



Newcastle Terminal Monitoring Data

The following ATOM Newcastle Terminal pollution monitoring data has been collected under conditions of the applicable Environmental Protection Licence number 527 and published in accordance with section 66(6) of the POEO Act.

Release Point: POINT 1: Water discharge
Frequency: Representative sample of each discharge event
Contaminant: Oil and Grease
Limit: 100 percentile concentration limit: 10mg/L

Sample date	Reference (ALS)	Result (mg/L)	Discharge Flow (kL)
27/07/2020	WN2006627	<2	2500
16/07/2020	WN2006349	<2	1000
10/06/2020	WN2005267	<2	1000
27/05/2020	WN2004717	<2	1000
27/03/2020	WN2002625	<2	2000
27/02/2020	WN2001864	<2	1000
10/02/2020	WN2001081	<2	2500
14/10/2019	WN1907870	<2	500
18/09/2019	WN1906881	<2	1000
30/08/2019	WN1906315	<2	1500
31/07/2019	WN1905420	<2	500
25/06/2019	WN1904284	<2	2500
05/06/2019	WN1903667	<2	1000
01/04/2019	WN1902180	<2	500
09/10/2018	WN1805824	3	2000
04/09/2018	WN1804921	<2	1500
19/06/2018	WN1802865	<2	2000
04/06/2018	WN1802464	<2	3500
30/04/2018	WN1801846	<2	1000
09/04/2018	WN1801529	6	1000
22/03/2018	WN1801287	<2	2000
22/02/2018	WN1800876	<2	1000
07/11/2017	WN1705005	<2	1000
23/10/2017	WN1704792	<2	5000
13/07/2017	WN1703094	<2	500
13/06/2017	ES1714600	<5	5000
3/04/2017	ES1708035	<5	1000
15/03/2017	ES1706307	<5	5000

2/03/2017	ES1705028	<5	1500
21/02/2017	ES1704250	<5	1500
25/01/2017	ES1701891	<5	500
5/01/2017	ES1700288	<5	500
16/12/2016	ES1629525	<5	3000
14/11/2016	ES1625980	<5	1000
24/10/2016	ES1624033	<5	1500
13/10/2016	ES1623262	<5	1500
22/09/2016	ES1621440	6	1500
5/09/2016	ES1619713	<5	1500
4/08/2016	ES1617315	<5	2000
25/07/2016	ES1616372	<5	2000
21/06/2016	ES1613391	<5	2000
1/06/2016	ES1611955	<5	3000
2/05/2016	ES1609375	<5	1000
15/04/2016	ES1608496	<5	1000
21/03/2016	ES1606373	<5	1000
15/02/2016	ES1603460	<5	500
18/01/2016	ES1601333	<5	1000
8/01/2016	ES1600517	<5	6000
28/12/2015	ES1539529	<5	2000
10/12/2015	ES1538671	<5	1000
16/11/2015	ES1536608	<5	750
4/11/2015	ES1535556	<5	1000

Release Point:

Frequency:

Contaminant:

Limit:

POINT 2: Air emissions

Collection of a single four-hour (continuous) sample on a 6-monthly basis

Organic Vapours

100 percentile concentration limit of 10 mg/L of volatile organic liquid

Sample date	Result (mg/L)
15/01/2020	1.300
30/10/2019	2.900
17/01/2019	0.587
31/07/2018	2.067
18/01/2018	2.299



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Release Point: POINT 3 - 31: Groundwater Monitoring

Frequency: Six monthly

Monitoring is conducted in two separate events;

1. Monitoring Wells based in the terminal
2. Monitoring Wells located along the pipeline connecting the wharf to the terminal.

Monitoring summaries are extracted from Groundwater Monitoring reports, any reference in the following extracts below are in these reports.

June 2020 - Terminal Monitoring Wells:

3.1 Comparison Against Adopted Beneficial Use Criteria

The laboratory analytical reports have been provided in **Appendix D** of this report and Chain of Custody documents have been provided in **Appendix E** of this report. The analytical results have been summarised in **Table 4** below. Green indicates the adopted beneficial criteria was not exceeded, orange indicates that concentrations reported were within 25% of the adopted criteria, and red indicates that the criteria was exceeded.

Table 4: Groundwater Analytical Results (µg/L)			
Contaminant	Conc. Range	Marine Aquatic Ecosystems ¹	Recreational & Aesthetic Guidelines ²
Benzene	<1 µg/L	●	●
Toluene	<2 µg/L	●	●
Ethylbenzene	<2 µg/L	●	●
Xylene	<2 µg/L	●	●
TRH F1	<0.02 mg/L	●	●
TRH F2	<0.1 – 0.18 mg/L	●	●
Naphthalene	<5 µg/L	●	●

¹ NEPM 2013, GIL, marine waters, 95% species protection for slightly to moderately disturbed ecosystems.
² ANZECC/ARMCANZ 2000, Recreational and Aesthetic Guidelines.

June 2020 - Pipeline Monitoring Wells:

3.1 Comparison Against Adopted Beneficial Use Criteria

The laboratory analytical reports have been provided in **Appendix D** of this report and Chain of Custody documents have been provided in **Appendix E** of this report. The analytical results have been summarised in **Table 4** below. Green indicates the adopted beneficial criteria was not exceeded, orange indicates that concentrations reported were within 25% of the adopted criteria, and red indicates that the criteria was exceeded.

Table 4: Groundwater Analytical Results (µg/L)			
Contaminant	Conc. Range	Marine Aquatic Ecosystems ¹	Recreational & Aesthetic Guidelines ²
Benzene	<1 µg/L	●	●
Toluene	<2 µg/L	●	●
Ethylbenzene	<2 µg/L	●	●
Xylene	<1 µg/L	●	●
TRH F1	<0.02 mg/L	●	●
TRH F2	<0.1 mg/L	●	●
Naphthalene	<5 µg/L	●	●

¹ NEPM 2013, GIL, marine waters, 95% species protection for slightly to moderately disturbed ecosystems.
² ANZECC/ARMCANZ 2000, Recreational and Aesthetic Guidelines.

December 2019 – Terminal Monitoring Wells

8.1.3 Comparison against Adopted Beneficial Use Criteria

The laboratory analytical reports and Chain of Custody documentation have been provided in **Appendix G** of this report. The analytical results have been summarised below in **Table 5**. Green indicates the adopted beneficial criteria was not exceeded, orange indicates that concentrations reported were within 20% of the adopted criteria, and red indicates that the criteria was exceeded.

Table 5: Groundwater Analytical Results (µg/L)			
Contaminant	Conc. Range	Recreational & Aesthetic Guidelines ¹	GILs Marine Waters ²
Benzene	<1 µg/L	●	●
Toluene	<2 µg/L	●	●
Ethylbenzene	<2 µg/L	●	●
Xylene	<2 µg/L	●	●
TRH F1	<20 to 500 µg/L	N/A	N/A
TRH F2	1,040 to 1,100 µg/L	N/A	N/A
Naphthalene	<5 µg/L	●	●

¹ ANZECC/ARMCANZ 2000, Recreational and Aesthetic Guidelines

² NEPM 1999 as amended in 2013 Table C GILs, Marine Waters

December 2019 – Pipeline Monitoring Wells

8.1.3 Comparison Against Adopted Beneficial Use Criteria

The analytical results have been summarised below in **Table 6**. Green indicates the adopted beneficial criteria was not exceeded, orange indicates that concentrations reported were within 20% of the adopted criteria, and red indicates that the criteria was exceeded.

Table 6: Groundwater Analytical Results (µg/L)			
Contaminant	Conc. Range	Recreational & Aesthetic Guidelines ¹	GILs Marine Waters ²
Benzene	<1 µg/L	●	●
Toluene	<2 µg/L	●	●
Ethylbenzene	<2 µg/L	●	●
Xylene	<2 µg/L	●	●
TRH F1	<20 µg/L	N/A	N/A
TRH F2	<100 µg/L	N/A	N/A
Naphthalene	<5 µg/L	●	●

¹ ANZECC/ARMCANZ 2000, Recreational and Aesthetic Guidelines

² NEPM 1999 as amended in 2013 Table C GILs, Marine Waters

July 2019 - Terminal Monitoring Wells:

3 Results

3.1 Comparison Against Adopted Beneficial Use Criteria

The laboratory analytical reports and Chain of Custody documents have been provided in Appendix D of this report. The analytical results have been summarised below in Table 4. Green indicates the adopted beneficial criteria was not exceeded, orange indicates that concentrations reported were within 20% of the adopted criteria, and red indicates that the criteria was exceeded.

Table 4: Groundwater Analytical Results (µg/L)

Contaminant	Conc. Range	Human Health ¹	Marine Aquatic Ecosystems ²
Benzene	<1 µg/L	●	●
Toluene	<2 µg/L	●	●
Ethylbenzene	<2 µg/L	●	●
Xylene	<2 µg/L	●	●
TRH F1	<20µg/L	●	●
TRH F2	<100 – 240 µg/L	●	●
Naphthalene	<5µg/L	●	●

¹ NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand (2-4m)

² NEPM 2013, GIL, marine waters, 95% species protection for slightly to moderately disturbed ecosystems

July 2019 - Pipeline Monitoring Wells:

3 Results

3.1 Comparison again Adopted Beneficial Use Criteria

The laboratory analytical reports and Chain of Custody documents have been provided in Appendix D of this report. The analytical results have been summarised below in Table 5. Green indicates the adopted beneficial criteria was not exceeded, orange indicates that concentrations reported were within 20% of the adopted criteria, and red indicates that the criteria was exceeded.

Table 5: Groundwater Analytical Results (µg/L)

Contaminant	Conc. Range	Human Health ¹	Marine Aquatic Ecosystems ²
Benzene	<1 ug/L	●	●
Toluene	<2 ug/L	●	●
Ethylbenzene	<2 ug/L	●	●
Xylene	<2 ug/L	●	●
TRH F1	<20µg/L	●	●
TRH F2	<100µg/L	●	●
Naphthalene	<5 ug/L	●	●

¹ NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Sand (2-4m)

² NEPM 2013, GIL, marine waters, 95% species protection for slightly to moderately disturbed ecosystems