



## **Environmental Monitoring Summary Report** Port Kembla Gas Terminal

Infrastructure ApprovalSSI-9471EPL Licence Number:21529

Reporting period:1 March 2023 – 31 March 2023

Date published: 26 April 2023



## 1 Project background

AIE is responsible for the development of a liquefied natural gas (LNG) import terminal at Port Kembla, south of Wollongong, NSW (the Project). The Project will be the first of its kind in NSW and will provide a simple and flexible solution to the state's gas supply challenges.

The Project has been declared Critical State Significant Infrastructure (CSSI) in accordance with Section 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (NSW) and Schedule 5 of the *State Environmental Planning Policy State and Regional Development* (SRD SEPP). The Project received Infrastructure Approval from the Minister for Planning and Public Spaces on 29 of April 2019.

The construction of the Project is primarily associated with the establishment of a new berth facility at Port Kembla to enable a Liquified Natural Gas (LNG) Carrier to berth alongside the Floating Storage and Regasification Unit (FSRU) and new infrastructure to connect the terminal to the existing gas network. The location of the Project is shown on the Environmental Monitoring Location Plan provided as Appendix A.

An Environment Protection Licence (EPL) (EPL No. 21529) was issued for the Project by the NSW Environment Protection Authority (EPA) on 2 June 2021. The details of the EPL are provided below in Table 1-1.

EPL No.	21529					
Anniversary Date:	2 June					
	Australian Industrial Energy Pty Ltd					
Licensee:	PO Box 3155 Broadway					
	Nedlands WA 6009					
Premises:	Port Kembla Gas Terminal, Port Kembla NSW 2505					
	Contaminated soil treatment					
Scheduled Activity	Crushing, grinding or separating					
	Petroleum products storage					

Table 1-1 EPL Details



## 2 Report purpose

This Monthly Environmental Monitoring Report has been prepared to provide an overview of project activities undertaken during the reporting period and those forecast for the next reporting period (refer to Section 3), and to satisfy the requirements associated with the reporting and publishing of monitoring data and results required under the relevant conditions of approval and environmental management plans as detailed further in Table 2-1.

Document	Clause or section	Requirement	Addressed:		
	Sch. 4 Cond. 8	Regular Reporting – The Proponent must provide regular reporting on the environmental performance of the development on its website in accordance with the reporting requirements in any strategies, plans or programs approved under the conditions of this approval.	This report which will be made available on		
DPIE SSI-9471		<ul> <li>Access to information – From the commencement of development under this approval, the Proponent shall:</li> <li>(a) Make copies of the following information publicly available on its website:</li> </ul>	the Project Website.		
	Sch. 4 Cond. 12	<ul> <li>a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs</li> </ul>	Section 4		
		- a summary of complaints, which is to be updated monthly	Section 5		
AIE Air Quality Management Plan (Stage 2A and 2B)	Section 11.4	A monthly environmental monitoring report will be developed for each calendar month which will include details of the monitoring results and frequencies and inclusion of any exceedance of EPL No. 21529 air monitoring limits / criteria. A copy of the monthly environmental monitoring report will be made available on the AIE Project website.	Air quality monitoring results and frequencies and inclusion of any exceedance provided in Section 4.1		
AIE Water Quality Monitoring Plan (Stage 2A and 2B)	Section 9.4	A monthly environmental monitoring report will be developed for each calendar month which will include details of the monitoring results and frequencies and inclusion of any exceedance of EPL (No. 21529) water quality monitoring limits / criteria. A copy of the monthly environmental monitoring report will be made available on the AIE Project website.	Water quality monitoring results and frequencies and inclusion of any exceedance provided in Section 4.2		
EPL 21529	Condition M6.2	The licensee must monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either the project weather station, or through analysis of equivalent weather information obtained from the Australian Bureau of Meteorology. Whilst there are no specific requirements to provide weather data in the monthly report, AIE has included the data for transparency and to assist with context for any monitoring results where required.	Section 4.3		



## 3 Project activities

#### 3.1 Project status

The project has progressed to Stage 2A and Stage 2B as follows:

Stage 2A: Marine Berth Construction – Land Based. Associated works include:

- Quay wall construction.
- Installation of communications conduit, potable water line, and 11kV power cable and Pad-mount Substation within the Marine Berth Construction and Dredging (MBD) Site Compound.
- Construction of the Onshore Receiving Facilities (ORF), which comprises three areas: Wharf Topside Area; Utility Area; and Common Area.
- Pipeline construction and associated ancillary infrastructure within MBD Site Compound delivered as part of ORF scope.

Stage 2B: Marine Berth Construction – Marine Based. Associated works include:

- Continuation of Stage 2A works
- Excavation and dredging of the MBD Site Compound in the Inner Harbour and the Emplacement Cell in the Outer Harbour.
- Construction of the Emplacement Cell in the Outer Harbour.
- Marine based construction activities including installation of navigational aids and revetments at the MBD Site Compound.

Stage 3: Gas pipeline Construction. Associated works applicable to EPL No. 21529 include:

- Construction of gas pipeline section within Berth 101
- 3.2 Project activities for the reporting month
  - Construction of the Outer Harbour Temporary Loadout Facility (TLF).
  - Importation, stockpiling and management of rock-fill material for later use during construction of the emplacement cell bund.
  - Berth 101 geotechnical investigation
- 3.3 Project activities for the upcoming month
  - Ongoing Berth 101 geotechnical investigation
  - Construction of Berth 101 trench drain



### 4 Environmental monitoring data

The following sections present a summary of the air quality, water quality and weather monitoring data for the reporting month.

A copy of this report will be made available on the Project website at the following web-address:

https://www.squadronenergy.com/our-projects/port-kembla-energy-terminal

#### 4.1 Air quality

#### 4.1.1 Air Quality Monitoring Locations and Frequency

Air quality monitoring equipment is installed to the north and south of the MBD site compound (Berth 101), and to the east, to the west, and within the central portion of the Outer Harbour stockpile area.

A summary of the air quality monitoring locations is provided below in Table 4-1 and a monitoring location plan is provided in **Appendix A**.

Table 4-1 Air quality monitoring locations

EPL Ref.	Monitoring location	Monitoring type	Monitoring parameter	Monitoring frequency
8	Northern boundary of the premises, adjacent the southern boundary of Port Kembla Coal Terminal	Dust Deposition	Particulates -	Monthly
10	Southern boundary of Berth 101	Gauge	Deposited Matter (gm/m²/month)	Wortdiny
12	Southern side of emplacement area, Outer Harbour	Ambient Air Monitoring -	Total suspended	Special Frequency 1
14	Eastern side of emplacement area, Outer Harbour	High Volume Air Sampler	particles (TSP) (ug/m <sup>3</sup> )	(24-hour period every 6 days)
22	Northern side of emplacement area, Outer Harbour			
9	Northern boundary of the premises, adjacent the southern boundary of Port Kembla Coal Terminal			
11	Southern boundary of Berth 101			
13	Southern side of emplacement area, Outer Harbour	Real time dust monitoring	PM10 (ug/m³)	Continuous
15	Eastern side of emplacement area, Outer Harbour			
23	Northern side of emplacement area, Outer Harbour			



#### 4.1.2 Air Quality Monitoring Results

The air quality monitoring results for the reporting month are presented below in Table 4-2.

		Monitoring parameter											
			Total Su	spended Pa	rticulate								
		Particulates	(High V	olume Air Sa	ampler)	(Real-time							
Monitoring Location (EPL Reference)		Deposited Matter (Depositional dust gauge)**	Average	Min.	Max.	Average	Min.	Max.	Events above criteria*				
Unit		g/m²/month	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	ug/m³/24 hr average	ug/m³/24 hr average	ug/m³/24 hr average	No.				
Criteria		NA	NA	NA	NA	NA	NA	200	NA				
Berth 101	EPL 8	3.20	0.13	0.08	0.20		monitoring re his EPL Point	•	NA				
North	EPL 9	No Dust Depos	ition Gauge this EPL P		quired at	44.93	19.46	78.67	0				
Berth	EPL 10	2.90	0.10	0.05	0.20	No PM10 i t	NA						
101 South	EPL 11	No Dust Depos	ition Gauge this EPL P		quired at	42.23	14.71	100.29	0				
Outer Harbour	EPL 12	1.90	0.04	0.03	0.06	No PM10 monitoring required at this EPL Point			NA				
South	EPL 13	No Dust Depos	ition Gauge this EPL P		quired at	26.23	12.48	44.00	0				
Outer	EPL 14	1.20	0.05	0.03	0.07		No PM10 monitoring required at this EPL Point						
Harbour East	EPL 15	No Dust Depos	ition Gauge this EPL P		quired at	20.85	8.66	46.32	0				
Outer	EPL 22	1.20	0.10	10         0.02         0.30         No PM10 monitoring required at this EPL Point			•	NA					
Harbour North	EPL 23	No Dust Depos	ition Gauge this EPL P		quired at	28.61	12.88	60.90	0				

\*Includes individual number of times results recorded above Stage 2A and Stage 2B performance criteria (200 ug/m<sup>3</sup>/24 hour average). Refer to **Appendix B** for event above criteria reports.

\*\*Assessed as Total Insoluble.



### 4.2 Water quality

#### 4.2.1 Water Quality Monitoring Locations and Frequency

Water quality monitoring is undertaken at five (5) locations within the Port Kembla Harbour. Each water quality monitoring location is securely anchored/moored in its location. Details of each of the water quality monitoring locations and corresponding EPL monitoring point reference is provided below in Table 4-3.

Table 4-3 Port Kembla	Harbour water	guality i	monitoring	locations

EPL			Parameters				
Ref.	Monitoring location	Type of monitoring	Continuous monitoring at 15 min intervals	Weekly grab sample			
1	WQM1 - North of Berth 101	Primary- impact works area receiver		- Aluminium - Arsenic			
16	WQM2 - North of the emplacement cell, Outer Harbour.	Primary- impact works area receiver	- Turbidity	<ul> <li>Cadmium</li> <li>Chromium (total)</li> <li>Cobalt</li> </ul>			
17	<b>WQM3</b> - South West of Berth 101	Primary- impact works area receiver	- Temperature - pH	- Copper - Lead			
18	<b>WQM4</b> - Near the Pacific Ocean entrance to Outer Harbour	Background water quality	<ul><li>Salinity (EC)</li><li>Dissolved oxygen</li></ul>	<ul> <li>Mercury</li> <li>Nickel</li> <li>Total PAHs</li> <li>TSS</li> </ul>			
19	WQM5 - Near entrance to Allans Creek, near BlueScope Steel	Background water quality		- Tributyltin - Zinc			

It is noted that the EPL 21529 also includes a mobile water quality monitoring point (EPL 24) for the undertaking of ambient water quality monitoring for turbidity within 5m of the outermost silt curtain near Berth 101 during dredging operations. As dredging works at Berth 101 did not occur during this reporting period, water quality monitoring was suspended at EPL 24.

In addition to the monitoring requirements listed above for the harbour, monitoring is also required for any discharge event from the on-site sedimentation basin located at the southern end of Berth 101. Details of the monitoring requirements associated with the sediment basin discharge point are included below in Table 4-4.

Table 4-4 Sediment basin discharge monitoring

EPL	Monitoring location	Type of monitoring	Parameters						
Ref.		Type of monitoring	Prior to discharge	Daily grab sample	e during discharge				
20	Sediment basin discharge point at the southern end of Berth 101	Wet weather discharge quality	<ul> <li>Oil and grease (visual)</li> <li>Total suspended solids (TSS)</li> </ul>	<ul> <li>Aluminium</li> <li>Arsenic</li> <li>Cadmium</li> <li>Chromium</li> <li>Cobalt</li> <li>Copper</li> <li>Lead</li> <li>Mercury</li> </ul>	<ul> <li>Nickel</li> <li>Oil and grease (visual)</li> <li>pH</li> <li>Total PAHs</li> <li>Tributyltin</li> <li>TSS</li> <li>Zinc</li> </ul>				



#### 4.2.2 Water Quality Monitoring Results

A summary of the results for the continuous water quality monitoring in Port Kembla Harbour is presented below in Table 4-5. Further details for exceedances as indicated below (if applicable) are provided in **Appendix B**.

			Results - based	d on individual 1	5-minute media	n
	Statistic	Turbidity (NTU)	Temperature (Deg. C)	Hd	Electrical conductivity (uS/cm2)	Dissolved Oxygen (%sat)
Criteria		35 + BG <sup>1</sup>	N/A	6.5 – 8.5	N/A	70 - 110
	Average	3.7	23.8	8.2	51961.2	89.6
WQM1	Minimum	1.5	21.2	8.1	31458.8	70.9
EPL 1	Maximum	22.3	27.2	8.3	53413.5	117.9
	Events above criteria <sup>2</sup>	0	-	0	-	6
	Average	2.0	23.5	8.3	52666.3	98.8
WOM2	Minimum	1.0	19.3	8.2	43023.7	86.5
WQM2 EPL 16 WQM3	Maximum	10.1	25.7	8.4	53600.3	141.0
	Events above criteria <sup>2</sup>	0	-	0	-	8
	Average	3.2	23.8	8.2	52011.1	93.3
WOM3	Minimum	1.4	17.5	8.1	26290.5	75.9
EPL 17	Maximum	40.9	27.5	8.3	53396.5	134.5
	Events above criteria <sup>2</sup>	0	-	0	-	6
WQM4	Average	3.2	23.5	8.2	52648.4	95.6
EPL 18	Minimum	1.7	21.3	8.1	41804.5	82.6
(Background)	Maximum	199.8	25.6	8.3	53565.0	136.5
WQM5	Average	7.1	27.0	8.1	49729.8	94.6
EPL 19	Minimum	0.0	21.2	7.3	9678.8	80.6
(Background)	Maximum	329.5	32.6	8.4	53541.6	115.2
Mobile WQM /	Average	NA				
EPL 24	Minimum	NA		Not required	at this EPL point	-
(Ambient) <sup>3</sup>	Maximum	NA				

Table 4-5 Port Kembla Harbour water quality – Continuous monitoring results

<sup>1</sup>Total suspended solids (TSS) is monitored in real time using turbidity in NTU and the NTU-TSS statistical correlation from an in-field study using *The Water Quality Monitoring Manual for Construction Sites*, as issued by the Alberta Ministry of Transportation. The NTU-TSS Correlation Study was issued to the EPA in email correspondence dated 01/03/2023. BG = Background, recorded at WQM4 and/or WQM5. For this reporting period an NTU-TSS correlation of 35 NTU being equivalent to 50 mg/L TSS has been adopted.

<sup>2</sup>Calculated as number of days where results exceeded performance criteria. Refer to Appendix B for exceedance reports.

<sup>3</sup>Complete results for this point are included as Appendix C.



#### 4.2.3 Water Quality Monitoring Results – Port Kembla Harbour Grab Samples

A summary of the results for the Port Kembla Harbour weekly grab samples is presented below in Table 4-6. Further details for exceedances as indicated below (if applicable) are provided in **Appendix B**.

Monitoring Location	Statistic <sup>2</sup>	Aluminium	Ammonia	Arsenic	Cadmium	Chromium (total)	Cobalt	Copper	lron	Lead	Mercury	Nickel	Reactive Phosphorus	Total PAHs	Total Suspended Solids (TSS)	Tributyltin	Zinc
Unit		ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	Ug/L	ug/L	mg/L	ug/L	mg/L	ngSn/L	ug/L
Criteria		200	-	50	5.5	4.4	1	8	-	12	0.4	70	-	50	50	6	21
	Average	<5	0.15	1.56	<1	<0.5	<1	1.00	<5	<0.2	<0.1	1.00	<0.01	<0.05	<5	<2	<5
WQM1	Minimum	<5	0.15	1.30	<1	<0.5	<1	1.00	<5	<0.2	<0.1	1.00	<0.01	<0.05	<5	<2	<5
EPL 1	Maximum	<5	0.15	1.80	<1	<0.5	<1	1.00	<5	<0.2	<0.1	1.00	<0.01	<0.05	<5	<2	<5
	Events above criteria <sup>1</sup>	0	-	0	0	0	0	0	-	0	0	0	-	0	0	0	0
	Average	<5	0.11	1.66	<1	<0.5	<1	1.00	<5	<0.2	<0.1	0.70	<0.01	<0.05	<5	<2	<5
WQM2	Minimum	<5	0.11	1.50	<1	<0.5	<1	1.00	<5	<0.2	<0.1	0.70	<0.01	<0.05	<5	<2	<5
EPL 16	Maximum	<5	0.11	1.90	<1	<0.5	<1	1.00	<5	<0.2	<0.1	0.70	<0.01	<0.05	<5	<2	<5
	Events above criteria <sup>1</sup>	0	-	0	0	0	0	0	-	0	0	0	-	0	0	0	0
	Average	<5	0.28	1.58	<1	<0.5	<1	1.00	<5	<0.2	<0.1	0.70	<0.01	<0.05	<5	<2	<5
WQM3	Minimum	<5	0.28	1.50	<1	<0.5	<1	1.00	<5	<0.2	<0.1	0.70	<0.01	<0.05	<5	<2	<5
EPL 17	Maximum	<5	0.28	1.70	<1	<0.5	<1	1.00	<5	<0.2	<0.1	0.70	< 0.01	<0.05	<5	<2	<5
	Events above criteria <sup>1</sup>	0	-	0	0	0	0	0	-	0	0	0	-	0	0	0	0
WQM4	Average	<5	0.15	1.62	<1	<0.5	<1	1.00	<5	<0.2	<0.1	<0.5	<0.01	<0.05	<5	<2	<5
EPL 18	Minimum	<5	0.15	1.40	<1	<0.5	<1	1.00	<5	<0.2	<0.1	<0.5	<0.01	<0.05	<5	<2	<5
LI L 10	Maximum	<5	0.15	1.90	<1	<0.5	<1	1.00	<5	<0.2	<0.1	<0.5	<0.01	<0.05	<5	<2	<5
WQM5	Average	<5	0.23	1.62	<1	<0.5	<1	1.20	<5	<0.2	<0.1	1.35	<0.01	<0.05	<5	<2	5.33
EPL 19	Minimum	<5	0.23	1.40	<1	<0.5	<1	1.00	<5	<0.2	<0.1	0.50	<0.01	<0.05	<5	<2	5.00
21 2 29	Maximum	<5	0.23	1.80	<1	<0.5	<1	2.00	<5	<0.2	<0.1	2.60	<0.01	<0.05	<5	<2	6.00

<sup>1</sup>Includes individual number of times results exceeded criteria. Refer to **Appendix B** for exceedance reports.

<sup>2</sup>Only results above the laboratory Limit of Reporting (LOR) have been used to calculate these data functions. Where an analyte has not been detected above the LOR throughout the monitoring period, the LOR has been listed.



#### 4.2.4 Water Quality Monitoring Results – Sediment basin discharge

During the reporting month, there were five (5) authorised discharge events, and zero (0) discharge events as a result of excessive rainfall exceeding the design criteria of the basin (>43.5 mm in any 5-day period). Refer to Section 4.3 for site weather monitoring details. The date of the events and a summary of the water quality results for the authorised discharge events from the sediment basin is included below in Table 4-7.

Date of discharge/ sampling	Aluminium	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Nickel	Zinc	Tributyltin	TSS	Hd	Oil & Grease	Total PAH	Overflow Discharge?	Rainfall (mm) Roll. 5-Day Total
	μg/L	µg/L	μg/L	µg/L	µg/L	µg/L	μg/L	μg/L	µg/L	μg/L	μg/L	mg/L	-	-	μg/L	-	mm
Criteria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	NA	Visible	NA	NA	NA
17/03/2023	71	0.8	<0.05	0.3	<0.1	0.8	<0.1	<0.1	<0.5	2	<2	20	6.96	<5	<0.05	Ν	64.6
20/03/2023	87	1.3	<0.05	0.3	<0.1	0.7	<0.1	<0.1	<0.5	<1	<2	12	7.48	<5	<0.05	Ν	5
21/03/2023	185	1.0	<0.05	0.2	<0.1	0.8	<0.1	<0.1	<0.5	1	<2	13	7.63	<5	<0.05	N	5.4
22/03/2023	193	1.1	<0.05	0.3	<0.1	0.8	<0.1	<0.1	<0.5	<1	<2	11	7.40	<5	<0.05	Ν	5.6
23/03/2023	255	1.1	<0.05	0.3	<0.1	1.0	<0.1	<0.1	<0.5	<1	<2	18	7.30	<5	<0.05	Ν	11.2

 Table 4-7 Sediment basin discharge water quality – Pre-discharge and daily grab sample results



#### 4.3 Weather station results

Under the EPL (Condition M6.2), AIE is required to monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either a project weather station, or through analysis of equivalent weather information obtained from the Australian Bureau of Meteorology.

AlE established and maintains a weather station for the project site located at the southern point of Berth 101 (EPL monitoring point 21) as shown in **Appendix A**. The data obtained from the onsite weather station for the reporting period is provided below in Table 4-8.

Parameter	Unit of measure	Monthly statistic	Result EPL 21	
		Average	3.78	
Wind velocity	m/s (15min average)	Minimum	0.20	
		Maximum	11.10	
Wind direction at 10m	Degrees (1 hour averaging period)	See Wind Rose chart (Figure 4-1)		
		Average	0.01	
Rainfall rate	mm/hr (1 hour averaging period)	Minimum	0.00	
		Maximum	1.42	
		Average	3.22	
Rainfall (Total)	mm/day	Minimum	0.00	
		Maximum	50.40	
Rainfall (Total)	mm/month	Total	99.8	
		Average	22.66	
Temperature	Degrees Celsius	Minimum	17.00	
		Maximum	36.80	
		Average	73.06	
Humidity	%	Minimum	19.60	
		Maximum	100.00	

Table 4-8 Site weather station monitoring results summary



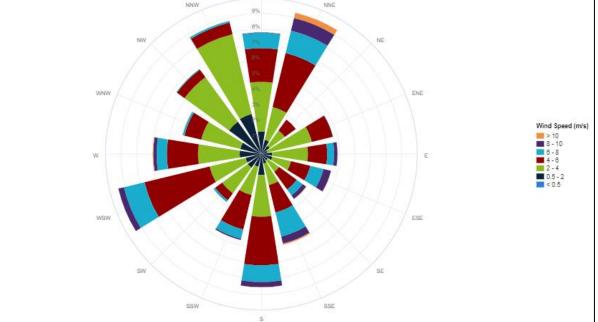


Figure 4-1 Wind Rose chart for the reporting period.



## 5 Environmental complaints

A summary of environmental complaints received during the reporting month and follow-up, close-out and or corrective actions are presented below in Table 5-1 where applicable.

Table 5-1 Environmental complaints summary

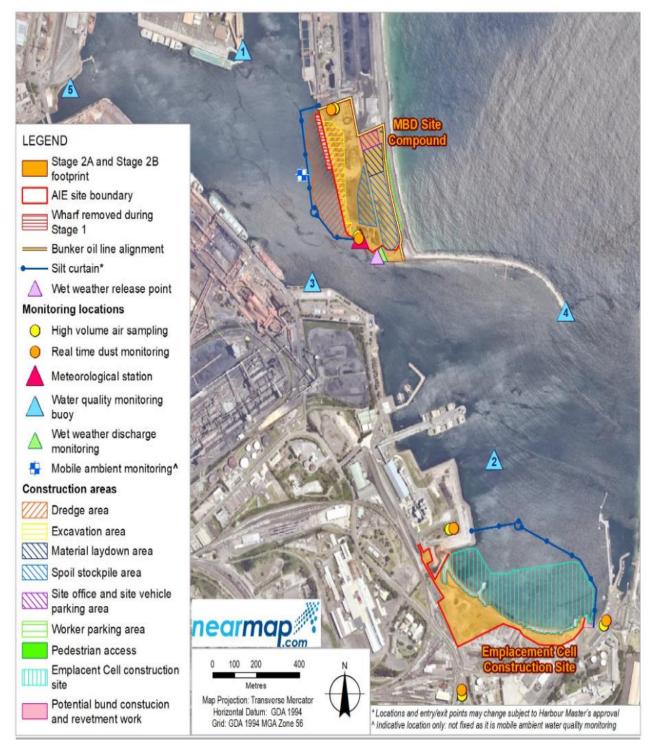
Date	Complaint No.	Nature of the complaint	Follow-up close-out and or corrective action
-	-	-	No complaints for the reporting period.



## Appendices

Page 14 of 14

## Appendix A - Monitoring Location Plan



## Appendix B – Summary of Events Above Criteria

Each exceedance triggers an investigation including the nature of project activities being undertaken, evaluation of wind direction, comparison of upwind and downwind monitors at the time of the event. Dust prevention controls are continually being assessed to ensure their adequacy.

#### Air Monitoring Events Above Criteria

Date	Location	Exceedance value (ug/m <sup>3</sup> /24 hours)	Action Taken & Investigation Outcomes
-	-	-	No exceedances for the reporting period.

#### Water Monitoring Events Above Criteria: Harbour water quality – Continuous monitoring results

Date	Max. Background Buoy Value (Turbidity NTU)	Max. Receiver Buoy Value Turbidity (NTU)	Action Taken & Investigation Outcomes			
	Performance Criteria	35 + BG				
	WQM4 / EPL 18:					
March 14 <sup>th</sup>	4.34	WQM3 / EPL 17:	The exceedance at WQM3 / EPL 17 was due to heavy rainfall			
2023	WQM5 / EPL 19:	36.59	where a total of 64.2mm of rain fell in the 48 hours leading up to			
	84.46		the event.			
	— EP	L 1 - WQMB 1 - EPL 16 - WQMB 2 -	EPL 17 - WQMB 3 - EPL 18 - WQMB 4 - EPL 19 - WQMB 5			
300						
275						
250						
225						
200			1			
175						
150						
125						
75		0.1				
50	4	. MMA.	1/m			
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-25 12 Mar 06:00 12:00	0 18.00 13. Mar 06.00 12.00	18:00 14 Mar 06:00	12:00 18:00 15:Mar 00:00 12:00 18:00 16:Mar 00:00 12:00 18:00			
The <b>above ch</b>	art shows turbidity (NTU)	observations across	s all monitoring buoys from the 12 <sup>th</sup> to the 16 <sup>th</sup> March 2023. Note			
			023 as stormwater flows into the harbour from the surrounding			
catchment.						

Date	Max. Background Buoy Value (DO%) Performance Criteria	Max. Receiver Buoy Value (DO%) 70 – 110	Action Taken & Investigation Outcomes
March 1 <sup>st</sup> to 31 <sup>st</sup> 2023	WQM4 / EPL 18: 131.5 WQM5 / EPL 19: 111.6	WQM1 / EPL 1: 117.9 WQM2 / EPL 16: 141.0 WQM3 / EPL 17: 129.7	Dissolved Oxygen (DO) is a measure of the amount of oxygen available to living aquatic organisms. The project has adopted performance criteria as described by the <i>National Acid Sulfate</i> <i>Soils Guidance (NAASG)</i> for the monitoring of DO during dredging activities. Dredging of acid sulfate soils can result in the reduction of dissolved oxygen in a waterbody due to pyrite (a key component of acid sulfate soils) combining with oxygen to create sulfate compounds such as sulfuric acid. The <i>NAASG</i> suggests a performance criterion for DO of greater than 50% saturation for this reason. These exceedances of the performance criteria were an excess of DO saturation, not a reduction. The high DO levels observed in the harbour are related to several external factors to the project including atmospheric pressure and water temperature, tidal cycles and wind.
	- EPL 1 - WQMB 1	- EPL 16 - WQMB 2 - E	PL 17 - WQMB 3 - EPL 18 - WQMB 4 - EPL 19 - WQMB 5
140 135 130 125 120 115 110 105 105 105 105 105 10			
65 2. Mar 4. Mar	6. Mar 8. Mar 10. Mar	12. Mar 14. Mar 1	8. Mar 18. Mar 20. Mar 22. Mar 24. Mar 28. Mar 28. Mar 30. Mar
	art shows dissolved oxyg and EPL 19 for the repor		mpact buoys EPL 1, EPL 16 and EPL 17, as well as at background

# Appendix C – EPL 24 Data

This is a mobile monitoring point located five metres outside the silt curtain around Berth 101. Point 24 is required to be sampled daily for Total Suspended Solids (TSS) during dredging activities. TSS is monitored in real time using turbidity in NTU and the NTU-TSS correlation as recommended in the current EPL or from an in-field study approved by the EPA, whichever is more current at the time of measurement.

FPI 24 Dai	lv Averaae	Monitoring	Results
	iy niverage	wonneoring	nesuns

EPL 24 Daily Average Mo	miloring Results
Date	Turbidity (NTU)
1/03/2023	NA
2/03/2023	NA
3/03/2023	NA
4/03/2023	NA
5/03/2023	NA
6/03/2023	NA
7/03/2023	NA
8/03/2023	NA
9/03/2023	NA
10/03/2023	NA
11/03/2023	NA
12/03/2023	NA
13/03/2023	NA
14/03/2023	NA
15/03/2023	NA
16/03/2023	NA
17/03/2023	NA
18/03/2023	NA
19/03/2023	NA
20/03/2023	NA
21/03/2023	NA
22/03/2023	NA
23/03/2023	NA
24/03/2023	NA
25/03/2023	NA
26/03/2023	NA
27/03/2023	NA
28/03/2023	NA
29/03/2023	NA
30/03/2023	NA
31/03/2023	NA

Note: For dates where no results are recorded, no dredging activities at Berth 101 were undertaken.