



Abbot Point  
Stormwater Return Dam  
(EPBC 2010/5561)  
2013 Water Quality Monitoring  
Report  
28 January 2014

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### APPENDICES

**Appendix A** Construction monitoring results – pH and turbidity at sump prior to pumped discharge to Caley Valley Wetland

## Abbreviations

Abbreviation	Full meaning
AAPT	Adani Abbot Point Terminal Pty Ltd
APB	Abbot Point Bulk Coal Pty Ltd
CCR	Construction Compliance Report
CEMP	Construction Environment Management Plan
EPBC	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
HDPE	High density polyethylene liner
NQBP	North Queensland Bulk Ports Corporation
OCR	Operation Compliance Report (this report)
OEMP	Operational Environment Management Plan
SRD	Stormwater Return Dam
SP1	Sediment Pond 1
SP2	Sediment Pond 2
T1	Abbot Point Coal Terminal
WQMP	Water Quality Monitoring Plan
WTP	Water treatment plant

## 1. Introduction

### 1.1. Project Background

Adani Abbot Point Terminal Pty Ltd is a wholly owned subsidiary of Adani Enterprises Limited, a company based in Ahmedabad, India. In June 2011, Mundra Port Holding Trust which is owned by Mundra Port Pty Ltd (a subsidiary company of Adani Enterprises Limited) purchased a 99 year lease of Abbot Point Coal Terminal 1 (T1) facility. The T1 facility is located 25 km to the north of Bowen in Central Queensland and has been operational since 1984. The T1 facility is operated by APB under operation and maintenance contract with AAPT.

As part of the expansion of T1 to 50 Mtpa annual throughput capacity (X50 Project), stormwater augmentation works were proposed to increase the capacity of the stormwater management network on site. The works included the construction of a high density polyethylene (HDPE) lined 565 mega-litre capacity SRD and the following associated infrastructure (refer to Figure 1):

- Sediment Pond No.2 (SP2) intake platform and channel (located within the bounds of the existing SP2);
- SRD water treatment plant (SRD WTP); and
- Two primary pipelines including:
  - A water return pipeline connecting the SP2 intake platform and channel with the SRD WTP and SRD; and
  - A supply water pipeline, connecting the SRD with the existing Bald Hill reservoir.

Under operations phase, the SRD is operated as follows:

- subject to water being available at the SP2 intake pumping water to the SRD from SP2 via the SRD WTP (for the purposes of pH correction, if required);
- retention of collected stormwater in the SRD; and
- pumping of water from the SRD to the Bald Hill reservoir via the SRD WTP (for the purposes of disinfection via chlorination).

Water is then used throughout T1 operations as process water.

**Figure 1 – Abbot Point Stormwater Return Dam**

## 1.2. Commonwealth Approval

A referral (EPBC 2010/5561) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was submitted to the Department on 29 June 2010 by the previous T1 owner, North Queensland Bulk Ports Corporation (NQBP). The action was deemed to be a *controlled action* requiring assessment by Preliminary Documentation. The controlling provisions were:

- World Heritage Properties (sections 12 & 15A); and
- National Heritage places (sections 15B & 15C).

Preliminary Documentation was available for public notification from 6 May 2011 to 3 June 2011. Given the purchase of the 99 year lease over T1, AAPT became the new proponent for the proposed SRD action on 13 July 2011. An EPBC approval subject to 12 conditions was issued to AAPT on 2 December 2011.

### 1.3. Water Quality Management Plans

In accordance with Condition 2 of the EPBC approval, water quality management plans (WQMPs) were submitted to protect the values of the Great Barrier Reef World Heritage Area and National Heritage Place. Separate WQMPs were submitted for construction and operational phases to reflect the different risks and methods for managing water discharges.

The WQMP for construction phase was approved on 12 June 2012 by the Department as part of the overall Construction Environmental Management Plan (CEMP). Under the WQMP monitoring was required weekly for a range of in-situ parameters at the stormwater basin prior to and post discharge events. Monitoring was similarly required within the Caley Valley Wetland, but also included monthly monitoring for a range of water sample parameters.

The WQMP for operations was approved on 1 July 2013 by the Department as part of the overall Operational Environmental Management Plan (OEMP). The WQMP identifies monitoring requirements, which include monitoring prior to, during and following a discharge event from sediment pond 2 to the Downstream 1 Caley Valley Wetland location. Monitoring is required for a range of in-situ and water sample parameters prior to, during and post-discharge for a period of two weeks.

### 1.4. Status of Development

Construction of the SRD was formally completed on 31 August 2013.

Operation of the SRD formally commenced on 1 September 2013. The operators of the Abbot Point Coal Terminal, Abbot Point Bulk Coal (APB), are responsible for managing the SRD according to approval conditions.

### 1.5. Purpose of the Document

Condition 2 (part) of the *Environment Protection and Biodiversity Conservation Act 1999* approval (EPBC 2010/5561) for the Abbot Point Stormwater Return Dam (SRD) requires in respect of an approved WQMP:

*"Results of the Monitoring Programs (including data and its interpretation) are to be provided annually, by 31 January of each year, to the department. These results, including data and its interpretation, must be published on the proponent's website within 1 month of being approved and made available for 6 months."*

This report presents water quality data and its interpretation for the 2013 calendar year, which includes both periods of construction and operation.

## 2. Monitoring Results and Interpretation

### 2.1. Construction

A Construction Compliance Report (CCR) covering the entire construction period to 31 August 2013 was published on 30 September 2013 and included information regarding any non-compliance with the WQMP.

In closing out the construction compliance report, a third party (Houghton Environmental Management) Site Environmental Investigation Report reviewed the water quality monitoring

undertaken and environmental risks to the Caley Valley Wetland and downstream Great Barrier Reef World Heritage Area and National Heritage Place. Collated construction contractor discharge monitoring information from that report is presented in **Appendix 1**, along with interpretation.

In summary, wet season rainfalls over January to early March 2013 required discharge from the sediment basin. Over this time, the HDPE liner of the SRD was essentially completed over the earthworks, limiting potential for generation of turbid stormwater. Discharge occurred via a sump, with stilling water pumped via two pumping points to a cross-rail drainage point and five sediment control points, prior to overland flow and entry into the Caley Valley Wetland. Monitoring was undertaken at the sump for pH and turbidity. Monitoring results and comparison against trigger values in the WQMP results demonstrate that there were no discharges that exceeded pH and turbidity trigger values. The Site Environmental Investigation Report concluded that there was unlikely to have been any significant adverse impacts on water quality downstream of the site during the construction program.

## **2.2. Operations**

The SRD has been operational since 1 September 2013. During the period of operation from 1 September 2013 to 31 December 2013 there has not been any discharge event from the sediment pond 2 to the wetland. As there was no discharge event during this period there was no data to be collected at monitoring sites; therefore, in accordance with the WQMP, no data was available to be reported to the Department.

## **3. Ongoing Operations Monitoring**

Condition 2 of the EPBC approval requires monitoring in accordance with the WQMP within the approved OEMP. AAPT will continue to work with the terminal operator (APB) to ensure that monitoring is undertaken in accordance with the WQMP requirements.

A monitoring report for the 2014 year is required to be provided to the Department by 31 January 2015.

## Appendix A

Construction monitoring results – pH and turbidity at sump prior to pumped discharge to Caley Valley Wetland

Date & Time	Weather	pH	Turbidity (NTU)
25/01/2013			
Morning (11:30)am	Overcast	7.5	18.5
Afternoon	Overcast	7.5	10.6
26/01/2013			
Morning	Overcast	7.5	9.48
Afternoon	Overcast	7.5	11.3
27/01/2013			
Morning	Light Rain	7.5	13.5
Afternoon	Light Rain	7.5	9.98
28/01/2013			
Morning	Overcast	7.5	10.3
Afternoon	Overcast	7.5	10.9
29/01/2013			
Morning	Fine	7.5	10.9
Afternoon	Fine	7.5	11.3
30/01/2013			
Morning	Fine	7.9	17.3
Afternoon	Fine	7.7	15.7
31/01/2013			
Morning	Fine	7.9	17.5
Afternoon	Fine	7.8	17.3
1/02/2013			
Morning	Fine	7.5	16.4
Afternoon	Fine	7.5	15.5
2/02/2013			
Morning	Fine	7.5	16.9
Afternoon	Fine	7.5	15.5
3/02/2013			
Morning	Fine	7.1	18.5
Afternoon	Fine	7	17.9
4/02/2013			
Morning	Fine	7	18.3
Afternoon	Fine	7	16.5
5/02/2013			
Morning	Fine	7	12.3
Afternoon	Fine	7	13.3



Date & Time	Weather	pH	Turbidity (NTU)
6/02/2013			
Morning	Fine	7	11.9
Afternoon	Fine	7.1	12.8
7/02/2013			
Morning	Fine	7	13.6
Afternoon	Fine	7	13.1
8/02/2013			
Morning	Fine	7	14.1
Afternoon	Fine	7	12.4
9/02/2013			
Morning	Fine	7	12.9
Afternoon	Fine	7.1	13.8
10/02/2013			
Morning	Fine	7	14.5
Afternoon	Fine	7	14.2
11/02/2013			
Morning	Fine	7.3	15.7
Afternoon	Fine	7.3	16.9
12/02/2013			
Morning	Fine	7.5	16.3
Afternoon	Fine	7.5	16.8
13/02/2013			
Morning	Fine	7.2	17.7
Afternoon	Fine	7.3	17.1
14/02/2013			
Morning	Shower	7.2	16.8
Afternoon	Shower	7.1	15.9
15/02/2013			
Morning	Overcast	7.2	17.1
Afternoon	Overcast	7.3	16.5
16/02/2013			
Morning	Overcast	7.5	17.3
Afternoon	Overcast	7.5	17.1
17/02/2013			
Morning	Overcast	7.4	16.6
Afternoon	Overcast	7.4	15.7
18/02/2013			
Morning	Overcast	7.4	12.5
Afternoon	Overcast	7.3	13.8

Date & Time	Weather	pH	Turbidity (NTU)
19/02/2013			
Morning	Overcast	7.4	14.5
Afternoon	Overcast	7.4	15.8
20/02/2013			
Morning	Fine	7.4	16.4
Afternoon	Fine	7.4	14.6
21/02/2013			
Morning	Fine	7.3	17.2
Afternoon	Fine	7.2	17.3
22/02/2013			
Morning	Fine	7.3	16.7
Afternoon	Fine	7.3	16.2
23/02/2013			
Morning	Fine	7.3	17.8
Afternoon	Fine	7.3	16.7
24/02/2013			
Morning	Fine	7.3	15.8
Afternoon	Fine	7.3	16.1
25/02/2013			
Morning	Fine	7.3	16.6
Afternoon	Fine	7.3	16.5
26/02/2013			
Morning	Fine	7.3	17.6
Afternoon	Fine	7.2	15.9
27/02/2013			
Morning	Overcast	7.4	17.6
Afternoon	Overcast	7.3	18.5
28/02/2013			
Morning	Overcast	7.3	17.5
Afternoon	Overcast	7.3	17.1
1/03/2013			
Morning	Overcast	7.3	17.7
Afternoon	Overcast	7.3	16.9
2/03/2013			
Morning	Overcast	7.1	17.8
Afternoon	Overcast	7.2	17.9
3/03/2013			
Morning	Overcast	7.1	17.6
Afternoon	Overcast	7.2	18.1

Date & Time	Weather	pH	Turbidity (NTU)
4/03/2013			
Morning	Rain	7.1	17.6
Afternoon	Rain	7.2	18.8
5/03/2013			
Morning	Rain	7.3	17.3
Afternoon	Rain	7.2	18.7
6/03/2013			
Morning	Rain	7.3	20.5
Afternoon	Rain		

<b>Comparison against WQMP trigger levels</b>			
WQMP Trigger level (Low)		6	2
WQMP Trigger level (High)		8	200
<b>Number of time triggers exceeded</b>		<b>0</b>	<b>0</b>