

Adelaide Desalination Project (ADP) – DBOM

# Quarterly Salinity Monitoring Report

For January February March 2018

1	28-May-18	R. Liu
<b>Rev</b>	<b>Date</b>	<b>Approved AdelaideAqua</b>

## Table of Contents

<b>1. Volumes of seawater received, and outfall discharged .....</b>	<b>3</b>
<b>2. Water Quality.....</b>	<b>3</b>
<b>2.1 Seawater Characteristics Results .....</b>	<b>3</b>
<b>2.2 Discharge Characteristics Results.....</b>	<b>4</b>
<b>3. Salinity Monitoring Results .....</b>	<b>4</b>
<b>3.1 Average Salinity Discharge (U-148,U-149) Results.....</b>	<b>4</b>
<b>3.2 Salinity Discharge (U-145,U-146) Results .....</b>	<b>5</b>

## 1. Volumes of seawater received, and outfall discharged

Table 1 below shows summary of seawater received and outfall discharged volumes for this reporting period.

Daily volumes of seawater intake and outfall discharge for this reporting period are shown in Appendix

**Table 1 - Intake and Discharge Volume Summary**

Date	Seawater Received (ML)		Outfall (ML)
	SP1	SP2	Total
<b>January</b>	1660.317	610.085	1256.096
<b>February</b>	600.926	495.705	636.140
<b>March</b>	113.890	218.576	109.910
<b>Quarterly Total</b>	2375.133	1324.366	2002.146

## 2. Water Quality

### 2.1 Seawater Characteristics Results

Table 1 above shows summary of seawater Characteristics for this reporting period.

10 minutes intake data for this reporting period are shown in Appendix.

**Table 2 - Seawater Characteristics Summary**

Parameter	Conductivity	Temperature	pH	DO
	Us/cm	°C	-	mg/L
<b>Average</b>	55988.00	22.14	8.02	8.49
<b>Minimum</b>	49798.00	20.00	6.10	4.21
<b>Maximum</b>	59636.84	28.10	8.80	9.30

Parameter	Biochemical Oxygen Demand	Suspended solids	Nitrogen (Total)	Phosphorus (Total)	Zinc (Total)	Lead (Total)	Copper (Total)
	mg/L		mg/L as N	mg/L as P	mg/L	mg/L	mg/L
<b>Average</b>	2.00	4.00	0.19	0.02	0.008	0.001	0.001
<b>Minimum</b>	2.00	1.00	0.09	0.01	0.003	0.001	0.001
<b>Maximum</b>	2.00	18.00	0.36	0.03	0.021	0.001	0.001

## 2.2 Discharge Characteristics Results

Table 1 above shows summary of Discharge Characteristics for this reporting period.

10 minutes discharge data for this reporting period are shown in Appendix

**Table 3 - Discharge Characteristics Summary**

Parameter	Conductivity	Temperature	pH	DO	Cl2
	Us/cm	°C	-	mg/L	mg/L
<b>Average</b>	82029.44	21.08	8.12	8.24	0
<b>Minimum</b>	51749.46	16.08	6.21	6.02	0
<b>Maximum</b>	101424.55	23.35	8.84	10.83	0

Parameter	Biochemical Oxygen Demand	Suspended solids	Nitrogen (Total)	Phosphorus (Total)	Zinc (Total)	Lead (Total)	Copper (Total)
	mg/L		mg/L as N	mg/L as P	mg/L	mg/L	mg/L
<b>Average</b>	2.00	3.44	0.28	0.24	0.02	0.001	0.008
<b>Minimum</b>	2.00	1.00	0.18	0.15	0.01	0.001	0.001
<b>Maximum</b>	2.00	11.00	0.37	0.30	0.05	0.001	0.017

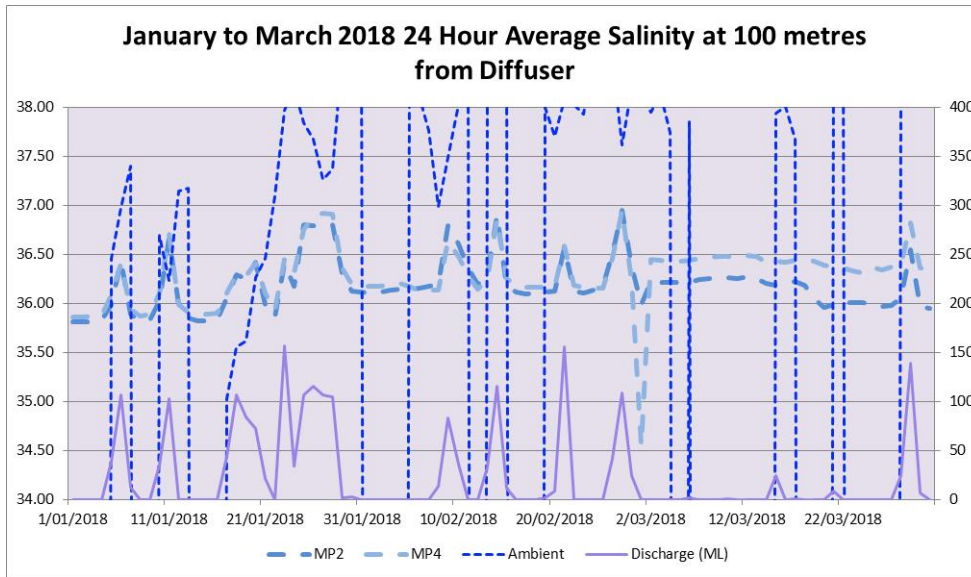
## 3. Salinity Monitoring Results

### 3.1 Average Salinity Discharge (U-149) Results

Table 4 below shows summary of average salinity discharge results for this reporting period. Over the quarter, the highest salinity measured at the 100m diffuser was 37.24 ppt and ambient salinity was 36.73 on 14/02/2018. This verifies that the salinity recorded at the 100m diffuser did not exceed the threshold of 1.3 ppt above ambient salinity.

Figure 1 below shows the graph of the average salinity at 100m from the diffuser for this reporting period. 10 minutes MP2 and MP4 data for this reporting period are shown in the Appendix. No exceedances, issues associated with Average Salinity Discharge (U-149) were addressed during this reporting period.

	Average Salinity Discharge		
	January	February	March
<b>Average</b>	36.17	36.29	36.26
<b>Minimum</b>	35.80	36.04	35.45
<b>Maximum</b>	37.15	37.24	37.06



**Figure 1- Average salinity at 100m from diffuser during this reporting period**

### 3.2 Salinity Discharge (U-145,U-146) Results

Table 5 below shows summary of salinity discharge ratio results for this reporting period. Over the quarter, the highest salinity discharge ratio was 1.93 on 09/02/2018. This verifies that the discharge salinity did not exceed the intake salinity by a factor of 2.1. No exceedances, issues associated with Salinity Discharge (U-145, U-146) were addressed during this reporting period.

	Salinity Discharge Ratio		
	January	February	March
<b>Average</b>	1.28	1.13	1.03
<b>Minimum</b>	1	1	1
<b>Maximum</b>	1.92	1.93	1.82