6, 2018
	00815 Australia, Newcastle - Near miss, Deviation/Non-Conformance - Not significant - Driver bypasses SLP expiry by using different equipment tag AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jul 18, 2018	0	Near miss Deviation/Non-Conformance	Driver was refused access at site due expired SLP - review of CCTV and system logs showed that he has used another truck tag to bypass tag expiry and load as another truck.	Jul 25, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00816 Australia, Newcastle - Safety - Not significant - Contractor left Tanker duties AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jul 9, 2018	0	Safety	It has been identified a contractor had left site without notice during a tank ship discharge to undertake other work duties.	Jul 20, 2018
	00796 Australia, Newcastle - Near miss - Not significant - AFFF Concentrate found in firewater line AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 29, 2018	0	Near miss	During pre checks for 5 yearly gantry sprinkler test found foam concentrate sitting in sprinkler feed line	Jul 10, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00790 Australia, Newcastle - Deviation/Non-Conformance - Not significant - Equipment Group error Viva JDE system AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 15, 2018	0	Deviation/Non-Conformance	Equipment group loaded at Newcastle but each load the data feed from FMS to Viva JDE system woud not fully download volumes and create failed load in the Viva system	Jul 10, 2018
	00793 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Exit Gate Fault AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 22, 2018	0	Plant & Equipment Damage/Failure	EXit Gate would stay open after vehciles exit site but tested ok when reset	Jun 26, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00789 Australia, Newcastle - Deviation/Non-Conformance - Not significant - FMS date mismatch with new Viva system AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 15, 2018	0	Deviation/Non-Conformance	Customer noted that certain loads were coming through on their system showing date from previous day	Jun 21, 2018
00787 Australia, Newcastle - Near miss - Not significant - Contractor spotted with battery drill in gantry AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 14, 2018	0	Near miss	Fire Maint contractor spotted with battery drill in loading gantry	Jun 14, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00784 Australia, Newcastle - Deviation/Non-Conformance - Not significant - Auto emailing reports to client failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 8, 2018	0	Deviation/Non-Conformance	ISP / Protocol failure resulted in no delivery of midnight reports to clients	Jun 12, 2018
00782 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Faulty brakes on leased site ute AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 7, 2018	 0	Plant & Equipment Damage/Failure	During regular service of site ute leaking LHS axle seal found to have ruptured rendering brakes unsafe	Jun 8, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00779 Australia, Newcastle - Near miss, Plant & Equipment Damage/Failure - Not significant - Pipe support destabilised by flooding AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jun 5, 2018	0	Near miss Plant & Equipment Damage/Failure	Re-aligned wharfline supported temporarily by tripod pipe support, destabilised by adverse weather event / flooding	Jun 6, 2018
	00770 Australia, Newcastle - Safety, Plant & Equipment Damage/Failure - Not significant - Truck compartment leak/breach. AUSTRALIA NEWCASTLE NOT NOTIFIABLE	May 24, 2018	0	Safety Plant & Equipment Damage/Failure	Advised by driver, post loading that his compartment was breached/leaking due to indication from his cofferdam tell tales.	May 25, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00752 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Depleted Co2 Fire extingusher AUSTRALIA NEWCASTLE NOT NOTIFIABLE	May 2, 2018	0	Plant & Equipment Damage/Failure	Contractor found depleted CO2 extinguisher	May 9, 2018
	00750 Australia, Newcastle - Near miss, Environmental, Plant & Equipment Damage/Failure - Not significant - Weep from wharf hose AUSTRALIA NEWCASTLE NOT NOTIFIABLE	May 1, 2018	0	Near miss Environmental Plant & Equipment Damage/Failure	During discharge of of diesel parcel from 'Atlantic Harmony' wharf attendant noted weep from 4m wharf hose.	May 4, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00748 Australia, Newcastle - Deviation/Non-Conformance - Not significant - load time exceeded 60 min AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Apr 14, 2018	0	Deviation/Non-Conformance	A JLP driver was unable to load truck due to incorrect Authority to load.	May 1, 2018
00721 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Draegar Detector Heads Fail Test AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 12, 2018	0	Plant & Equipment Damage/Failure	Draegar flame detectors were tested as part of their annual maintenance checks. Out of the 10 units tested we had 5 units completely fail and the other 5 units only triggered when the test light was within 1m of the units	Apr 30, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00722 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Additive Injection Unit Malfunction AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 27, 2018	0	Plant & Equipment Damage/Failure	During the Stocks Meter Reconiliation process, a variation was found with an Additive Injection Unit.	Apr 11, 2018
	00695 Australia, Newcastle - Near miss - Not significant - Loss of Discharge Logs (Citrix Fail) AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 4, 2018	0	Near miss	During discharge of Cajun Sun Citrix server caused loss of connectivity to shipping folders being used for discharge management	Apr 11, 2018
	00723 Australia, Newcastle - Quality - Not significant - Offspec Diesel Receipt AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 30, 2018	0	Quality	Cloudy Diesel recieved during Eagle Melbourne discharge	Apr 11, 2018

Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
00727 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - API Coupler Failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Apr 6, 2018	0	Plant & Equipment Damage/Failure	During loading API Coupler suffered failure causing loss of product	Apr 11, 2018
00720 Australia, Newcastle - Near miss - Not significant - Vehicle Near Miss at One Steel AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 26, 2018	0	Near miss	One Steel B Double performed two right hand turns in face of oncoming traffic	Mar 26, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00716 Australia, Newcastle - Near miss - Not significant - Driver loads using other drivers access card AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 21, 2018	0	Near miss	Drtiver used another drivers access card to circumvent issue with own card	Mar 23, 2018
	00715 Australia, Newcastle - Near miss - Not significant - Truck compartment overfill AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 19, 2018	0	Near miss	Mini Tankers driver entered site with RoB in rigid single compartment truck. Miscalculated fill volume and overfilled causing Scully activated bay shutdown.	Mar 23, 2018
	00668 Australia, Newcastle - Deviation/Non-Conformance - Not significant - Incorrect Driver Card Used AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jan 31, 2018	0	Deviation/Non-Conformance	Driver inadvertently used another drivers prox card to load product	Mar 21, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00661 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Fire Alarm Activation AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jan 25, 2018	0	Plant & Equipment Damage/Failure	During monthly testing of alarm system by maintenance contractor (in isolation) system sent alarm message to monitoring company who activated emergency callout for Fire Service	Mar 21, 2018
	00681 Australia, Newcastle - Near miss, Environmental, Plant & Equipment Damage/Failure - Not significant - Weld fail found on slops line AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Feb 21, 2018	0	Near miss Environmental Plant & Equipment Damage/Failure	Pin hole weep discovered on weld from Slops pump pipework from pump outlet to tank ST1 inlet	Mar 21, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00691 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Wharf Hose Weep AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 1, 2018	0	Plant & Equipment Damage/Failure	During discharge of Eagle Milan at Mayfield 4 Wharf Attendant spotted early signs of weep on 8" wharf hose from underneath ferrel collar. Discharge stopped, hose replaced.	Mar 2, 2018
	00690 Australia, Newcastle - Plant & Equipment Damage/Failure - Not significant - Exit Gate Swing Arm Failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Mar 1, 2018	0	Plant & Equipment Damage/Failure	RHS exit gate swing arm connection to drive motor sheared off	Mar 1, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00684 Australia, Newcastle - Near miss - Not significant - Localised power outage AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Feb 22, 2018	0	Near miss	Power trip to site causing disruption to loading and site alarms	Feb 26, 2018
	00680 Australia, Newcastle - Near miss - Not significant - Brown Snake in First Flush Pit AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Feb 20, 2018	0	Near miss	Whilst recirculating water prior sampling a snake was	Feb 22, 2018
	00667 Australia, Newcastle - Near miss - Not significant - Deadman Handle Failure AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Feb 1, 2018	0	Near miss	Whilst drawing running sample from transfer line deadman valve failed to close, secondary isolation valve used as cut off.	Feb 1, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00657 Australia, Newcastle - Quality - Not significant - Extended Loading Time 88 minutes AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jan 22, 2018	0	Quality	Rear Trailer Scully Issue	Jan 23, 2018
	00655 Australia, Newcastle - Quality - Not significant - Extended Loading Time 117 minutes AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jan 20, 2018	0	Quality	Rear Trailer Scully Issue	Jan 22, 2018
	00649 Australia, Newcastle - Safety - Not significant - PIG stuck in wharfline AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jan 15, 2018	0	Safety	Pig stuck in home chamber valve	Jan 15, 2018

	Name	Date and time of the incident:	Severity gauge	Type of incident:	What happened (please, explain briefly):	Last Update
	00648 Australia, Newcastle - Safety - Not significant - Tanker discharge stopped - weather AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jan 14, 2018	0	Safety	Tank discharge was stopped due to high winds	Jan 15, 2018
	00627 Australia, Newcastle - Safety - Not significant - Crane lift - Active pipeline AUSTRALIA NEWCASTLE NOT NOTIFIABLE	Jan 5, 2018	0	Safety	Crane lifting 3rd party hoses over live Stolthaven pipeline	Jan 5, 2018

Appendix E

Conditions of Consent
SSD_6664

Appendix E Conditions of Consent SSD_6664

Schedule 2 – General Administrative Conditions – Compliance Requirements		
No	**Description**	**Statement of Compliance**
1	**Obligation to Minimise Harm to the Environment** The Proponent must implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or decommissioning of the Development	Noted
2	**Terms of Consent** The Applicant must carry out the Development generally in accordance with the: a) EIS and RTS; b) development layout plans and drawings in the EIS (see Appendix 1); c) Applicant's Management and Mitigation Measures (see Appendix 2); d) MOD 1; and **e)** conditions of this consent.	Noted
3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.	Noted
4	The Applicant must comply with all reasonable requirements of the Secretary arising from the Department's assessment of: a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this consent; and b) the implementation of any actions or measures contained in these documents.	Noted
5	**Limits of Consent** The Applicant shall not receive, store and dispatch more than 500 million litres of diesel and biodiesel fuel per year, until the Applicant has received an amended EPL for the Development. The Applicant shall provide a copy of the amended EPL to the Secretary prior to increasing throughput above 500 million litres a year.	A copy of the Sites EPL has previously been provided to the Secretary of the DPE as part of previous reporting periods prior to throughput increasing beyond 500M litres per year.
6	Following the receipt of an amended EPL for the Development, the Applicant shall not receive, store and dispatch more than 1,300 million litres of diesel and biodiesel fuel per year.	No exceedance of annual throughput limits (refer to **Section 6.0** of this Annual Review)
6A	The storage capacity of the tank farm must not exceed 131 million litres at any one time.	Noted (refer to **Table 1** of this Annual Review)
6B	With the exception of the following tanks, the proponent must not store flammable liquids, as classified under the *Australian Code for the Transport of Dangerous Goods by Road or Rail*, in bulk at the premises: (i) The 30,000 litre Slops Tank (UN 1203) identified on site as 'SL1'; and (ii) The 50,000 litre Additive Tank (UN 3082) identified on site as 'AT1'	No flammable liquids other than those specified in this condition were stored in bulk at the Site (refer to **Section 6.0** of this Annual Review)
7	**Surrender of Existing Development Consents** Following the receipt of an amended EPL for the Development, or as otherwise agreed to in writing by the Secretary, the Applicant shall surrender Project Approval MP 08_0130 for the site in accordance with Clause 97 of the EP&A Regulation.	MP 08_0130 has been surrendered.

	Note: This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent or consent should not be understood as implying that works legally constructed under a valid consent or consent can no longer be legally maintained or used.	
8	**Statutory Requirements** The Applicant must ensure that all necessary licences, permits and approvals are obtained and kept up-to-date as required throughout the life of the Development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approvals.	EPL last updated 14 September 2018
9	**Other Consents and Approvals** Nothing in this consent will impact on the following consents/approvals: a) PA 12/001 issued under Section 111 of the EP&A Act dated 20 February 2012; b) DA 293-08-00 as modified issued under Section 80 of the EP&A Act dated 6 April 2001; and c) any other consents or consents issued under the EP&A Act.	Noted
10	**Structural Adequacy** The Applicant must ensure that any new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: • Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for any building works. • Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of a Development.	A new pipeline connecting the terminal to Mayfield Berth No. 7 was built during the reporting period as per the requirements of SSD_7065. The pipeline is not subject to the requirements of the BCA. No new buildings were built during the reporting period.
11	**Protection of Public Infrastructure** The Applicant must: a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the Development; and b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the Development.	Noted
12	**Utilities** Prior to the construction of any utility works, the Applicant must obtain relevant approvals from service providers.	No utility works were required during the reporting period, including as part of the pipeline construction, that required and service provider approvals.
13	**Operation of Plant and Equipment** The Applicant must ensure that any plant and equipment used on site, or in connection with the Development is: a) maintained in a proper and efficient condition; and b) operated in a proper and efficient manner.	Noted
14	**Staged Submission of Strategies, Plans or Programs** With the written consent of the Secretary, the Applicant may submit any strategy, plan or program required by this consent on a progressive basis.	A set of the sites construction and operational environmental management plans were submitted and approved by DPE prior to the installation of the Mayfield Berth No. 7 pipeline.

15	With the written consent of the Secretary, the Applicant may use the strategies, plans or programs approved under MP 08_0130 to address the requirements of this consent.	Consent previously received.
16	**Development Contribution** Prior to the commencement of operation of the Development, the Applicant shall pay Council $11,058.00 in development contributions. Note: This contribution is subject to indexation to reflect quarterly variations in the Consumer Price Index All Group Index Number for Sydney, as published by the Australian Bureau of Statistics.	Stolthaven has paid all development contributions under this approval.
17	**Dispute Resolution** In the event that a dispute arises between the Applicant and Council or a public authority other than the Department, in relation to a specification or requirement applicable under this consent, the matter must be referred by either party to the Secretary, or if not resolved, to the Minister, whose determination of the dispute shall be final and binding to all parties. For the purpose of this condition, 'public authority' has the same meaning as provided under Section 4 of the EP&A Act.	Noted
17A	A Hazard Analysis shall be undertaken twelve months after the commencement of operations and every three years thereafter, or at such intervals as the Secretary may agree, in accordance with the requirements for projects associated with the Mayfield Concept Plan Approval No. 09_0096 Condition No. 2.28 that involve the transport, handling or storage of hazardous or dangerous materials. The audits shall be carried out by a qualified person or team, independent of the project, and shall be consistent with the Department of Planning's Hazardous Industry Planning Advisory No. 5 'Hazard Audit Guidelines'. Each audit shall be submitted to the Secretary within one month of the audit being undertaken. An electronic copy of each audit must be provided to PON at the same time as submission to the Secretary.	Hazard audit was not required during the reporting period.
Schedule 3 – Specific Environmental Conditions – Compliance Requirements		
No.	**Description**	**Statement of Compliance**
1	**Statutory Requirements** The Applicant shall carry out the Development in accordance with the requirements of the: a) VRA; b) RAP; and c) CSMP.	Copy of site auditor correspondence previously provided.
2	Prior to commencement of construction, the Applicant shall provide written evidence to the Secretary from the Site Auditor confirming that all construction works associated with the Development meets the requirements of the documents listed in Condition 1 above.	A new pipeline connecting the terminal to Mayfield Berth No. 7 was built during the reporting period as per the requirements of SSD_7065. No construction works as approved under SSD_6664 were undertaken during the reporting period.
3	Prior to commencement of operation, the Applicant shall provide written evidence to the Secretary from the Site Auditor confirming that all works associated with the Development have been constructed in accordance with the requirements of the documents listed in Condition 1 above.	No construction works took place during the reporting period.

4	**Human Health Risk** The Applicant shall provide written advice from the Site Auditor confirming that all works associated with the Development would be constructed to address any risk of harm to human health posed by the potential ingress of volatile vapours into buildings and confined spaces.	Copy of site auditor correspondence previously provided.
5	**Imported Soil** The Applicant shall: a) ensure that only VENM or ENM or other material approved in writing by the EPA or the Site Auditor is used as fill on the site; b) keep accurate records of the volume and type of fill to be used on site; and c) make these records available to PON and the Department upon request.	No soil imported during the reporting period.
6	**SOIL AND WATER** **Water Licences** The Applicant is required to obtain the necessary water licences for the Development under the Water Act 1912 and/or the Water Management Act 2000. Note: Licences are required for groundwater bores, excavations that may intercept groundwater, dewatering activities and extraction or interception of surface water.	Groundwater monitoring bores installed pursuant to the *Water Management Act 2000.*
7	**Discharge Limits** The Applicant shall ensure that all water discharges from the site comply with the: a) discharge limits (both volume and quality) set for the Development in any EPL; or b) the relevant provisions of the POEO Act.	All water discharged from the Site complied with the relevant EPL conditions (refer to **Section 4.3.1** of this Annual Review)
8	**Bunding and Storage of Liquids** The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or the EPA's Storing and Handling of Liquids: Environmental Protection – Participants Handbook.	Refer Aurecon Design Compliance Statement previously provided to DP&E.
9	**Stormwater and Drainage System** The Applicant shall maintain the stormwater and drainage system for the Development to the satisfaction of PON.	No changes occurred to the stormwater management system previously approved by PON.

10	**Stormwater and Drainage Management Plan** The Applicant shall update the existing Stormwater and Drainage Management Plan for the site to include the Development, to the satisfaction of the Secretary. The plan shall: a) be updated prior to the commencement of construction; b) be prepared in accordance with OEH's Managing Urban Stormwater and any other relevant guidelines; c) show what stormwater, treatment and control infrastructure will be installed as part of the stormwater and drainage system for the Development and how it will integrate with other stormwater and drainage systems in the area; d) describe the measures that will be implemented to maintain this infrastructure over time; e) include a program to monitor stormwater quality and quantity; and f) include a strategy to integrate the stormwater management system with the broader system to be provided by PON for the Mayfield Concept Plan area. Note: The intent of condition 10(e) is to ensure coordinated delivery of infrastructure across the Mayfield Concept Plan area.	This plan was reviewed and updated to be consistent with SSD_7065 during the reporting period. DPE subsequently approved the updated plan.
11	**Water Management Plan** The Applicant shall update the existing Water Management Plan for the site to include the Development, to the satisfaction of the Secretary. The plan shall: a) be updated prior to the commencement of operation; b) include procedures for the prevention and management of spills and leaks from the Development, including the M4 berth, pipeline and fuel storage facility; c) include a surface and groundwater monitoring program to measure the quality and quantity of water discharges from the site; and d) include a surface and groundwater response plan, including remedial actions and procedures that will be followed in the event of an incident.	This plan was reviewed and updated to be consistent with SSD_7065 during the reporting period. DPE subsequently approved the updated plan.
12	**Traffic Movements** The Applicant shall: a) keep accurate records of: • the number of truck movements to and from the site; and • the volume of diesel and biodiesel that is received, stored and dispatched. b) make these records available in its Annual Review; and c) provide these records to PON on a bimonthly basis	Records are maintained and reported in accordance with this condition (refer to **Section 6.1**, **Section 6.2**, and **Appendix B** of this Annual Review).

13	**Traffic Management Plan** The Applicant shall update the existing Traffic Management Plan for the site to include the Development, to the satisfaction of the Secretary. The plan shall: a) be approved by the Secretary prior to the commencement of construction; b) be prepared in consultation with PON, HDC, Council, RMS adjoining land owners and the local community; c) detail construction and operational vehicle routes, access arrangements and coordination with other developments in the Mayfield Concept Plan area; d) include details of driver training awareness to minimise noise, in particular from reversing alarms and compression braking; e) detail procedures for managing operational traffic, including adherence to the Australian Code for Transport of Dangerous Goods by Road and Rail, January 1998 or its latest version; and f) be consistent with the Traffic Management Plan required under the Mayfield Concept Plan.	This plan was reviewed and updated to be consistent with SSD_7065 during the reporting period. DPE subsequently approved the updated plan.
14	**Access and Parking** The Applicant must ensure that all internal roads and parking (including driveways, grades, lighting, aisle widths, aisle lengths, turning paths, sight distance requirements and parking bay dimensions) associated with the Development are designed and constructed in accordance with the latest versions of the Australian Standards 2890.1:2004 and 2890.2:2002, and AUSTROADS for heavy vehicle usage.	No new parking or roads built.
15	**HAZARDS** The Applicant shall update the Fire Safety Study for the site to incorporate the changes due to the Development, prior to the commencement of construction. This plan must: a) be approved by the Secretary, prior to the commencement of construction b) cover the relevant aspects of the Department's *Hazardous Industry Planning Advisory Paper No. 2 – Fire Safety Study Guidelines and the Best Practice Guidelines for Contaminated Water Retention and Treatment Systems*; b) be prepared in consultation with adjacent landowners, including OneSteel; and c) meet the requirements of NSW Fire and Rescue. Note: Construction, other than of preliminary works that are outside the scope of the Fire Safety Study, shall not commence until the study recommendations have been considered, and where appropriate, acted upon.	Fire Safety Study was approved prior to construction of the Site.
16	The Applicant shall update the Emergency Plan for the site to incorporate any changes due to the Development, prior to the commencement of operation. The updated plan shall: a) be prepared in consultation with PON; b) be consistent with the Department's *Hazardous Industry Planning Advisory Paper No. 1 – Emergency Planning*; and c) detail the emergency procedures for the Development.	Emergency Plan previously supplied to and approved by PON and DP&E.

17	The Applicant shall contribute to, in so far as it relates to the Development, preparation of the following plans and audits for the Mayfield Concept Plan, in consultation with PON: a) a Port Emergency Response Plan, consistent with the Department's *Hazardous Industry Advisory Paper No. 1 – Emergency Planning*; b) a Safety Management System, consistent with the Department's *Hazardous Industry Advisory Paper No. 9 – Safety Management*; and c) hazard audits, consistent with the Department's *Hazardous Industry Advisory Paper No. 5 – Hazard Audit Guidelines*. Notes: • The intent of the condition is to ensure any cumulative hazard issues across the Mayfield Concept Plan area are identified and managed; and • The relative contribution by the Applicant and timing shall be determined in consultation with PON, to the satisfaction of the Secretary.	The Sites safety and emergency operational plans have been prepared in consultation with PON and are consistent with the listed documents.
18	**UTILITIES AND SERVICES** The Applicant shall update and implement the existing Utilities and Services Plan for the site to include the Development, to the satisfaction of the Secretary. The plan must: a) be updated prior to the commencement of operation; b) be prepared in consultation with relevant utility and service providers and adjacent landowners, where relevant; c) include an implementation schedule which shows how all essential utilities and services are to be provided to the site; d) provide a copy of all necessary consents from relevant utility and service providers showing that access to these utilities and services is available and secured; and e) include a strategy to integrate all utilities and services with the broader system to be provided by PON for the Mayfield Concept Plan. Note: The intent of condition 18(d) is to ensure coordinated delivery of infrastructure across the Mayfield Concept Plan area.	This plan was reviewed and updated to be consistent with SSD_7065 during the reporting period. DPE subsequently approved the updated plan.
19	**Construction Noise** The Applicant must ensure that all reasonable and feasible management and mitigation measures are employed so that construction noise generated by the Development meets the construction noise goals in Table 1 (refer to Table 1 'Construction Noise Goals' in Development Consent)	Construction complete
20	**Operational Noise** Prior to the commencement of construction, the Applicant shall provide the Noise and Vibration Impact Assessment for the Development prepared by AECOM, dated 8 December 2014 including all modelling data, to the PON for the purposes of updating the Site Noise Model for the Mayfield Concept Plan.	Previously provided

21	Prior to the commencement of operation, the Applicant shall provide written evidence to the Secretary demonstrating that the PON is satisfied that the methodology and outcomes of the Noise and Vibration Impact Assessment for the Development, dated 8 December 2014 are consistent with the Site Noise Model for the Mayfield Concept Plan.	Previously provided to DP&E.
22	The Applicant shall, in consultation with the PON ensure that noise from the Development: a) fits within the Site Noise Model developed for the Mayfield Concept Plan; and b) does not exceed any noise quota or levels provided by PON for the Development, in accordance with the Site Noise Model for the Mayfield Concept Plan.	Evidence of consultation previously provided to DP&E.
23	The Applicant shall comply with the directions of the PON in relation to the management of noise from the Development.	Noted
24	**Construction and Operation Hours** The Applicant must comply with the hours of construction and operation in Table 2, unless otherwise agreed to in writing by the Secretary (refer to Table 2 'Hours of Work' in Development Consent).	A new pipeline connecting the terminal to Mayfield Berth No. 7 was built during the reporting period as per the requirements of SSD_7065. The hours of construction and operation in Table to were adhered to during construction of the new pipeline.
25	**Operating Conditions** The Applicant shall implement best practice noise and vibration management, including all reasonable and feasible measures to minimise the noise and vibration emissions of the Development.	Noted
26	**Noise Management Plan** The Applicant shall update the existing Noise Management Plan for the site to include the Development, to the satisfaction of the Secretary. The plan must: a) be prepared by a suitably qualified expert, in accordance with EPA Guidelines; b) be approved by the Secretary prior to the commencement of construction; c) describe the measures that would be implemented to ensure compliance with the relevant noise goals included in the Mayfield Concept Plan or noise quota established by the PON; d) include a procedure for implementing noise mitigation measures, should the Applicant be directed to by the PON, or should non-compliances be detected; and e) include procedures to receive, record and respond to complaints.	Updated
27	**Noise Monitoring** The Applicant shall monitor noise from operation of the Development, to the satisfaction of the Secretary. The monitoring shall: a) be undertaken annually or to address genuine noise complaints that are related to the Development as determined by the Department or the EPA; b) be undertaken in accordance with the *Industrial Noise Policy*; c) demonstrate compliance with the relevant noise goals contained in the Mayfield Concept Plan, or any noise quota established by the PON for the Development.	Noise monitoring is undertaken in accordance with this condition (refer to **Section 5.0** of this Annual Review)

28	**AIR QUALITY AND GREENHOUSE GAS** **Dust Minimisation** The Applicant shall carry out all reasonable and feasible measures to minimise dust generated by the Development.	Noted
29	**Offensive Odour** The Applicant must not cause or permit the emission of offensive odours from the site, as defined under Section 129 of the POEO Act.	Noted
30	**Energy Efficiency and Greenhouse Gas Emissions** The Applicant shall implement all reasonable and feasible measures to minimise energy use and greenhouse gas emissions from the Development.	Noted
31	**Air Quality Discharges** The Applicant must comply with all load limits, air quality criteria and air quality monitoring requirements as specified in the amended EPL for the site.	Noted
32	**Dust Mitigation Measures** The Applicant must design, construct, operate and maintain the Development in a manner that minimises or prevents the emission of dust from the site and complies with any monitoring requirements in the EPL.	Noted
33	**Air Quality and Greenhouse Gas Management Plan** The Applicant shall update the existing Air Quality and Greenhouse Gas Management Plan for the site to include the Development, to the satisfaction of the Secretary. This plan must: a) be approved by the Secretary prior to the commencement of construction; b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent; c) include an air monitoring program to measure the performance of the Development against the relevant conditions of this consent; d) describe a protocol that has been agreed with PON for the provision of input to the broader Site Air Quality Model required under the Mayfield Concept Plan. Note: The monitoring requirements of condition 31(c) could be satisfied by the monitoring network required for the Mayfield Concept Plan, if sufficient justification is provided.	Updated
34	**Energy Efficiency Plan** The Applicant shall update the existing Energy Efficiency Plan for the site to include the Development, to the satisfaction of the Secretary. The plan shall: a) be updated prior to the commencement of operation; b) describe the measures to be implemented to minimise energy use on the site including energy consumption levels, predicted energy savings and options for alternative energy sources including solar power generation, potential for third party access to roofs for solar generation, and co-generation; and c) include a program for monitoring the effectiveness of these measures, and a protocol for the periodic review of the plan.	Updated

35	**VISUAL AMENITY** **Design and Landscaping** The Applicant shall update the existing design and landscape management plan for the site to include the Development, to the satisfaction of the Secretary. The Plan must: a) be prepared in consultation with PON; b) be updated prior to the commencement of construction; c) demonstrate the building treatments are of sufficient design quality to minimise the visual impacts of the Development, and include a variety of materials and external finishes; d) illustrate the location, species and mature heights of plants to be established on site; e) provide for the maintenance of the landscaping on site; and f) illustrate how the design of the buildings would integrate with the landscaping proposed, ensuring landscaping is used to minimise views of the site.	Updated
36	**Construction Materials** Where possible the Applicant must utilise building materials that will minimise the potential visibility of the Development (ie. use of non-reflective materials).	Noted
37	**Lighting** The Applicant shall ensure that any lighting associated with the Development: a) complies with the latest version of Australian Standard AS *4282(INT)-Control of Obtrusive Effects of Outdoor Lighting*; and b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.	Complete.
38	**Signage** The Applicant must not install any advertising signs on the site without the written consent of the Secretary.	Noted
39	**SITE SECURITY** The Applicant shall: a) install and maintain a perimeter fence and security gates on the site; and b) ensure that the security gates on site are locked whenever the site is unattended.	Noted
40	**WASTE** The Applicant shall ensure that all waste generated on the site during construction and operation of the Development is stored, handled and disposed of in accordance with the EPA's Waste Classification Guidelines.	Noted
41	**AVIATION SAFETY** Prior to the commencement of construction, the Applicant must obtain all necessary approvals from the Air Base Command Post of RAAF Base Williamstown and the Directorate of External Land Planning within the Defence Support Group of the Department of Defence for the erection of all structures that constitute transient/temporary or permanent obstructions in accordance with the *Operation of cranes and tall structures in the vicinity of Newcastle Airport (Department of Defence, 2013).*	Complete

Schedule 4 – Environmental Management Reporting – Compliance Requirements		
No.	**Description**	**Statement of Compliance**
1	**Environmental Management Strategy** The Applicant shall update the existing Environmental Management Strategy for the site to include the Development. This strategy must be approved by the Secretary prior to the commencement of construction and shall: a) provide the strategic context for environmental management of construction and operation of the Development; b) identify the statutory requirements that apply to the Development; c) describe in general how the environmental performance of the Development would be monitored and managed; d) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the Development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise in relation to operations at the Development; • respond to any non-compliance; • manage cumulative impacts; • respond to emergencies; and e) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the Development.	Updated
2	**Management Plan Requirements** The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include: a) detailed baseline data; b) a description of: • the relevant statutory requirements (including any relevant consent, licence or lease conditions); • any relevant limits or performance measures/criteria; and • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures; c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; d) a program to monitor and report on the: • impacts and environmental performance of the Development; and • effectiveness of any management measures (see c) above); e) a contingency plan to manage any unpredicted impacts and their consequences; f) a program to investigate and implement ways to improve the environmental performance of the Development over time; g) a protocol for managing and reporting any: • incidents; • complaints;	Complete

	• non-compliances with statutory requirements; and • exceedances of the relevant limits and/or performance measures / criteria; and h) a protocol for periodic review of the plan.	
3	**Construction Environmental Management Plan** The Applicant shall update the existing Construction Environmental Management Plan for the site to include the Development. The Plan must: a) be approved by the Secretary prior to commencement of construction; b) include: • a soil and water management plan; • a traffic management plan; • a noise and vibration management plan; • an air quality (dust) management plan; • a utilities and services provision plan; and • a waste management plan.	Noted
4	**Revisions to Strategies, Plans and Programs** Within 3 months of the submission of an: a) audit under condition 8 of schedule 5; b) incident report under conditions 6 and 7 of schedule 5; c) annual review under condition 5 of schedule 5; and/or d) a modification to this consent, the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary. *Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.*	Noted
5	**REPORTING** **Annual Review** By the end of December each year, and annually thereafter, the Applicant shall review the environmental performance of the Development, to the satisfaction of the Secretary. This review must: a) describe the operations that were carried out in the past year; b) analyse the monitoring results and complaints records of the Development over the past year, which includes a comparison of these results against the • relevant statutory requirements, limits or performance measures/criteria; • monitoring results of previous years; and • relevant predictions in the EIS; c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; d) identify any trends in the monitoring data over the life of the Development; and e) describe what measure will be implemented over the next year to improve the environmental performance of the Development. f) describe what measure will be implemented over the next year to improve the environmental performance of the Development.	This Annual Review is prepared in accordance with this condition.

6	**Incident Reporting** Within 24 hours of the occurrence of an incident that causes (or may cause) harm to the environment, the Applicant shall notify the Secretary and any other relevant agencies of the incident.	Noted
7	Within 7 days of the detection of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident.	Noted
8	**INDEPENDANT ENVIRONMENTAL AUDIT** Within 1 year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the Development. This audit must: a) be carried out by a suitably qualified, experienced and independent audit team whose appointment has been endorsed by the Secretary; b) include consultation with EPA and PON; c) assess the environmental performance of the Development, and its effects on the surrounding environment; d) determine whether the Development is complying with the relevant standards, performance measures and statutory requirements; e) review the adequacy of the Environmental Management Strategy for the Development, compliance with the requirements of this consent, and any other licences and consents; and, if necessary; f) recommend measures or actions to improve the environmental performance of the Development, and/or any plan/program required under this consent.	Previous audit undertaken in 2016 so not due until the 2019 reporting period.
9	Within 3 months of commissioning the audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to both the EPA and the Secretary with a response to any recommendations contained in the audit report.	Noted
10	**ACCESS TO INFORMATION** From the commencement of the construction of the Development, the Applicant must make the following information publicly available on its website as it is progressively required by the consent: a) a copy of all current statutory consents; b) a copy of the current plans and programs required under this consent; c) a summary of the monitoring results of the Development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent; d) a complaints register, which is to be updated on a monthly basis; e) a copy of the Annual Reviews (over the last 5 years); f) a copy of any Independent Environmental Audit, and the Applicant's response to the recommendations in any audit; and g) any other matter required by the Secretary.	This information is available on Stolthaven's website: https://www.stolt-nielsen.com/en/our-businesses/stolthaven-terminals/terminal-network/stolthaven-newcastle

11	**COMMUNITY CONSULTATION STRATEGY** The Applicant shall contribute to the Community Communication Strategy required for the Mayfield Concept Plan. The level and timing of this contribution by the Applicant and timing shall be determined in consultation with PON.	Community consultation has been undertaken as described in **Section 9.0** of this Annual Review.

Appendix F

Pipeline Integrity Test Report

Appendix F Pipeline Integrity Test Report

Form

Project:	Quality	**Document:**	FRM657
Client:	Client / Supplier	**Revision:**	1.00 - 24-Aug-2018

Document Title: **Pressure Test Plan**

Project No: S170409 Date: 19-10-18

Project Description: Newcastle Berth Expansion Procedure: Hydro

Pressure Test Plan No. Diesel Line Number : Diesel

Type of test: ☑ Hydrostatic ☐ Pneumatic ☐ Initial Service Test

System Design Pressure : 1900 kPa System Design Temperature : 0-40 deg C

Description of test configuration (attach sketch or P&ID): As per constructed system

Test Parameters

Required Test Pressure: 2400 kPa Holding Time: 4 hours

Test Fluid: Water Fluid Temperature: Ambient

Environmental Controls

Exclusion zone for safety of people: Yes

Test area controls (barricades, signage, etc): Yes Safe disposal of test fluid: Yes

Drawing Attachments:

N/a

Signed :

Witnessed :

Date : 19-10-18

Document Title: Pressure Test Certificate

Project No: S170409 Date: 19-10-18

Project Description: Newcastle Berth Expansion Location of Test: Mayfield Berth 7

Pressure Test Plan No. Diesel Test Carried out by : Russell Hancock

Test Medium (Water/Air/Gas) : Water Test Method : Hydro

Acceptance Criteria

Test Pressure: 2400 kPa Test Duration: 4 hours

Test Temp (is req'd): ambient Pressure Source : Petrol Pressure Pump

Test Equipment

Pressure Gauge / Transmitter No: HO-01

Calibration Cert Reference: 698

Temperature Transmitter/Thermometer Reference: N/a

Drawing Attachments:

N/a

RESULTS:

Time	Pressure	Temp	Leaks	Weather	% Variation
2pm	2400	N/a	Nil	Ambient	0
3pm	2400	N/a	Nil	Ambient	0
4pm	2400	N/a	Nil	Ambient	0
5pm	2400	N/a	Nil	Ambient	0

Water retrieved when pressure reduced to initial Pressure = N/a ltrs

Test : N/a (Pass/Fail) Pass

The tester confirms that the results of the pressure test meet the requirements of the acceptance criteria

Signed :

Witnessed :

Date : 19-10-18

SYNERTEC

Form

Project: Quality **Document:** FRM657

Client: Client / Supplier **Revision:** 1.00 - 24-Aug-2018

Document Title: Pressure Test Plan

Project No: S170409 Date: 21/09/2018

Project Description: Newcastle Berth Expansion Procedure: Hydro

Pressure Test Plan No. Fire Line Number : Fire

Type of test: ☑ Hydrostatic ☐ Pneumatic ☐ Initial Service Test

System Design Pressure : 1400 kPa System Design Temperature : -3 to 80 deg C

Description of test configuration (attach sketch or P&ID): As per constructed system

Test Parameters

Required Test Pressure: 2100 kPa Holding Time: 4 hours

Test Fluid: Water Fluid Temperature: Ambient

Environmental Controls

Exclusion zone for safety of people:

Test area controls (barricades, signage, etc): Safe disposal of test fluid:

Drawing Attachments:

N/a

Signed :

Witnessed :

Date : 21-9-18

SYNERTEC

Form

Project:	Quality	**Document:**	FRM499
Client:	Client / Supplier	**Revision:**	2.00 - 24-Aug-2018

Document Title: # Pressure Test Certificate

Project No: S170409 Date: 21/09/2018

Project Description: Newcastle Berth Expansion Location of Test: Mayfield Berth 7

Pressure Test Plan No. Fire Test Carried out by : Russell Hancock

Test Medium (Water/Air/Gas) : Water Test Method : Hydro

Acceptance Criteria

Test Pressure: 2100 kPa Test Duration: 4 hours

Test Temp (is req'd): ambient Pressure Source : Petrol Pressure Pump

Test Equipment

Pressure Gauge / Transmitter No: HO-01

Calibration Cert Reference: 698

Temperature Transmitter/Thermometer Reference: N/a

Drawing Attachments:

N/a

RESULTS:

Time	Pressure	Temp	Leaks	Weather	% Variation
2pm	2100	N/a	Nil	Ambient	0
3pm	2100	N/a	Nil	Ambient	0
4pm	2100	N/a	Nil	Ambient	0
5pm	2100	N/a	Nil	Ambient	0

Water retrieved when pressure reduced to initial Pressure = N/a ltrs

Test : N/a (Pass/Fail) Pass

The tester confirms that the results of the pressure test meet the requirements of the acceptance criteria

Signed :

Witnessed :

Date : 21-9-18

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