

RTA Weipa Pty Ltd

# Amrun Project Port Maintenance Dredging Water Quality Reporting

August 2018

**RioTinto**



**A report prepared in accordance with requirements of the Amrun  
Project EPBC Act Approval 2010/5642 and Maintenance Dredge  
Management Plan - Port.**

**DOCUMENT CONTROL**

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## 1 INTRODUCTION

The Amrun Project (formerly South of Embley) involves the construction and operation of a bauxite mine and associated processing and port facilities to be located near Boyd Point on the western side of Cape York Peninsula. A detailed description of the Project is provided in the Queensland EIS (RTA 2011), the Queensland SEIS (RTA 2012), and the Commonwealth Environmental Impact Statement (RTA 2013).

The marine works associated with the new port facility included the construction of jetty, wharf and ship loaders and dredging of berth pockets and departure channel. Maintenance dredging operations were completed using a trailer suction hopper dredge *the Brisbane* between 01 and 04 May 2018 with a total dredge volume of 42,038m<sup>3</sup> of in-situ material removed by dredging over the campaign. This consisted of approximately 46% of the approved 92,000m<sup>3</sup> approved in the Sea Dumping Permit (SD2017/3722) and Maintenance Dredge Management Plan – Port (approved by EHP on 8 March 2018 and Department of Environment and Energy on 15 March 2018).

Amrun Project environmental approvals (EPBC 2010/5642, EPML00725113) required water quality monitoring to determine the extent of plume and identify if there are any impacts on the local marine environment. This report presents the survey methodology and results of the water quality monitoring associated with the 2018 port maintenance dredge campaign and published in accordance with Condition 57 of the approval EPBC 2010/5642.

## 2 METHODOLOGY

The water quality monitoring program was conducted in accordance with the Maintenance Dredge Management Plan – Port. Monitoring was completed during dredging activities from 01 – 04 May 2018.

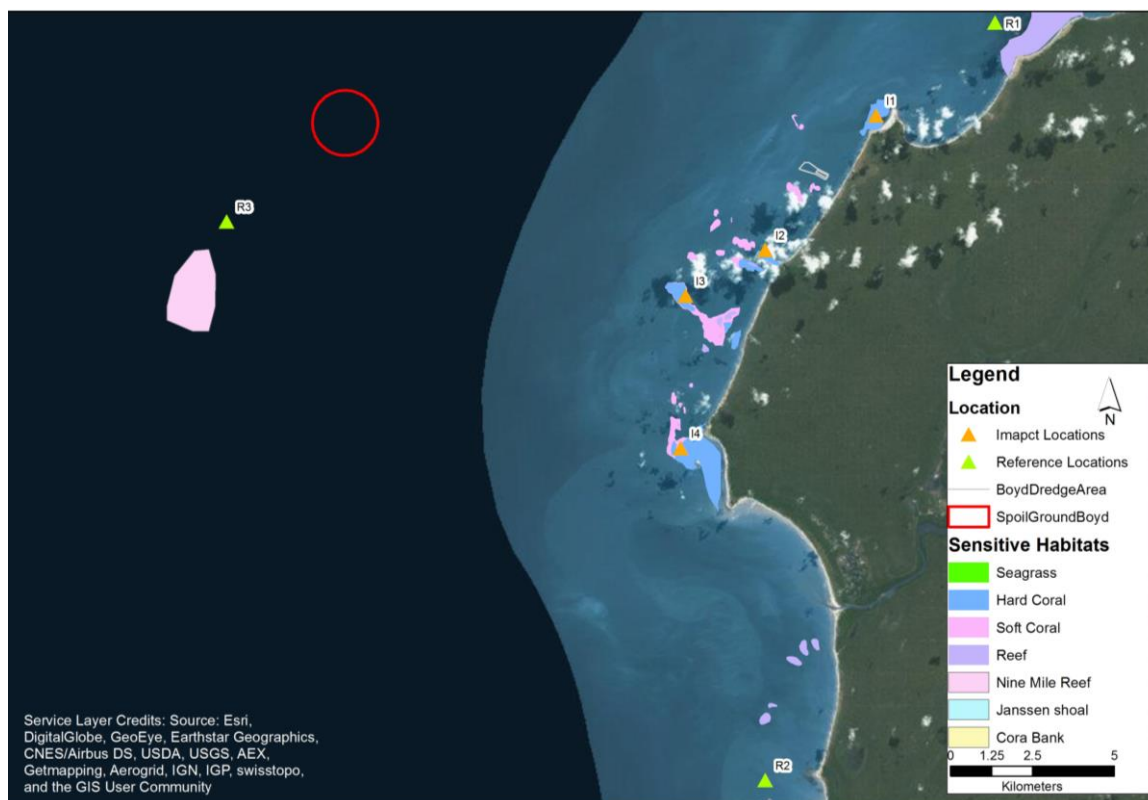
The water quality monitoring program incorporated two components:

- in situ water quality monitoring (primary monitoring method); and
- satellite imagery (secondary monitoring method).

Boat-based in situ monitoring was completed once a day using a hand-held water quality meter at five inshore water quality monitoring locations (I1 – I4 and R1; **Figure 1**). Five readings were collected from approximately 1m above the seabed at three minute intervals.

Satellite imagery assisted in determining if a dredge plume extended to potential sites of concern and determine if high turbidity values were region wide. No plume was observed on the imagery throughout the dredging.

Figure 1 Boat-based water quality monitoring sites



### 3 RESULTS

A summary of mean turbidity data collected during the water quality monitoring program are presented in **Table 1**. Turbidity remained below 2 NTU for all locations.

**Figure 2** displays in field photos collected of the plume. A slight surface plume was visible in some of the pictures.

**Table 1** Mean daily turbidity values (NTU) for each location

Site	1/05/2018	2/05/2018	3/05/2018	4/05/2018
I1	1.0	1.3	1.1	1.1
I2	0.7	1.2	1.2	1.2
I3	1.1	1.0	1.2	1.0
I4	0.7	0.5	0.7	0.6
R1	1.5	1.1	1.1	0.8

Figure 2: In field images taken of the plume are displayed below.



30/04/2018 prior to dredging view from wharf looking south



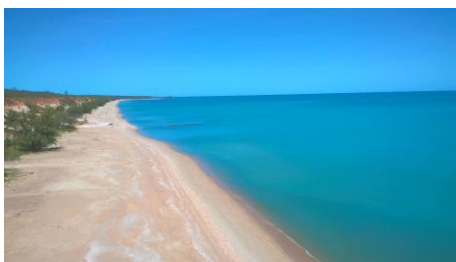
30/04/2018 prior to dredging view from wharf looking south



01/05/2018 view of plume from *wharf*



01/05/2018 view of *Brisbane dredging*



02/05/2018



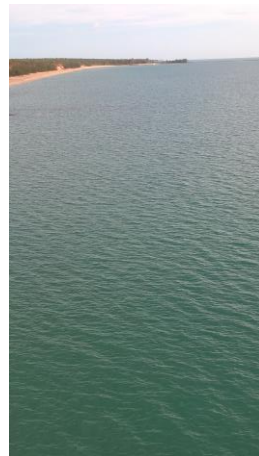
02/05/2018 PLUME



02/05/2018 looking into water south of trestle



**03/05/2018 looking down from trestle**



**03/05/2018**

## **4 CONCLUSIONS**

Based on the data collected plume water quality impacts associated with dredging are assessed as nil to low.