#### **Melanie Pilgrim**

From:

CARLOS Reuben < Reuben. Carlos@ehp.qld.gov.au>

Sent:

Friday, 19 May 2017 7:40 AM

To:

Danielle Cohen

Cc:

**ELLWOOD Dean** 

Subject:

Abbot Point - Caley Valley DSITI report

Attachments:

CaleyValleywetlands\_Assessment Impacts\_Cyclone Debbie\_Final.pdf



Danielle

Please find attached the report from DSITI.

We received this yesterday afternoon.

Cheers

Reuben

#### **Reuben Carlos**

**Executive Director** 

#### **Coal and Central QLD Compliance**

Department of Environment and Heritage Protection

Irrelevant

209 Bolsover St Rockhampton 4700 PO Box 413 Rockhampton 4700

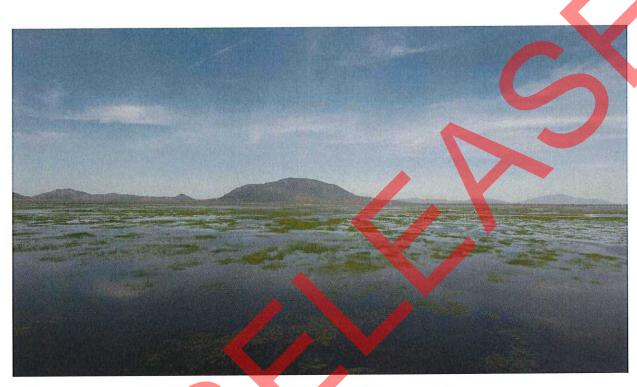
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# Caley Valley Wetlands

Preliminary assessment of impacts to Caley Valley Wetlands from Abbot Point Coal Terminal post Tropical Cyclone Debbie.



May 2017

#### Prepared by

Environmental Monitoring and Assessment Sciences Science Delivery Division Department of Science, Information Technology and Innovation AND

Conservation and Sustainable Services
Department of Environment and Heritage Protection

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May 2017

## **Executive summary**

The Department of Science, Information Technology and Innovation (DSITI) was commissioned to conduct a Preliminary Site Assessment of Caley Valley Wetlands adjacent to the Abbot Point Bulk Coal Terminal (Abbot Point Terminal). The site had been subject to an authorised release of water from the secondary settlement pond (which is part of the stormwater system) from Abbot Point Terminal.

Satellite imagery collected after Tropical Cyclone Debbie appeared to show dark waters downstream of a release point extending into the wetland. Consistent with a temporary emissions licence (TEL), the coal terminal operator, Abbot Point Bulkcoal Pty Ltd, sampled the stormwater release as soon as practicable and safe. The results of testing indicated that the release into the wetland was below the thresholds set in the licence condition.

In April 2017, staff from DSITI and the Department of Environment and Heritage Protection (EHP) wetland group undertook a preliminary assessment of the site. The objective for the preliminary site assessment was to assess the presence or otherwise of coal fines associated with the release, and if present, to undertake an initial assessment as to whether this has caused impacts to the wetlands. This report provides a summary of results from the April sampling program.

The Caley Valley is a nationally important wetland and is listed in the Directory of Important Wetlands in Australia. The site contains coastal grass sedge wetland, mangroves, saltmarsh, creeks and channels and a lacustrine wetland (a lake). The Caley Valley Wetlands complex is a large relatively intact wetland system covering an area of about 5154 hectares. Although the wetland has been modified, it supports a wide range of wetland values including migratory and threatened birds.

Key findings of this preliminary assessment were:

- Although there were indications of recent flooding, there was little visual evidence of coal fines across the whole of the wetland. This is consistent with trace levels (<1%) of coal measured at most sites.
- Coal fines were only visually observed at a site immediately downstream of the licensed discharge point to the south of the spillway of settlement pond 2. This is consistent with the results from the sediment analysis at this site, which found that coal composed approximately 10% of the sample. There appeared to be partial coverage of the wetland substrate and the lower stems of marine couch (*Sporobolus virginicus*) with coal fines. Even so, there did not appear to be any impediment to growth of wetland plants in this area as new growth, in response to the recent flooding, was evident.
- Minor concentrations (approximately 2%) of coal fines were measured downstream of the spillway at a site in the wetlands opposite the licensed discharge point site.

Coal fines do not appear to have caused widespread impacts in the wetland. It is likely that any impacts from the stormwater discharge were mitigated by the large amount of water flowing naturally through the wetland. Nonetheless, further assessment is warranted to more accurately delineate the area potentially impacted downstream of the licensed discharge point, and to monitor the response of the wetland to the authorised discharge.

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## 1 Introduction

Satellite imagery collected after Tropical Cyclone Debbie appeared to show dark water in the Caley Valley Wetland downstream of the Abbot Point Bulk Coal Terminal (Abbot Point Terminal). The Caley Valley wetland is adjacent to the Abbot Point Terminal and was subject to an authorised temporary release of stormwater runoff from the coal terminal during Tropical Cyclone Debbie. DSITI was commissioned to conduct a preliminary assessment of potential impacts in the wetlands from an authorised release of contaminated water from the adjoining coal loading terminal.

As required under the temporary emissions licence, the Coal Terminal operator, Abbot Point Bulk Coal Pty Ltd, sampled at their licensed discharge point into the wetland as soon as practicable and safe. The authorisation set limits for contaminant levels of 100 mg/L for suspended solids, including coal fines, with a pH no greater than pH 9. The authorised release period was from 27 March to 30 March 2017. The water sample results were within the thresholds set under the licence conditions. The temporary emissions licence (TEL) is presented as Attachment A.

Caley Valley Wetlands are large, nationally important wetlands that provide habitat for several threatened waterbirds, such as the Australian painted snipe. Media reports in early April 2017 showed images indicating that the whole of the wetlands had been impacted by coal fines released during Cyclone Debbie. Subsequently, concerns were raised that environmental harm had occurred across the wetland.

The objective for the preliminary site assessment was to assess the presence or otherwise of coal fines associated with the release, and if present, to undertake an initial assessment as to whether this has caused impacts to the wetlands. Between 27 and 28 April 2017, DSITI and EHP staff undertook a sediment investigation to identify whether coal had smothered the wetland sediment.

## 2 Site Description

Caley Valley Wetlands are nationally important wetlands covering an area of about 5154 ha and the wetland is listed in the Directory of Important Wetlands in Australia. The site is a complex system of wetland types and has a diversity of habitats, including coastal grass sedge wetland, mangroves, saltmarsh, creeks and channels and a lake. The wetlands are located in the dry tropics and are subject to seasonal changes in the extent of fresh water inundation. The consequential wetting and drying cycle of these wetlands is critical to the environmental values they support.

Over the past 60 years the site has been subject to several modifications, including the construction of bund walls that have changed the hydrology of the site – limiting the influence of the tidal waters on the site. Although the wetland has been modified, it supports a wide range of wetland values, including habitat for migratory and threatened birds.

## 2.1 Key Nature Conservation Values

Caley Valley Wetlands are a Matter of State Environmental Significance, providing habitat for large numbers of waterbirds, including threatened and migratory birds, with up to 48,000 waterbirds observed on site during high use times (BAAM 2012). The coastal grass-sedge wetlands is particularly important habitat for the endangered Australian painted snipe (*Rostratula australis*) with sightings at several locations (Figure 1). Such habitats occurs to the south and the west of the settlement pond spillway, and therefore, the presence of this species within the wetland was a concern following the release of waters containing coal fines.

The adjoining saltmarsh within the estuarine wetland also provides habitat for threatened migratory shorebirds that seasonally access the area. For example, Figure 1 shows observations of critically endangered eastern curlew (*Numenius madagascariensis*) within the Caley Valley Wetlands.

The site assessment took into consideration the known habitat for threatened waterbirds so as to assess potential impacts on the wildlife habitat.

## 3 Surrounding Land Use

The landscape surrounding the wetland contains a mix of cleared grazing land and native forests. The wetland is located in a valley surrounded by Mount Roundback, Mount Luce and Mount Little, which are largely covered by remnant vegetation. There is a quarry located near Abbot Point supplying aggregate for construction, road sealing and rail purposes.

Cleared areas within the Salisbury Plain and Don River catchment are used for cattle grazing. Although grazing can be a compatible land use, erosion associated with some grazing practices contributes to downstream sedimentation.

#### 4 Limitations

#### 4.1 Access

Access to this large wetland system was limited and as a result sampling was confined to the edge of the wetland. The selection of sample sites was guided by potential locations of contamination, known locations of threatened wildlife and gaps in baseline information.

## 4.2 Information Gaps

Key information gaps that limit the interpretation of survey results are:

- Baseline sediment quality conditions. The lack of baseline sediment quality data has limited the scope of the analysis of impacts.
- Seasonal variations in vegetation, especially during flood events. Wetting and drying cycles, and associated changes in vegetation structure are not well documented. This is an important information gap that has reduced the ability to assess impacts of coal residue accumulation in the wetland.
- Waterbird Habitat Usage. There is a lack of information on waterbird use of the wetland over time.

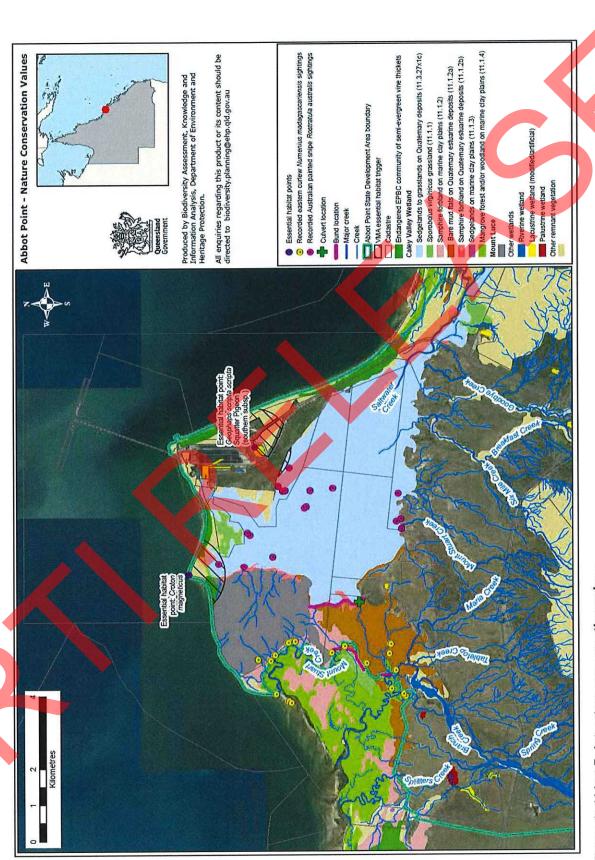


Figure 1: Abbot Point nature conservation values

#### 5 Potential sources of contamination.

Material, whether it is coal fines, sediment or other contaminants from the stockpile of coal, has the potential to mobilise directly into the wetland stormwater runoff. Coal residues from the Terminal's stockpile are channelled into stormwater treatment ponds – and may move into the wetland environment during high flow periods. Smothering of organisms including benthic communities is the main risk from coal particles released to water (GHD 2012; Berry et al. 2016; Berry et al. 2017). The leaching of contaminants from coal is a potential risk to aquatic ecosystems; however, recent studies have shown the risk associated with metals and/or polycyclic aromatic hydrocarbons (PAH) leaching from coal into seawater is low (Cabon et al. 2007; Jaffrennour et al. 2007; Lucas and Planner 2012; Berry et al. 2016; Berry et al. 2017). As such, the preliminary assessment focused on risk associated with the smothering of benthic communities.

Freshwater enters the wetlands via runoff from the Salisbury Plain and the slopes to the south and south east from Mount Roundback and Mount Little. Surface water from the Coal Terminal's stormwater treatment ponds most likely contributes a relatively small amount of water to the wetland. Previous studies (BMT WBM 2012) demonstrated that during high rainfall events, the wetland receives floodwater from the Don Catchment – a potential source of significant sediment loads.

#### 6 Methods

#### 6.1 Visual assessment

Prior to the site inspection, satellite and aerial images and other spatial data were examined to guide the selection of sampling sites. This included mapping of threatened waterbirds known to occur in the wetland.

Sites were visited and photographs were taken at each site. Each site was visually assessed for coal fines and impacts on the local wetland environment. Images are presented in Attachment 2.

The field inspection incorporated the use of remotely piloted aircraft systems (or drones) equipped with cameras as platforms to assist in the collection of information on-site regarding the extent of the impact. The drones fill the gap between the satellites images and on ground monitoring and enabled the surveying to be more targeted. The drone provided real-time monitoring and was able to fly at lower altitudes providing detailed images of the wetland substrate. While on site, a drone was used to make observations of inaccessible locations including known waterbird habitat. The drone operator took extreme care not to disturb birds during the operation.

## 6.2 Sampling sites

Between 27 and 28 April 2017, eight sites were sampled for water and sediments. Sampling locations were identified with the aid of satellite images. Areas that appeared to be dark were targeted for sampling (Figure 2). Threatened waterbird habitat was also a consideration in the identification of sample sites.

Seven sites were within the wetland (Figure 2 and Figure 3), and a water and sediment sample was collected from the secondary settlement pond at Abbot Point Terminal (Figure 3).



Figure 2: Copernicus Sentinel-2 satellite image (11 April 2017) of Caley Valley wetland and sediment sampling locations. The image is displayed as a true colour composite with bands 4, 3 and 2 assigned respectively to the red, green and blue colours. The satellite image was used to help identify sampling locations.

The sites sampled are shown in Figure 2 and Figure 3 and are listed below.

- CV-S2-0417. Secondary settlement pond on the Abbot Point terminal site, immediately
  upstream of spillway and authorised release point W1. Sample collected from edge of the
  settlement pond.
- CV-DS1-0417. Site immediately downstream of authorised release point W1.
- CV-ODS-0417. Site on the opposite end of the spill way to CV-DS1-0417.
- CV-BG-0417. Site on western arm of the freshwater wetland, not immediately downstream of the spillway runoff.
- CV-EB-0417. Site on northern end of eastern bund.
- CV-BO-0417. Site at outflow pipe on southern end of the eastern bund.
- CV-PS2-0417. Southern site near known painted snipe sightings.
- CV-SC-0417. Site in Saltwater Creek.

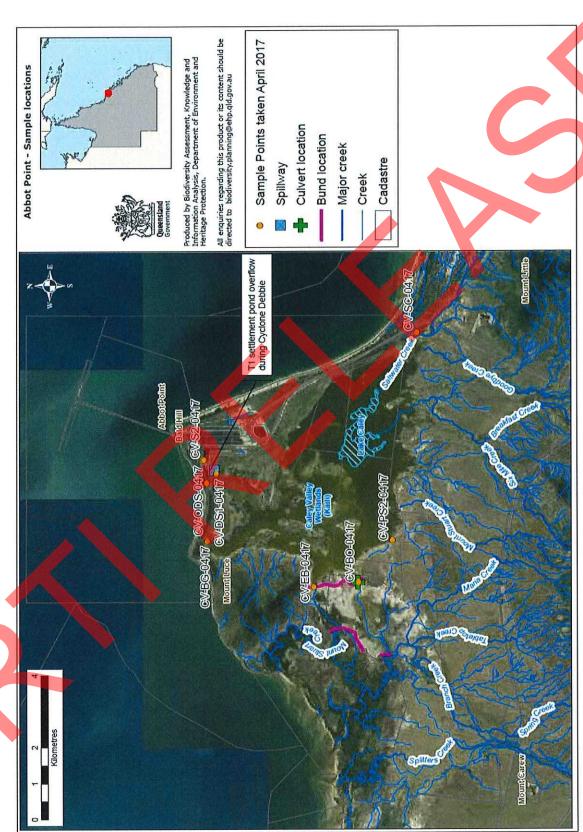


Figure 3: Sites sampled on 27 and 28 April 2017 in the Caley Valley Wetlands by DSITI and EHP staff.

#### 6.3 Sediment Sampling

At each sampling location composite sediment samples were taken. This involved the collection of five replicate samples of approximately 10x10 cm in area and approximately 1 cm depth at each site and combining them together before taking a subsample for analysis. This is a standard field sample practice as sediments can be highly heterogeneous and compositing a number of samples into a single sample is a way of adjusting for variation found in sediment samples.

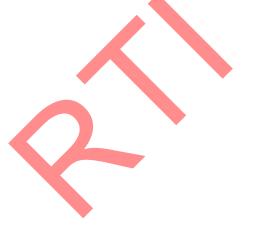
Samples were collected using a stainless steel trowel and were mixed in a stainless steel bowl. All equipment was thoroughly cleaned between sites. Disposable gloves were used when collecting samples, with a fresh pair used at each site. From each composite sample, duplicate samples were obtained by splitting the contents of the bowl into two jars. Samples were kept chilled on ice after collection.

Samples were sent to the University of Queensland Materials Performance (UQMP) laboratory for analysis of the percentage of coal in each sample. Analysis was undertaken using both Stereo microscopy and Scanning Electron Microscopy (SEM), combined with Energy Dispersive Spectroscopy (EDS) that was used to identify the elemental composition of particles. Laboratory reports are presented in Attachment 3, and a more detailed explanation of the methodology is also provided in Attachment 3.

#### 6.4 Water Sampling

As this survey was primarily a sediment quality survey, only total suspended solids (TSS) samples were analysed and *in situ* water quality data collected using a YSI 556 MPS multi-parameter meter. Elevated TSS results can be related to sediment inputs. Disposable gloves were used when collecting samples, with a fresh pair being used at each site to prevent contamination of samples. Samples were kept chilled on ice after collection. Samples were taken to Brisbane by DSITI staff and stored in a locked fridge.

Water samples taken for TSS analysis were sent to Australian Laboratory Services (ALS), a National Association of Testing Authorities (NATA) Australia accredited laboratory.



## 7 Results

#### 7.1 Visual assessment

Observations were recorded at each site using a camera and a video recorder (images of each site are presented in Attachment 2). Although there were indications of recent flooding, there was little evidence of coal fines across the whole of the wetland. This is consistent with the trace levels of coal measured at most sites sampled within the wetland.

Coal residues were only observed at a site downstream of the licensed discharge point (CV-DS1-0417). It is not unexpected that an accumulation of the coal fines would be present at this site. This may be associated with the authorised release of settlement pond water into the wetland, which was reported to have up to 80 mg/L of suspended solids, and below the TEL limit of 100 mg/L.

The impacts at this site included what appeared to be partial coverage of the wetland substrate with coal fines and coal residue, and partially discolouring of the lower stems of the marine couch (*Sporobolus virginicus*). This is consistent with the sediment analysis at this site.

Although there was evidence of discolouration and what appeared to be coal residues, there did not appear to be any impediment to growth of wetland plants such as mangrove clubrush (*Schoenoplectus litoralis*), which is responding (i.e. emerging as new growth) to the recent flooding (Figure 4).



Figure 4: Mangrove clubrush (Schoenoplectus litoralis) is the bright green emerging reed in this photo at site CV-DS1-0417.

#### 7.2 Coal in Sediment Results

The estimates of coal in the sediment showed that the highest percentage of coal (approximately 10%) was found immediately downstream of the licensed discharge point (Table 1). Approximately 2% coal (Table 1) was found in the sediment of the secondary settlement pond (CV-S2-0417) and

downstream of the spillway (CV-ODS-0417) at the opposite side of the wetland to CV-DS1-0417 (Figure 3). Trace amounts (<1%) of coal were detected at all other sites (Table 1). These results were consistent with observations made in the wetland, and indicate that widespread smothering of the wetland by coal fines did not occur.

Table 1: Estimate of percentage of coal in sediment. Green shaded cell indicates secondary on-site settlement pond, orange shaded cells indicate sites immediately downstream of spill way, blue shaded cells indicate general wetland sites

Site	Estimate of percentage of coal in sediment
CV-S2-0417	2%
CV-DS1-0417	10%
CV-ODS-0417	2%
CV-BG-0417	trace
CV-EB-0417	trace
CV-BO-0417	trace
CV-PS2-0417	trace
CV-SC-0417	trace

## 7.3 Water Quality Results

In situ water quality data and TSS results were compared to the Queensland Water Quality Guidelines (QWQG) (EHP 2009) for upper estuarine waters in the Central Coast Region (Table 2) where applicable.

pH exceeded the QWQG at three of the seven sites (Table 2). Elevated pH levels have been reported in the wetlands previously, with pH exceeding the upper guideline value of pH 8.4 throughout the wetlands depending on the time of the year and site (GHD 2013, BMT WBM 2015), with a maximum of pH 9.5 measured historically in the wetland to the east of the eastern bund (BMT WBM 2015).

The dissolved oxygen (ĎO) concentration (measured as % saturation) exceeded the guidelines at all sites (Table 2). Historically, dissolved oxygen concentrations have been highly variable in the wetland (GHD 2013 and BMT WBM 2015), with concentrations of up to 325% saturation being measured in the wetland to the east of the eastern bund (BMT WBM 2015). Large mats of benthic algae and algae covering vegetation was noted at many sites, which would contribute to the high concentrations of oxygen in the waters.

TSS exceeded the QWQG at only two sites, CV-DS1-0417 on 27 April 2017 and CV-PS2-0417 on 28 April 2017 (Table 2). A second sample collected at CV-DS1-0417 on the 28 April 2017 was below the QWQG, illustrating the variability in water quality over time (Table 2). Historically, TSS measurements that exceeded the QWQG have been found throughout the wetland, but in general were less than 60 mg/L (GHD 2013).

Although pH, DO and TSS measurements exceeded the QWQGs at a number of sites, overall, the water quality measurements obtained between 27 and 28 April 2017 were within historical limits, and did not indicate anything unusual occurring in terms of physico-chemical parameters at the time of sampling.

Table 2: Total suspended solid and *in situ results* from sampling compared to Queensland Water Quality Guideline (EHP 2009)

Site	Date and time	Temperature (°C)	pH range	Dissolved oxygen (% saturation range)	Electrical conductivity (mS/cm)	Total Suspended Solids (mg/L)
QWQG Upper Estuarine Central Coast Region			7.0-8.4	70-100	N/A	25
CV-DS1-0417	27/04/2017 9:10	29.60	7.52	101.7	6.821	44
	28/04/2017 12:15					14
CV-BG-0417	27/04/2017 11:40	29.09	8.77	112.0	4.987	<5
CV-ODS-0417	27/04/2017 12:50	28.90	7.92	103.7	5.75	12
CV-SC-0417	27/04/2017 15:00	29.71	8.28	101.8	0.962	25
CV-BO-0417	28/04/2017 8:15	23.80	8.92	113.2	4.621	6
CV-EB-0417	28/04/2017 9:30	23.87	9.55	136.3	5.024	7
CV-PS2-0417	28/04/2017 10:15	24.22	8.44	135.2	4.311	36

## 8 Conclusion

Based on the available results, coal fines do not appear to have caused widespread impacts in the wetland. There was evidence of coal fines on the surface of the muddy substrate and base of the vegetation in a relatively small area in the vicinity of the licensed discharge point. It is likely that the impacts from the stormwater discharge were mitigated by the large amount of water flowing through the wetland. Nonetheless, further assessment is warranted to more accurately delineate the area potentially impacted downstream of the licensed discharge point, and to monitor the response of the wetland to the authorised discharge.

## 9 References

BAAM 2012, Coordinated Migratory Shorebird and Waterbird Surveys Abbot Point. Report for Saunders Havill Group and E3 Consult on behalf of NQBP.

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Jaffrennou, C, Giamarchi, P, Cabon, J, Stephan, L, Burel-Deschamps, L, Bautin, F, Thomas, A, Dumont, J and Le Flock, S 2007, 'Simulations of accidental coal immersion', *Marine Pollution Bulletin*, vol 54, pp 1932–1939.

Lucas, SA and Planner, J 2012, 'Grounded or submerged bulk carrier: the potential for leaching of coal trace elements to seawater', *Marine Pollution Bulletin*, vol 64, 1012–1017.



## **Attachment 1 – Temporary Emissions Licence**



## **Notice**

#### **Environmental Protection Act 1994**

#### Notice of decision - Temporary emissions licence

This statutory notice is issued by the administering authority pursuant to section 357J of the Environmental Protection Act 1994, to advise you of a decision or action

Abbot Point Bulkcoal Pty Ltd Level 25, 10 Eagle Street, Brisbane QLD 4000

Attention: Lorna Lockhart

Email: Lorna.Lockhart@APT1.com.au

Your reference: EPPR00577113

Our reference: 223431 / ENEL07198317

#### Amendment by agreement of a temporary emissions licence for the Abbot Point Bulk Coal Terminal (T1)

The administering authority has amended the temporary emissions licence (TEL) with your agreement.

This TEL commences on 27 March 2017 and ends on 30 March 2017 inclusive.

This TEL overrides the following conditions of environmental authority EPPR00577113:

- Condition F1: A discharge to water/s may only occur from discharge location W1 and W2 if it meets the quality criteria in Table 2 Contaminant release limits to water.
- Condition F2: Contaminants other than settled/treated stormwater runoff waters must not be released from the site to surface waters or the bed or bank of surface waters unless otherwise authorised by this approval.

All conditions of environmental authority EPPR00577113 (EA) continue to apply for the duration of this TEL, with the exception of conditions F1 and F2 and associated Table 2, which are temporarily replaced by:

• Condition TEL1: A discharge to water/s may occur from discharge locations W1 and W2 if it meets the water quality criteria in Table TEL1 - Contaminant release limits to water.

Table TEL1 - Contaminant release limits to water

Monitoring location	Quality characteristic	Min	Max	Monitoring frequency
W1 (E611876.19,	Suspended solids	=	100mg/L	As soon as
N7800108.34), W2	На	6	9	practicable and safe during the
(E612781.48, N7801060.72)	Electrical conductivity	1=	7000µS/cm	release



 Condition TEL2: Contaminants are permitted to be released from W1 and W2 to surface waters or the bed or bank of surface waters between 8:00pm 27 March 2017 to midnight 30 March 2017.

#### Abbot Point Bulk Coal Licence Discharge Locations



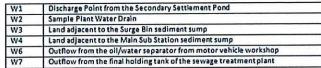


Figure 1: Contaminant Release Point - W1 and W2 for this TEL.

#### **Definitions**

The following definitions apply to conditions of this TEL:

- EA means environmental authority EPPR00577113.
- TEL holder means the holder of environmental authority EPPR00577113.

#### **Grounds for the Decision**

The administering authority has made this decision in accordance with section 357J of the *Environmental Protection Act* 1994.

Should you have any queries in relation to this notice, please contact Sophie Connors on telephone (07) 4987 9344.

Signature

Enquiries:

Business Centre (Coal)

Department of Environment and Heritage

Date

Protection PO Box 3028

EMERALD QLD 4720

Phone: (07) 4987 9320

Email: CRMining@ehp.qld.gov.au

Department of Environment and Heritage Protection Delegate of the administering authority Environmental Protection Act 1994



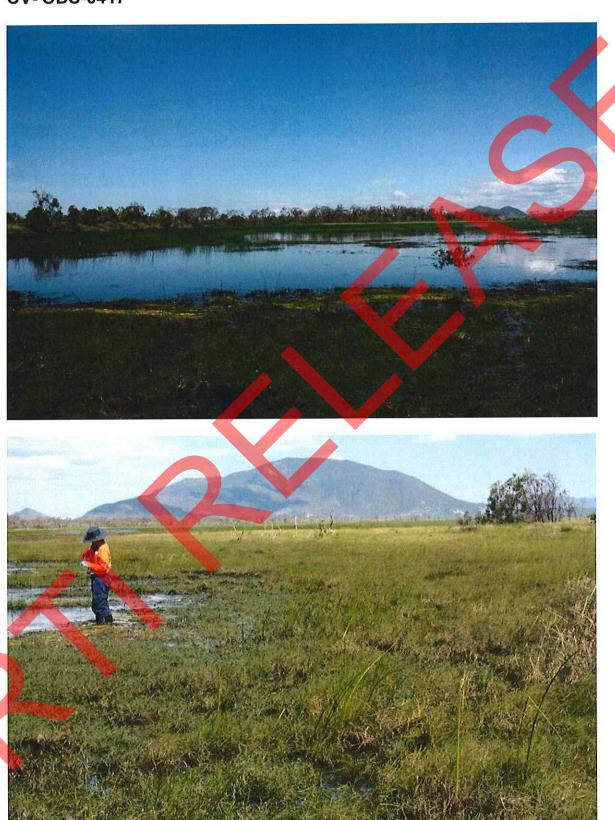
Attachment 2 – Images of Caley Valley wetlands, 27-28 April, 2017.



## CV-DS1-0417



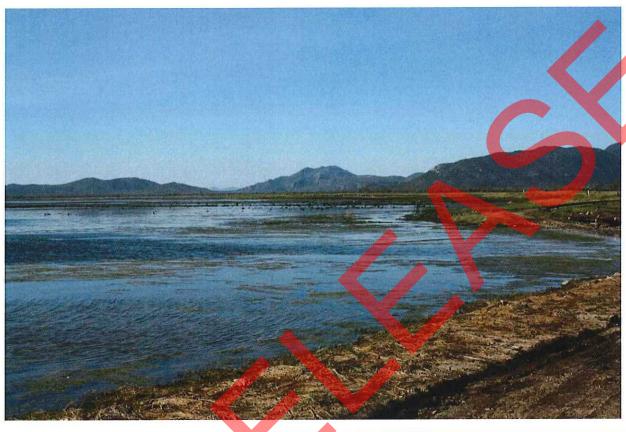
## CV- ODS-0417

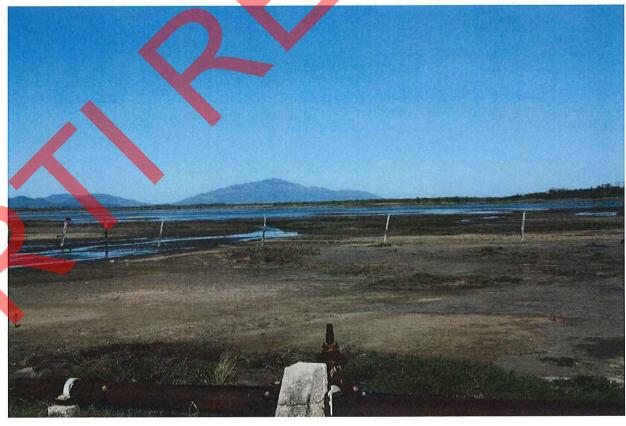


## CV-BG-0417

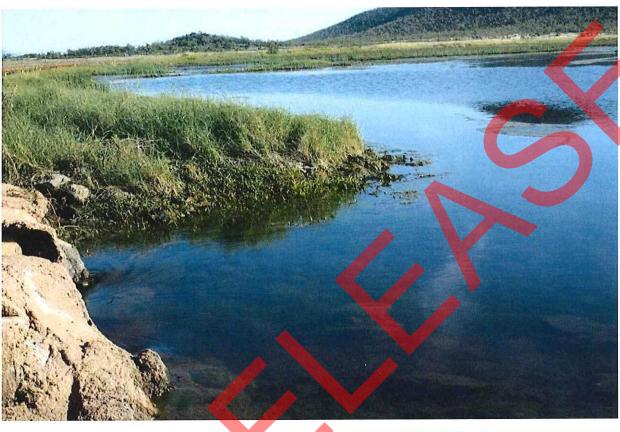


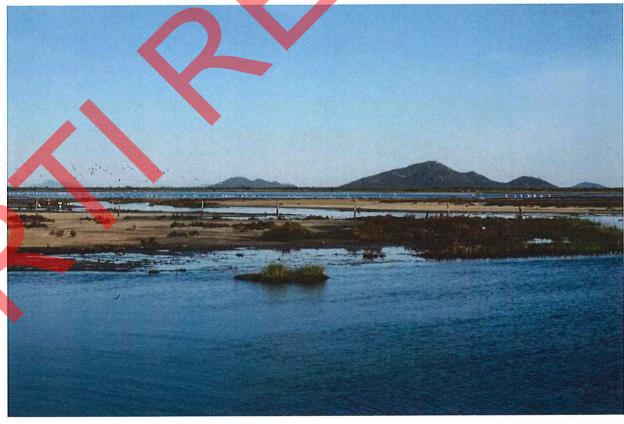
## CV-EB-0417



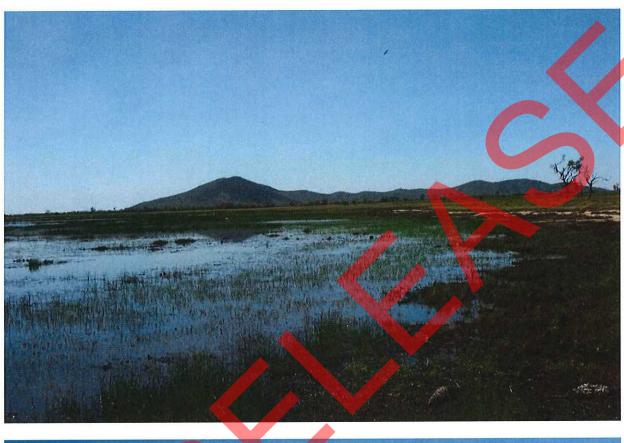


## CV-BO-0417





## CV-PS2-0417





## CV-SC-0417



Attachment 3 - Coal residues in sediment – methodology and results.





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#### LABORATORY REPORT

Subject: EXAMINATION OF SLUDGE DEPOSITS BY BY STEREOMICROSCOPY AND

SCANNING ELECTRON MICROSCOPY

UQMP

Project No.

Prepared

Suzanne Vardy and Kate Delaney, DSITI and EHP

for:

Prepared

Fiona Jones

C03136.04

By: Date:

18th May 2017

Sample Description:		Client Sample Iden	tification#	UQMP#
•	1	CV-DSI-0417		UQMP # 14907
	2	CV-BG-0417	•	UQMP # 14908
	3	CV-ODS-0417		UQMP # 14909
	4	CV-S2-0417		UQMP # 14910
	5	CV-SC-0417		UQMP # 14911
	6	CV-BO-0417		UQMP # 14912
	7	CV-EB-0417		UQMP # 14913
	8	CV-PS2-0417		UQMP # 14914
#Method	In	ternal UQMP method	d.	





#### 1. SAMPLES AND METHODS

#### 1.1 Samples Preparation

The samples were supplied as sediments in glass jars, consisting of solids and semi solids in a range of volumes from approximately 120 mL to 200 mL in each jar. The contents of the jars were emptied into a large beaker, large stringy plant debris was removed before mixing, demineralised water was added to allow the solids to de-clump and mix to a smooth homogenous slurry.

Three sub samples were created from each slurry for further examination, this was essential due to fine clay particles present: A plastic pasture pipette was used to draw in the slurry on occasion extraneous vegetation would prevent the slurry from flowing into the pipette this was removed and returned to the sample.

Sub sample 1. A few drops of the slurry were placed directly onto a cellulose filter. The final sub-sample defined as Sludge Overall or Sludge OA.

Sub sample 2. Consists of a few drops of the slurry filtered through a 500-micron filter onto a cellulose membrane under vacuum, the suspended fines pipetted off and retained. This subsample is defined as Intermediate.

Sub sample 3. This sample contains a few drops of the fines removed from Sub sample 2 and placed onto a cellulose membrane.

All aliquots of the samples were collected whilst mixing to ensure homogeneity was maintained. The sub-sample created in this process was defined as fines.

The particles retained on the 500-micron filter were not examined, however are retained for future reference if required.

#### 1.2 Stereo Microscope Examination

The samples were initially examined by stereomicroscopy, using a Nikon SMZ25 stereomicroscope at magnifications up to 100×.

#### 2. SCANNING ELECTRON MICROSCOPY

A portion of each sample filter was excised and placed onto a conductive carbon tape for SEM examination. The samples were examined and analysed using a JEOL 6460LA scanning electron microscope (SEM). The SEM was operated at 20 kV in back-scattered electron composition contrast (BSE) imaging modes. In BSE images the contrast is influenced by the chemical composition (specifically the average atomic number, Z) of the material being imaged. Dark regions represent low average atomic number (light elements) and bright regions represent high average Z (heavy elements).

Regions of interest were chemically analysed by energy dispersive X-ray spectroscopy (EDS). EDS can be used to identify the chemical elements present and in some cases to provide approximate stoichiometric ratios. However, EDS is only semi-quantitative, especially when analysing small particles, for the following reasons:

- The significant size of the analysis volume (typically around 3 μm) and hence the difficulty
  of eliminating interference from surroundings;
- Contamination by carbon on the specimen surface and within the SEM vacuum chamber;
- The inherent sensitivity limits of the instrumentation.

Report for: DSITI and EHP
Re: EXAMINATION OF SLUDGE DEPOSITS BY BY
STEREOMICROSCOPY AND SCANNING ELECTRON
MICROSCOPY



#### RESULTS

Deposit presented as coarse grains to very fine grains and mixtures of both, typically rounded weathered particles. Most particles were very small clay particles < 2 µm. Coal was detected in all samples examined with most of the samples displaying trace levels. Trace level is defined as < 1 % or less than 1 particle in 100. One sample presented with 10% coal, CV-DSI-0417, UQMP # 14907 whilst two samples CV-ODS-0417, UQMP # 14909 and CV-S2-0417, UQMP # 14910 contained 2 % coal. The major particle type in all deposit was aluminosilicate based mineral dust. Marine biological debris was noted in traces amounts within the samples mostly as algae, occassionaly diatoms, as the primary focus was to determine the presence or absence of coal particles, little attention was payed to identification and analysis.

All sub samples were examined including the Sludge Overall, Intermediate and Fines. Some of the data for CV-DSI-0417, UQMP #14907 is included in the Appendix C and demonstrates the typical particle types observed in the deposits examined. The data for the remaining samples is available on request, a summary table of the combined microscopy is presented in this document.

Appendix A attached presents the table of results of the combined microscopy observations.

Appendix B presents colour picture micrographs of the stereomicroscopy images.

Appendix C displays the Illustrative SEM photomicrographs and spectra taken of an overall area of the deposit. The SEM photomicrographs were taken with Back Scattered Electron (BSE) imaging, in which average atomic number is roughly proportional to brightness. For example, coal particles appear darker than siliceous mineral dust and biological particles somewhat darker again.

Spectral data generated was placed in tables, with weight % converted to Major, Minor and Trace.

Reported as follows:

- Major >5 Weight %
- Minor 5 to 1 Weight %
- Trace < 1 %</li>

A colour range was used as a visual guide in the three sectors Major, Minor and Trace, with colours appearing more intense as the weight percentage increases. SEM/EDS weight % are not reported directly due to the semi-quantitative nature of the

technique.

Signed for and on behalf of UQ Materials Performance

**Fiona Jones** 





APPENDIX A TABLE OF COMBINED MICROSCOPY RESULTS

			DEDCENTAGE (Projected area basis)	
No state of the st	PARTICLE IDENTITY		NOTIFIED (FIDECTED ALEA DASIS	
	SAMPLE#	UQMP # 14907	UQMP # 14908	UQMP # 14919
	SAMPLE ID PARTICLE TYPE	CV-DSI-0417	CV-BG-0417	CV-ODS-0417
	COAL	10	tr	2
BLACK	SOOT			
	BLACK RUBBER DUST			
	MINERAL DUST (Soil or Rock Dust.)	06	100	98
INORGANICS	MINERAL DUST (type = Fly Ash)			
ంద	MINERAL DUST (type = Cement Dust)			
MINERALS	MINERAL DUST (type =glassy)			
	GLASS FRAGMENTS			
	COPPER SLUDGE			
	P/S SLIME & FUNGI			
	INSECT DEBRIS			
	PLANT DEBRIS			
	PLANT DEBRIS (type = plant char )			
	PLANT DEBRIS (type = )			
	WOOD DUST			
GENERAL	FIBRES (type = Miscellaneous)			
ORGANIC	STARCH			
TYPES	PAINT			
	PLASTIC FRAGMENTS			
	RED RUBBER DUST			
	COMMENTS	§ The focus of the analysis was to dete examined or classified. Large particle numerous particles. Coal was observed.	§ The focus of the analysis was to determine the presence or absence of coal; marine biological material was not examined or classified. Large particles of plant debris were removed, as they generally obstruct the view of numerous particles. Coal was observed in all samples and when reported as trace particles were observed at < 1%.	marine biological material was not ley generally obstruct the view of trace particles were observed at <
		<u> </u>		

UQMP File Reference: C03136.04

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TABLE OF COMBINED MICROSCOPY RESULTS  DEPCENTAGE (Projected area basis)	PARTICLE IDENTITY	<b>SAMPLE</b> # UQMP # 14910 UQMP # 14911 UQMP # 14912	SAMPLE ID CV-S2-0417 CV-SC-0417 CV-BO-0417		COAL tr tr	SOOT	BLACK RUBBER DUST	MINERAL DUST (Soil or Rock Dust.) 98 100 100	MINERAL DUST (type = Fly Ash )	MINERAL DUST (type = Cement Dust)	MINERAL DUST (type =glassy)	GLASS FRAGMENTS	COPPER SLUDGE	P/S SLIME & FUNGI	INSECT DEBRIS	PLANT DEBRIS (General)	PLANT DEBRIS (type = plant char )	PLANT DEBRIS (type = )	WOOD DUST	FIBRES (type = Miscellaneous )	STARCH	PAINT	PLASTIC FRAGMENTS	RED RUBBER DUST	COMMENTS  S The focus of the analysis was to determine the presence of coal; marine biological material was not examined or classified. Large particles of plant debris were removed, as they generally obstruct the view of numerous particles. Coal was observed in all samples and when reported as trace particles were observed at <	1%.	
F COMBINED M	PARTICLE IDEN			PARTICLE TYPE	COAL	SOOT	BLACK RUBBER	MINERAL DUST	MINERAL DUST	MINERAL DUST	MINERAL DUST	GLASS FRAGME	COPPER SLUDO	P/S SLIME & FUI	INSECT DEBRIS	PLANT DEBRIS	PLANT DEBRIS	PLANT DEBRIS	WOOD DUST	FIBRES (type =	STARCH	PAINT	PLASTIC FRAGI	RED RUBBER D	COMMENT		
4.2 TABLE C					Management of the second	BLACK			INORGANICS	প্র	MINERALS									GENERAL	ORGANIC	TYPES					

UQMP File Reference: C03136.04

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3

4.3 TABLE O	TABLE OF COMBINED MICROSCOPY RESULTS	S		
	PARTICLE IDENTITY	PE	PERCENTAGE (Projected area basis)	
	SAMPLE#	UQMP # 14913	UQMP # 14814	
	SAMPLEID	CV-EB-0417	CV-PS2-0417	
	COAL	++	+	<u>_</u>
BLACK	SOOT		i	
	BLACK RUBBER DUST			
	MINERAL DUST (Soil or Rock Dust.)	100	100	100
INORGANICS	MINERAL DUST (type = Fly Ash)			
త	MINERAL DUST (type = Cement Dust)			
MINERALS	MINERAL DUST (type =glassy)			
	GLASS FRAGMENTS			
	COPPER SLUDGE			
	P/S SLIME & FUNGI			
	INSECT DEBRIS			
	PLANT DEBRIS (General)			
	PLANT DEBRIS (type = plant char )			
	PLANT DEBRIS (type = )			
	WOOD DUST			
GENERAL	FIBRES (type = Miscellaneous)			
ORGANIC	STARCH			
TYPES	PAINT			
	PLASTIC FRAGMENTS			
	RED RUBBER DUST			
	COMMENTS	§ The focus of the analysis was to de examined or classified. Large partic numerous particles. Coal was obsen 1%.	§ The focus of the analysis was to determine the presence or absence of coal; marine biological material was not examined or classified. Large particles of plant debris were removed, as they generally obstruct the view of numerous particles. Coal was observed in all samples and when reported as trace particles were observed at < 1%.	iological material was not rally obstruct the view of ticles were observed at <

### Report for DSITI and EHP Re: Particle Characterisation of Sludge Deposits



### 4,4 PARTICLE IDENTITY LEGEND

Includes arachnids. Present as crushed body fragments, trichomes, wing scales, etc. nsect parts/debris

excreta, decomposing biological matter, etc. Sometimes seen in these samples as a stringy gel binding other particles together. Sometimes fungal Polysaccharide slime. This extra-cellular bio-polymeric material may have different sources which might include microbiological growth, vertebrate

hyphae associated with the gel.

Some well developed turquoise crystal growths can be found, but usually as subhedral to euhedral grains. Sometimes as blue highlights on a greenish cakey material. This is probably copper salts precipitated from the copper sulfate algaecide solution as the hydroxide, with or without sulfate and or Copper sludge

phosphorous inclusion.

Usually equant siliceous appearance and typically colourless to brown, transparent to translucent, euhedral, rounded grains. The clays very fine particles. Other constituents of siliceous appearance, sand etc. Mineral matter

Usually as trichomes, fragmented tissue, reproductive products and structures. Sometimes charred particles from incinerator, grass or bush fires. Plant Debris/ char

Appears as spheroidal particles - colourless, milky or black Fly ash particles

Black, equant, sharp angled grains. Some glossy; some edges dark brown translucent.

Coal dust

Soot

Black glossy spherical to botryoidal aggregates, typically hollow or lacey. Usual source is incompletely burnt organic liquids, eg. fuel oils.

UQMP File Reference: C03136.04

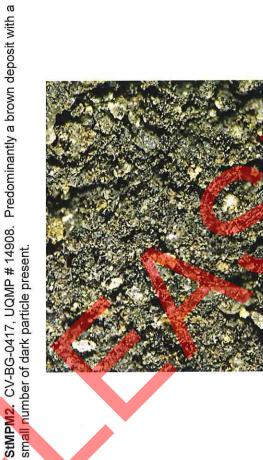
P/s slime



5. APPENDIX B 5.1 STEREOMICE



**StMPM1.**, CV-DSI-0417, UQMP # 14907. Very small dark brown to gold coloured particles with a number of black angular particlates, typical of coal noted and dispersed through out the deposit.



**StMPM4.** CV-S2-0417, UQMP # 14910. A few coarse particles with very fine particles dispersed throughout the deposit predominantly light brown with some gold coloured and translucent particles.



**StMPM3.** CV-ODS-0417, UQMP # 14909. Coarse grained particles with a range of colours from whit to brown with a few black angular particles in the field of

UQMP File Reference: C03136.04







StMPM5. CV-SC-0417, UQMP # 14911. Very fine grained particles predominantly light brown to gold



**StMPM8.** CV-PS2-0417, UQMP # 14914. Coarse grained particles mostly light brown to gold with a few translucent particles throughout the deposit.



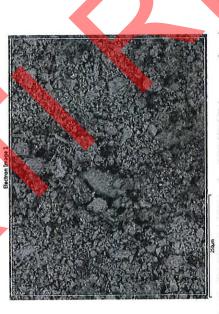
**StMPM7.** CV-EB-0417, UQMP # 14913. Coarse grained particles with particles mostly light brown to gold with a few translucent particles scattered throughout.

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5.2



APPENDIX C. SEM/BSE IMAGE AND SEM/EDS ANALYSIS AND ELEMENTAL SUMMARY OF SLUDGE OVERALL CV-DSI-0417 AN SEM/BSE IMAGE AND SEM/EDS SPECTRUM OF AN OVERALL AREA OF THE DEPOSIT

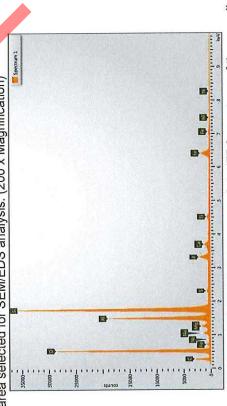


Total

**PM1**. CV-DSI-0417, UQMP # 14907. An SEM/BSE image of a characteristic overall area selected for SEM/EDS analysis. (200 x Magnification)

PM2, CV-DSI-0417, UQMP # 14907. An SEM/BSE image of a characteristic

overall area selected for SEM/EDS analysis. (100 x Magnification)



rea EDS1. CV-DSI-0417, UQMP # 14907. The SEM/EDS spectrum of the overall area displays major peaks of carbon, oxygen, aluminium and silicon with minor amounts of potassium and iron and trace amounts of the balance of the elements. This elemental profile is consistent with observations a deposit consisting predominantly of mineral dust.

EDS1. CV-DSI-0417, UQMP # 14907. The SEM/EDS spectrum of the overall area displays major peaks of carbon, oxygen, aluminium and silicon with minor amounts of potassium and iron and trace amounts of the balance of the elements. This elemental profile is consistent with observations a deposit consisting predominantly of mineral dust.

UQMP File Reference: C03136.04



Table 1. CV-DSI-0417, UQMP # 14907. An Elem	_·		<u>0-IS</u>	417	, Lo	MP	# 14	1907	Ā.	J E	eme	ntal	Sun	ma	iry o	Ŏ	erall	Are	as (	Sluc	ge (	Over	iental Summary of Overall Areas (Sludge Overall) analysed by SEM/EDS.
Spectrum C Label		2		Na	Ag A	8	d.	S	D	×	ප	F	>	N	Mn Fe	N	ಶ	Ag	e]	ප	Pr	Nd	Sm Description/Nominated Particle
1	Major		Major	Trace	Major Trace Trace Major	Major 1	or Major		race	2	Minor Tr	Trace Trace	ace		Mino	Viinor Trace							Overall area of the deposit at $100 \times$ magnification
2	Major		Major	Trace	Major Trace Trace Major	Major I	or Major		Trace	2	Minor T	race	race		Minor	L							Overall area of the deposit at 200 x magnification

elements. The SEM/EDS elemental profile of this deposit is typical of all the deposits examined with a predominance of aluminosilicate based mineral elements detected were carbon, oxygen, aluminium and silicon with minor amounts of potassium and iron and trace amounts of the balance of the The elemental summary table of CV-DS-0417 displays elements detected for an overall area captured at 100 X and 200 X magnification. Major dust, typically from soil and rock.

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## AN SEM/BSE IMAGE OF PARTICLES SELECTED FOR SEM/EDS ANALYSIS

Report for DSITI and EHP Re: Particle Characterisation of Sludge Deposits Electron Image 3

Spectrum 3
Spectrum 2
Spectrum 12
Spectrum 12
Spectrum 16
Spectrum 17
Spectrum 10
Spectrum 11

PM3. CV-DSI-0417, UQMP # 14907. An SEM/BSE image of a particles selected for SEM/EDS analysis.

UQMP File Reference: C03136.04





## Table 2. AN SEM/EDS ELEMENTAL SUMMARY PARTICULATES SELECTED ABOVE FOR ANALYSIS.

	Description/Nominated Particle	Mineral dust, Aluminosilicate - clay	Mineral Dust, Potassium Aluminosilicate - clay	Mineral dust, Aluminosilicate - clay	Mineral dust, Aluminosilicate - clay	Mineral Dust - Calcium, Magnesium, Aluminosilicate - clay	Mineral dust, Aluminosilicate - clay	Mineral dust, Aluminosilicate - clay	Major Major Minor Major Minor Mineral Dust, Lanthanide - Aluminosiilcate	Mineral dust, Aluminosilicate - clay	Mineral dust, Silicon rich - quartz	Mineral dust, Aluminosilicate - clay	Mineral dust, Aluminosilicate	Mineral dust, Aluminosilicate - clay	Coal - High ash							
	Sm	_														r Min						
	Z															Majo						
	Pr															Minor					7	
	లి															Major						
	e															Major						
Ī	Ag															Trace						
	3															V		ĺ				
	ž										6											
	e L	Minor	Major	Minor	Minor	Minor	Minor	Minor	Major	Minor	Major	Major	Minor	Minor								
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	>																					
Ī	F	Trace	Trace Trace	Trace	Trace	Trace	Trace	Trace	Trace		Trace	Trace		Trace	Trace		Trace	Trace	Trace	Trace Trace	Minor Trace Trace	Trace Trace Trace
Ī	ප	Trace	Minor		Trace	Trace	Minor	Trace	Trace	Trace	Trace	Trace Trace Trace	or Trace		Trace	Trace						
	×	Trace	Minor	Minor Trace Trace	Trace	Trace	Minor	Trace	Trace Minor	Major	Minor	Minor	Trace Minor	Trace	Trace	Trace	Minor Trace Trace	Trace	Minor	Trace	Minor	Trace
	יב ס	To the	(C)TOTAL			us .												Trace				
		Trace		Trace		Trace								Trace			Trace		Trace Trace		Trace	Trace
	S	Trace	5	Trace		Trace										Trace						Trace
	а.	1	/lajor		<b>Aajor</b>		Aajor	Aajor	Major	Aajor	Najor	Major	Major	Major	Major		Major	Major	Major	Major	Major	
	Si	Major Major	lajor N	Major Major	Najor N	/ajor	Najor N	/ajor	/ajor	/ajor	/ajor	Minor Major	/lajor	/lajor	/ajor /	/linor						
	B Al	Trace N	Trace Major Major	Trace	Trace Major Major	Trace Major Major	Major Major	linor N	Trace Major Major	Trace Major Major	Trace Major Major	~	Trace Major Major	Trace Major Major	Trace Major Major	Trace Minor Major						
	Mg	Trace Ti	0.02mm	Trace Ti	Trace Ti		Second 1	Annual Control of the last		Trace T	Trace T	Trace	Trace M	Trace Minor Major Major	inor	Minor	Trace	Trace	Trace T	Trace T	Trace T	Trace T
	Na	Major Tr	Major Minor	Major Tr	Major Tr	Major Minor	Major Minor	Major Minor	Major Minor	Major Tr	Major Tr	Major Tr	Major Tr	Major Tr	Major Minor	Major Mi	Major Tr	Major Tr	Major Tr	Major Tr	Major Tr	Major Ti
	0	N	Z	Z	Z	Z	Z	Σ	Z	Σ	Z	Z	Σ	Z	Σ	Σ	Z	Z	Σ	Σ	Z	Σ
	z	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major								
	J mn	Ma	Ma	Ma	Ma	M	Ma							Jenson Harris	10000							
	Spectrum Label	m	4	2	9	7	∞	o	10	1	12	13	14	15	16	17	18	13	20	21	22	23

consisting of a grain size of < 2 µm. Clay minerals typically are aluminium silicates containing cations, alkalies and alkaline earth metals as essential components. Magnesium and iron CV-DSI-0417 (Sludge Overall), UQMP # 14907. A summary table of particles selected above for SEM/EDS analysis. A high ash coal particle was detected with most of the particles often substitute in the matrix for aluminium. There small size creates a large surface area to volume ration and reactive surface area with high cation exchange capacities. Some clays can increase their volume by 50 % with water absorption, which can create instability in soils.



## AN SEM/BSE IMAGE OF PARTICLES SELECTED FOR SEM/EDS ANALYSIS

Electron Image 4 Spectrum 26 PM4. CV-DSI-0417 (Sludge Overall), UQMP # 14907. An SEM/BSE image of a particles selected for SEM/EDS analysis.

# Table 3. AN SEM/EDS ELEMENTAL SUMMARY OF PARTICULATES SELECTED ABOVE FOR ANALYSIS.

Major Major Trace Major Major Minor Trace Major Major Minor Trace Major Major Trace	Spectrum Label	Z U	0	Sa	Mg	₹	iS	۵.	S	ប	¥	ප	<i></i>	V /	Mn Fe		Ni Cu	ı Ag	e]		Ce Pr	PN	Sm	Description/Nominated Particle
Major Minor Trace Major Major Trace Minor	24	Major	M	ajor Tr	ace Tra	ce Maj		ior Min	or		Trace				7	Ainor		Σ	inor Mi	nor Ma	jor	M	nor	Mineral Dust, Phosphorous, Lanthanide Aluminosiilcate
Maine The Trans Minor Maine Trans Trans Trans	25	Major	Ž	ajor Mi	nor Tra	ce Maj	jor Maj	or			Trace	Minor				Trace		1						Mineral dust, Aluminosilicate - clay
ואומים וומרב וומרב אוווים ואומים וומרב וומרב וומרב וומרב	26	Major	Ma	ajor Tr	ace Tra	ce Min	nor Ma	or Tra	ce Trac	ىن	Trace	Trace	Trace		4	Minor								Coal - High ash

UQMP File Reference: C03136.04

5.7



### SEM/BSE IMAGE OF PARTICLES SELECTED FOR SEM/EDS ANALYSIS

Flectron Image 5

Spectrum 31

Spectrum 32

Spectrum 32

Spectrum 33

Spectrum 33

Spectrum 33

PM5. CV-DSI-0417 (Sludge Overall), UQMP # 14907. An SEM/BSE image of a particles selected for SEM/EDS analysis.

S

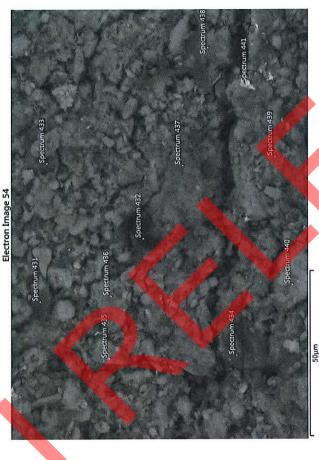
	cate	cate	>	>		>	^
Sm Description/Nominated Particle	Mineral Dust -Iron-Titanium aluminosilicate	Mineral Dust -Iron-Titanium aluminosilicate	Mineral Dust -Iron-aluminosilicate - clay	lineral Dust -Iron-aluminosilicate - clay	Mineral Dust - Calcium aluminosilicate	Aineral Dust -Iron-aluminosilicate - clay	Mineral Dust -Iron-aluminosilicate - clay
Nomin	-Iron-	-Iron-	-Iron-	-Iron-	:- Calci	:-Iron-	-Iron-
iption/	al Dust	ral Dust	ral Dust	ral Dust	ral Dust	ral Dust	ral Dust
Descr	Mine	Mine	Mine	Mine	Mine	Mine	Mine
Š							
Pr							
g							
La							
A		1					
3	Trace						Trace
ž	<u> </u>						
a a	Najor	Major	Major	Major	Major	Major	Major
Σ	race N	2	2	2	2	7	2
>	race	race					
F	ce Trace Major Trace Trace Major	ior Trace Major Trace	Frace	<b>Ainor</b>	Frace	Frace	Trace
ප	race	race	ior Minor Trace	ior Minor Minor	Major Trace	nor Trace Trace	nor Trace Trace
×	Trace	Minor	Minor N	Minor N	Minor N	Minor	Minor
ū		2	2	2	2	2	2
S	Trace	Trace	Trace		Trace	Trace	Trace
۵							
Si	Major	lajor	Major	Major	Major	Major	lajor
A	Major M	Major Major	Major M	Major M	Major M	Major M	ajor M.
Mg	race	race	Trace M	Trace M	Trace M	Trace M	Trace Trace Major Major
Na	Major Major Trace Trace	Minor Major Trace Trace	Trace Tr	Trace Tr	Trace Tr	Trace Tr	Tace T
0	jor Tr	jor Tr	2000	Aajor Tr	Major Tr	Najor Tr	Major Tr
Z	jor Ma	nor Ma	nor Major	Ma	Ma	Ma	Ma
U		Major Min	Aajor Minor	or	or	or	or
_	Major	Maj	Maj	Major	Major	Major	Major
Spectrum Label	27	28	29	30	31	32	33

CV-DSI-0417 (Sludge Overall), UQMP # 14907. The elemental summary suggests a particle typical of the elemental profile displayed in each spectrum.

UQMP File Reference: C03136.04



SEM/BSE IMAGE AND SEM/EDS ELEMENTAL SUMMARY OF INTERMEDIATE CV-DSI-0417 PARTICLES SEM/BSE IMAGE OF PARTICLES SELECTED FOR SEM/EDS ANALYSIS



PM6. CV-DSI-0417, UQMP # 14907. An SEM/BSE image of a particles selected for SEM/EDS analysis.

UQMP File Reference: C03136.04





Table 4. CV-DSI-0417, UQMP # 14907. An Elemental SUMMARY OF INTERMEDIATE CV-DSI-0417 PARTICLES 6.2

•		200	100														
Spectrum Label	٥	Z	0	Na	Mg	AI S	Si	O)	S	C Z		Ca	F	Mn	Fe	ï	Description/Nominated Particle
Spectrum 431	WATER COLUMN	Major Minor Major	Major	Trace		Trace Minor	Major		Trace		Trace	Trace	Trace Trace	Trace	Trace Minor		Suggestive of Coal
Spectrum 432	Major		Major	Trace	Trace	Trace Minor Major	Major	Trace	Trace		Trace	Trace	Trace		Minor		Coal
Spectrum 433	Major		Major	Trace	Trace	Trace Minor Major	Major	Trace	Trace		Trace	Minor	Minor Trace Trace Major	Trace	Major		Suggestive of Coal
Spectrum 434	Major		Major	Trace	Trace	Trace Minor Major	Major	Trace	Trace	Trace	Trace	Trace	Trace		Minor		Coal
Spectrum 435	Major		Major	Trace	Major	Trace Major Minor Major	Major				Trace	Major	Trace		Major		Mineral Dust - Calcium-Magnesium Aluminosilicate
Spectrum 436	Major		Major	Trace	Minor	Trace Minor Major Major	Major	Trace	Trace		Trace	Trace	Trace		Major		Mineral Dust - Iron-Aluminosilicate
Spectrum 437	Major		Major	Trace	Minor	Trace Minor Major Major	Major				Minor	Trace	Trace		Major		Mineral Dust - Iron-Aluminosilicate
Spectrum 438	Major		Major		Trace	Trace Major Majo	Major		Trace		Trace	Trace	Trace	V	Minor		Mineral Dust - Quartz
Spectrum 439	Major		Major		Minor	Minor Major Major	Major	Trace	Trace	E HEALL	Minor	Trace	Trace		Major		Mineral Dust - Iron-Aluminosilicate
Spectrum 440	Major		Major	Minor	Minor	Major Minor Minor Major Major	Major	Trace			Trace	Trace	Trace		Major		Mineral Dust - Iron-Aluminosilicate
Spectrum 441	Major		Major		Trace	Trace Major Major Minor	Major	Minor			Trace	Trace	Trace		Minor	Major	Mineral Dust - Nickel Phosphorous aluminosilicate
* **			1 410	11 00		Ē	A	tal account	-		- train	Alaska a	The same of	17 2 - 1	-	The state of	11: 11. 11. 11. 11. 11. 11. 11. 11. 11.

CV-DSI-0417 (Intermediate), UQMP # 14907. The elemental summary suggests a particle typical of the elemental profile displayed in each spectrum.



## SEM/BSE IMAGE AND SEM/EDS ELEMENTAL SUMMARY OF FINE CV-DSI-0417 PARTICLES



PM6. CV-DSI-0417, UQMP # 14907. An SEM/BSE image of a particles selected for SEM/EDS analysis.

UQMP File Reference: C03136.04

7.

Report for DSITI and EHP Re: Particle Characterisation of Sludge Deposits



An Elemental SUMMARY OF INTERMEDIATE CV-DSI-0417 PARTICLES	Description/Nominated Particle	Coal	Mineral Dust - Aluminosiilcate - clay	Mineral Dust - Aluminosiilcate - clay	Mineral Dust - Silicon rich - quartz	Mineral Dust - iron - Aluminosiilcate - clay	Mineral Dust - Aluminosiilcate - clay	Trace Mineral Dust - Calcium Aluminosilicate - clay	Mineral Dust - Calcium Aluminosilicate - clay	Suggestive of High Ash Coal	Mineral Dust - Aluminosiilcate - clay	Mineral Dust - Calcium Aluminosilicate - clay	Mineral Dust - Calcium Magnesium Aluminosilicate - clay	Trace Mineral Dust - Aluminosilicate - clay	Mineral Dust - Sodium Aluminosilicate - clay	Mineral Dust - Sodium Aluminosilicate - day	Coal	Suggestive of High Ash Coal	Mineral Dust- Aluminosiilcate - clay	Coal	Coal	Trace Overall Area of the fines
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MEDIA	Fe	Trace	Minor	Minor	Minor	Major	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Major	Minor	Trace	Minor	Minor	Trace	Trace	Minor	Minor
TER	F		Trace	Trace	Trace	Trace	Trace	Trace		Trace	Trace	Trace	Trace	Minor	Trace		Trace	Trace		Trace	Trace	Trace
OF IN	Ca	Trace	Trace	Trace	Trace	Trace	Trace	Minor	Minor	Trace	Trace	Minor	Minor	Minor	Trace	Minor	Thrace	Trace	Trace	Trace	Trace	Minor
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CV-DSI-0417, UQMP # 14	Na	Trace	Trace	Trace	Trace	Trace	Trace	Trace	Minor	Trace	Trace	Minor	Trace	Trace	Minor	Major	Trace	Trace	Trace	Trace	Trace	Trace
. c		Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major
Table 5.	0	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major	Major
7.1 T	Spectrum C Label	Spectrum 289	Spectrum 290	Spectrum 291	Spectrum 292	Spectrum 293	Spectrum 294	Spectrum 295	Spectrum 296	Spectrum 297	Spectrum 298	Spectrum 299	Spectrum 300	Spectrum 301	Spectrum 302	Spectrum 303	Spectrum 304	Spectrum 305	Spectrum 306	Spectrum 307	Spectrum 308	Spectrum 309

CV-DSI-0417 (Fines), UQMP # 14907. The elemental summary suggests a particle typical of the elemental profile displayed in each spectrum.

UQMP File Reference: C03136.04

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The author acknowledges the facilities, and the scientific and technical assistance, of the Australian Microscopy & Microanalysis Research Facility at the Centre for Microscopy and Microanalysis, The University of Queensland

UQMP File Reference: C03136.04

From: LOWE Trinity < Trinity.Lowe@ehp.qld.gov.au>

Sent: Tuesday, 15 August 2017 4:14 PM

To: ESR; Alison Brown; ANDERSON Katherine; Benton Wecker; Danielle Cohen;

ELLWOOD Dean; DLO EHP; Media EHP/NPSR; Erin Fentiman; ESR; REEVES Jim; Katharine Wright; MCMAIN Lisa; Naomi van Brug; SENGERS Nathalie; STEELE Mary;

Steven Miles; STRYBOS Stacey

Cc: BROWN Glen; CARLOS Reuben; CONNOR Andrew; GOLDSWORTHY Stephen;

FOMIATTI MINNESMA Ingrid; LENZ Anne; LINO Starsky; SULLIVAN Scott (EHP);

**VENZ Mark** 

Subject: UPDATED ESR Alert - Penalty Infringement Notice (PIN) issued to Abbot Point Bulk

Coal Pty Ltd - Stormwater Release.

### Afternoon All

Please see the below update:

On 14 August 2017, APBC has notified the department of its election to contest the PIN in Court.

The department has no intention to withdraw the PIN.

Thanks & Cheers

Trin



Queensland Government

### **Trinity Lowe**

**Executive Officer** 

Office of the Deputy Director General

**Environmental Services and Regulation Division** 

Department of Environment and Heritage Protection

Pirrelevant

Level 7 400 George St Brisbane

From: LOWE Trinity On Behalf Of ESR Sent: Tuesday, 1 August 2017 2:55 PM

To: Alison Brown; ANDERSON Katherine (Katherine.Anderson@ehp.qld.gov.au); Benton Wecker; Danielle Cohen; Dean Ellwood; DLO EHP; EHP Media; Erin Fentiman; ESR; Jim Reeves; Katharine Wright; MCMAIN Lisa; Naomi Van Brug; SENGERS Nathalie; STEELE Mary; Steven Miles; STRYBOS Stacey

Cc: BROWN Glen; CARLOS Reuben; CONNOR Andrew; GOLDSWORTHY Stephen; Ingrid Formiatti Minnesma; LENZ Anne; LINO Starsky; SULLIVAN Scott (EHP); VENZ Mark

Subject: UPDATED ESR Alert - Penalty Infringement Notice (PIN) issued to Abbot Point Bulk Coal Pty Ltd — Stormwater Release.

### ALERT CATEGORY:

Enforcement Activity.

### ALERT NAME:

Penalty Infringement Notice (PIN) issued to Abbot Point Bulk Coal Pty Ltd – Stormwater Release. (UPDATED)

### **CUSTOMER DETAILS:**

Abbot Point Bulk Coal Pty Ltd.

- Abbot Point Coal Terminal, Bowen, Lot 48 on SP243724, Lot 49 on SP243724, Lot 50 on SP243721, Lot 51 on SP243721, Lot 52 on SP243721, Lot 3 on SP227557, Lot 4 on SP227557, Lot 58 on SP240224 and Lot 49 on SP185904.
- Contact: Dwayne Freeman Chief Executive Officer, Abbot Point Operations Pty Ltd.
- Environmental Authority (EA) EPPR00577113.
- Temporary Emissions Licence (TEL) ENEL07198317.
- PIN number 200000040442385

### **SUMMARY OF ISSUE/S:**

- On 20 July 2017, the Manager Compliance (Coal) issued a penalty infringement notice (PIN) for the amount of \$12,190.00 to Abbot Point Bulk Coal Pty Ltd (APBC), for an alleged breach of section 357I of the Environmental Protection Act 1994 regarding non-compliance with a TEL.
- The non-compliance was identified on 6 April 2017, when APBC advised the department that a stormwater release which occurred from release point W2 during rainfall associated with Tropical Cyclone Debbie was not in compliance with conditions of the TEL or EA. APBC reported a release with a Total Suspended Solids (TSS) concentration of 806mg/L. The TEL release limit was 100mg/L.
- The department contacted APBC on 20 July 2017, to advise of the issue of a PIN for non-compliance with the TEL.
- On 31 July 2017, APBC made written representation to the department, requesting that the PIN be withdrawn on the basis that there is insufficient evidence to support the department's allegation that the stormwater release from release point W2 was conveyed to "waters" (Dingo Beach).
- APBC has until 17 August 2017, in which to elect to have the matter heard in Court.
- The department is also considering issue of an administrative tool in relation to the investigation underway into potential impacts to the Caley Valley Wetlands located adjacent to the Abbot Point Coal Terminal.
- The administrative tool, such as a statutory notice or statutory order, may be issued by the department to secure compliance with obligations under the Environmental Protection Act 1994. The tool would likely require APBC to consider impacts associated with stormwater releases from the site to the Caley Valley Wetlands and the site's long term water management plan, including any opportunities for infrastructure improvements.

### POTENTIAL IMPACTS / RISKS:

- APBC has indicated previously in discussions with the department that the company is likely to contest any PIN in Court.
- There is potential for APBC to make representations at senior departmental or ministerial level regarding the issue of the PIN.
- APBC has until 17 August 2017, in which to elect to have the matter heard in Court.

### DEPARTMENT ACTIONS: [HISTORICAL ACTIONS]

- APBC applied for a TEL on 27 March 2017, in response to the forecast of heavy rainfall associated with Tropical Cyclone Debbie and the potential for non-compliance with stormwater release limits.
- On 27 March 2017 (the same day) a TEL was issued to APBC, temporarily authorising elevated Total Suspended Solids (TSS) limits on stormwater released from release point W1 into the Caley Valley Wetlands.
- The TEL increased the TSS limit from the EA authorised limit of 30 mg/L to 100 mg/L.
- On 28 March 2017, the TEL was amended by agreement authorising the same elevated TSS limits on releases from release point W2.
- The TEL remained in force until 30 March 2017.
- On 6 April 2017, APBC advised the department that a stormwater release which occurred from release point W2 during rainfall associated with Tropical Cyclone Debbie was not in compliance with conditions of the TEL or EA.

- Release point W2 is a licensed stormwater discharge sump located on the northern side of the terminal and does not report to the Caley Valley Wetlands. APBC reported a release with a TSS concentration of 806mg/L.
   The TEL release limit was 100mg/L.
- In preparation for the weather event, APBC installed a back-up pump in addition to the in situ pump installed at release point W2. APBC has advised that rain associated with Tropical Cyclone Debbie exceeded the capacity of both the in situ pump and the back-up pump.
- A series of rock traps are installed off-site from release point W2. Observations made by departmental
  officers indicated coal-laden water had passed through the first two sediment traps, however no coal fines
  were observed in the third sediment trap.
- A pre-enforcement letter was sent to APBC on Monday 22 May 2017, inviting the EA holder to make representations as to why enforcement action should not be taken for non-compliances with the conditions of the TEL.
- APBC provided a response to the pre-enforcement letter on 7 June 2017.
- The department reviewed APBC's response to the pre-enforcement letter and a recommendation to issue one (1) PIN for non-compliance with a TEL condition was escalated to the Manager Compliance (Coal) on Thursday 22 June 2017.

### [PLANNED ACTIONS]

- The department is currently engaging with the Department of Science, Information Technology and Innovation (DSITI) and has requested assistance with developing appropriate requirements for inclusion within any administrative tool to be issued in relation to impacts on the Caley Valley Wetlands.
- The department is currently engaging with APBC regarding the likely requirements of the administrative tool and the timeframes involved.
- The department will respond to APBC's correspondence dated 31 July 2017 advising of the intention not to withdraw the PIN issued on 20 July 2017.

### **KEY COMMUNICATION MESSAGES:**

• The issue of a PIN is an appropriate and proportionate enforcement action given the nature of the alleged offence and is consistent with the department's Enforcement Guidelines.

### **CONTACT DETAILS:**

- Name: Reuben Carlos, Executive Director, Coal and Central Queensland Compliance.
- Phone number:
- Division: Environmental Services and Regulation.

This email is an updated alert in respect of this matter.

If further advice or action is required, it will be communicated via normal channels such as a briefing note.

END



Trinity Lowe
Executive Officer
Office of the Deputy Director General
Environmental Services and Regulation Division
Department of Environment and Heritage Protection

p Irrelevan

Level 7 400 George St Brisbane

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<ESR@ehp.qld.gov.au>

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To: Alison Brown; ANDERSON Katherine; Benton Wecker; Danielle Cohen; ELLWOOD

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Cc: BROWN Glen; CARLOS Reuben; CONNOR Andrew; GOLDSWORTHY Stephen;

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**VENZ Mark** 

Subject: UPDATED ESR Alert - Penalty Infringement Notice (PIN) issued to Abbot Point Bulk

Coal Pty Ltd – Stormwater Release.

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• Enforcement Activity.

### **ALERT NAME:**

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### CONTACT DETAILS:

- Name: Reuben Carlos, Executive Director, Coal and Central Queensland Compliance.
- Phone number: Irrelevant
- Division: Environmental Services and Regulation.

This email is an updated alert in respect of this matter.

If further advice or action is required, it will be communicated via normal channels such as a briefing note.

### **END**



Trinity Lowe
Executive Officer
Office of the Deputy Director General
Environmental Services and Regulation Division
Department of Environment and Heritage Protection

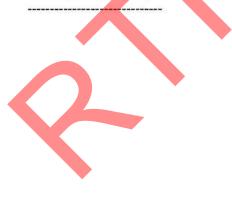
Irrelevant

Level 7 400 George St Brisbane

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From: CARLOS Reuben <Reuben.Carlos@ehp.qld.gov.au>

**Sent:** Wednesday, 26 April 2017 6:39 PM **To:** Danielle Cohen; ELLWOOD Dean

Cc: FRANKISH John; DELANEY Kate; PINN Louise; MUNRO Rebecca; STEWART Alisha;

WELLS Melissa

Subject: Sampling Results Abbot Point- Caley Valley Wetland - Sediment results due date

COB Friday 5 May

### Danielle

As discussed we were informed today that the <u>sediment samples</u> taken at Caley Valley Wetlands on 11 April 2017 will be available by COB on Friday 5 May. Based on current service delivery standards I think we should budget on receiving them on Monday 8 May as we are likely to receive results right on 5pm (or later) on Friday 5 May or on Monday 8 May. The delay in providing the results is due to additional sampling methodology processes.

### **Explanation from ALS**

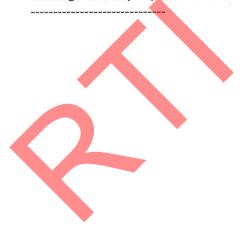
Due to the samples being wet, the water had to be removed in a manner that prevents any of the solid material from being lost. In the normal run of things, it takes about a week for us to get this kind of sample back from the preparation technicians. Once the sample arrives in the petrography lab, we mount the sample in a slow curing resin (necessary for this kind of sample). This can take a couple of days to set before it is ready for polishing. The polished samples can then be analysed under the microscope.

### Cheers Reuben

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From: Lissa Schindler < Personal Information

Sent: Thursday, 15 June 2017 3:35 PM

To: Rebecca Coulter
Cc: Danielle Cohen

Subject: Re: Meeting request with the Minister- AMCS

Hi thanks for letting me know. Danielle if you are in brisbane would be great to catch up while Imogen is here otherwise we can chat on phone at some point.

On Thursday, June 15, 2017, Rebecca Coulter < Rebecca. Coulter@ministerial.qld.gov.au > wrote:

Hi Lissa

Thanks for getting in touch.

Unfortunately Minister Miles is travelling all of next week and the majority of the week after.

Apologies for not being able to secure a time.

Many thanks



Rebecca Coulter

Executive Assistant/Office Manager

Office of the Hon Dr Steven Miles

Minister for Environment & Heritage Protection

Minister for National Parks and the Great Barrier Reef

Pirrelevant

E: Rebecca.Coulter@ministerial.qld.gov.au

1 William Street Brisbane QLD 4000

GPO Box 2454 Brisbane QLD 4001

From: Lissa Schindler [mailto: Personal Information

Sent: Thursday, 15 June 2017 10:48 AM

To: Rebecca Coulter < Rebecca.Coulter@ministerial.qld.gov.au > Cc: Danielle Cohen < Danielle.Cohen@ministerial.qld.gov.au >

Subject: Meeting request with the Minister- AMCS

Hi Rebecca and Danielle,

Apologies for late notice but wondering if Minister Miles was available anytime on Monday for a meeting to discuss the Abbot Point wetland breach, temporary emission licences and NAIF.

The meeting would be with myself and Imogen Zethoven - Reef campaign director.

Best wishes

Lissa

Please note I work part time Monday/Tuesday/Thursday

Dr Lissa Schindler

Senior Reef Campaigner

**Australian Marine Conservation Society** 

p: 07 3846 6777

f: 07 3846 6788

a: PO Box 5815 West End QLD 4101

w: www.marineconservation.org.au e: Personal information

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Please consider the environment before printing this email.

Please note I work part time Monday/Tuesday/Thursday



### Dr Lissa Schindler

Senior Reef Campaigner

Australian Marine Conservation Society

p: 07 3846 6777

f: 07 3846 6788

a: PO Box 5815 West End QLD 4101

w: www.marineconservation.org.au e: Personal Information

Help protect our ocean wildlife. Become a <u>Sea Guardian</u> today. <u>Join us</u> on Facebook and <u>follow us</u> on Twitter.

From:

Rebecca Coulter

Sent:

Thursday, 15 June 2017 2:11 PM

To: Cc:

Lissa Schindler Danielle Cohen

Subject:

RE: Meeting request with the Minister- AMCS

Hi Lissa

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Apologies for not being able to secure a time.

### Many thanks



Government

### Rebecca Coulter

Executive Assistant/Office Manager Office of the Hon Dr Steven Miles

Minister for Environment & Heritage Protection Minister for National Parks and the Great Barrier Reef

E: Rebecca.Coulter@ministerial.qld.gov.au

1 William Street Brisbane QLD 4000

GPO Box 2454 Brisbane QLD 4001

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Best wishes

Lissa

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### Dr Lissa Schindler

Senior Reef Campaigner
Australian Marine Conservation Society

- p: 07 3846 6777
  f: 07 3846 6788
  a: PO Box 5815 West End QLD 4101
  w: www.marineconservation.org.au e: Personal Information

Help protect our ocean wildlife. Become a <u>Sea Guardian</u> today. <u>Join us</u> on Facebook and <u>follow us</u> on Twitter.



From:

Naomi van Brug

Sent:

Tuesday, 4 July 2017 2:09 PM

To:

External - Mulgrave Electorate Office

Subject:

RE: Letter from Hon Curtis Pitt

### Hi Rebecca

The Department of Environment and Heritage Protection (EHP) advises Adami Abbot Point Bulkcoal was authorised to release water under a temporary emissions licence, from 27 to 30 March, to assist with site water management during and after ex-Tropical Cyclone Debbie.

The temporary licence authorised sediment releases of up to 100 milligrams per litre. Adam's test results from the Caley Valley wetlands indicated that the release into that environment was within the temporary licence's limits.

EHP was advised that none of the water from the second release point reached the Caley Valley wetlands and that the use of sediment traps prevented coal from entering the ocean. EHP has taken sand samples on the beach below the release point to determine if there was coal present as a result of the water release.

EHP and DSITI have also taken in situ water monitoring, sediment samples and water samples across seven sites in the Caley Valley wetlands to determine the state of the relevant areas and the contribution of releases from the terminal. DSITI's report outlining the outcomes of the wetland assessment will be made publicly available when it is completed and EHP is continuing investigations into the water releases.

Kind regards

Naomi van Brug

**Queensland** Government Assistant Advisor / Caucus Liaison

Office of the Hon Dr Steven Miles MP

Minister for Environment and Heritage Protection
Minister for National Parks and the Great Barrier Reef

### phirrelevant

1 William Street, Brisbane QLD 4000 | GPO Box 2454 Brisbane QLD 4001

We aim to respond to all Caucus enquiries within 5 to 10 business days. If you require urgent advice, please let us know.

Members you can book your Parliament Caucus drop-in with Minister Miles on Tuesday 4.45pm-5.45pm, Wednesday 4pm-5pm and Thursday 4.45pm-5.45pm. We're looking forward to it.

From: Mulgrave Electorate Office [mailto:mulgrave@parliament.qld.gov.au]

Sent: Friday, 30 June 2017 3:47 PM

To: Naomi van Brug

Subject: FW: Letter from Hon Curtis Pitt

### Hi Naomi

I initially sent this to Helena at Minister Lynham's office - but she has redirected me to Minister Miles...

Would you mind providing me with some advice for the following constituent enquiry, please?

I wold like to know what the government is asking Adani to do to remediate the wetland adjacent to Abbot Point coal terminal, which was damaged by flooding and coal dust after the cyclone this year.

### Kind regards

### Rebecca Spencer

Office of Curtis Pitt MP Member for Mulgrave

### p Irrelevant

E mulgrave@parliament.qld.gov.au

94-96 Norman Street

PO Box 314

Gordonvale Q 4865

www.curtispitt.com.au

From: Personal Information

Sent: Thursday, 25 May 2017 9:08 PM

To: Mulgrave Electorate Office <mulgrave@parliament.gld.gov.au>

Subject: Re: Letter from Hon Curtis Pitt

Good evening Rebecca,

I think our emails crossed earlier.

Irrelevant

Thank you for forwarding this response to my letter. I will read through the links. However I would like to assert that there has been a rethink of the 2050 Reef plan by the advisory Independent Expert Panel released May 5th and published in the Age, on 21st May, front page, which requests a dramatic rethink of the existing policy.

Chaired by Professor Ian Chubb, it recommends that reducing carbon emissions be central to this strategy. This would seem to be in contradiction to the Federal and State government plans to support the Adani mine, which will increase emissions globally and further endanger the reef.

I wold like to know what the government is asking Adani to do to remediate the wetland adjacent to Abbot Point coal terminal, which was damaged by flooding and coal dust after the cyclone this year.

### rrelevant

Thank you again for your assistance in conveying my messages.

Kind regards,

nform

On 25 May 2017, at 2:52 PM, Mulgrave Electorate Office <mulgrave@parliament.qld.gov.au> wrote:

Good afternoon pal

Curtis has provided the attached letter in response to the issues that you raised in your email.

Kind regards

### Rebecca Spencer

Office of Curtis Pitt MP Member for Mulgrave

p Irrelevant

E mulgrave@parliament.qld.gov.au 94-96 Norman Street PO Box 314 Gordonvale Q 4865 www.curtispitt.com.au

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From:

Alison Brown

Sent:

Monday, 14 August 2017 1:26 PM

To:

TRACEY Ben

Cc:

Media EHP/NPSR; Katharine Wright; Danielle Cohen

Subject:

RE: Kat/Alison - Media response for approval please - PINS issued to other

companies besides ABPC

Good to chat before Ben. Thanks for re-sending back to us with the changes, when approved by the department. Kind regards

Alison

From: TRACEY Ben [mailto:Ben.Tracey@ehp.qld.gov.au]

Sent: Monday, 14 August 2017 11:23 AM To: Katharine Wright; Alison Brown

Cc: Media EHP/NPSR; STEELE Mary; LAWRENCE Rob; REEVES Jim; Corro EHP DG

Subject: Kat/Alison - Media response for approval please - PINS issued to other companies besides ABPC

Hi Kat/Alison,

Please see below a media response for approval.

Two media outlets asked about this issue (below),

This has been approved by Dean Ellwood.

Thanks

Ben



Queensland Government

**Ben Tracey** 

Senior Media Officer

Media Services I Corporate Services

Department of Environment and Heritage Protection
Department of National Parks, Sport and Racing

Pirrelevant

media@ehp.qld.gov.au media@npsr.qld.gov.au

400 George St, Brisbane QLD 4000

GPO Box 2454, Brisbane QLD 4001

### Media response

Re: Other companies fined by EHP

Date: 14 August 2017

Please attribute to a Department of Environment and Heritage Protection spokesperson:

Is EHP investigating any other companies or groups, for an unauthorised storm water release that occurred during Tropical Cyclone Debbie, other than Abbot Point Bulk Coal Pty Ltd?

### Will EHP fine any other companies or groups?

EHP has issued a Penalty Infringement Notice to three companies including APBC Pty Ltd for unauthorised storm water release during TC Debbie.

EHP also issued Direction Notice's to two separate companies.

### **ENDS**

For further media enquiries contact Media Services on (07) 3339 5831 or email media@ehp.qld.gov.au.

### AGENCY BACKGROUND - NOT FOR PUBLICATION

Hi – Adani issued a release today saying Abbot Point Bulk Coal is disappointed that Department of Environment and Heritage Protection has released details of the fine to media but did not detail the fine notices issued to other parties following Cyclone Debbie.

Can you confirm other companies were fined – and if so who?

Regards

Personal Information

From: Personal Information

Sent: Friday, 11 August 2017 3:46 PM

To: Media EHP/NPSR Subject: Media query

Hi,

I'm following up on the media release "Abbot Point Coal fined for storm water release" issued by EHP today.

Is EHP investigating any other companies or groups, for an unauthorised storm water release that occurred during Tropical Cyclone Debbie, other than Abbot Point Bulk Coal Pty Ltd?

Will EHP fine any other companies or groups?

Can you please respond so I know you have received my inquiry?

Regards,

Personal Information

Reporter

Personal Information

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### Personal Information

Reporter

### Personal Information

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From:

Steven Miles

Sent:

Monday, 14 August 2017 2:50 PM

To:

Alison Brown

Cc:

Katharine Wright; Danielle Cohen

Subject:

Re: For approval - response- PINS issued to other companies besides ABPC

Fine

Sent from my iPhone

On 14 Aug 2017, at 2:18 pm, Alison Brown < Alison.Brown@ministerial.qld.gov.au wrote:

Hello Minister,

Had a chat to Kat and Dan about this one, and we think it's OK.

Would you be happy to approve the department issuing this response about the other companies (other than Adani) who were fined by EHP?

Thanks,

Alison

### Media response

Re: Other companies fined by EHP

Date: 14 August 2017

Please attribute to a Department of Environment and Heritage Protection spokesperson:

Is EHP investigating any other companies or groups, for an unauthorised storm water release that occurred during Tropical Cyclone Debbie, other than Abbot Point Bulk Coal Pty Ltd?

### Will EHP fine any other companies or groups?

The Department of Environment and Heritage Protection (EHP) received several media requests about storm water release at Adani and subsequently decided to issue a statement with details.

EHP also investigated other companies for unauthorised storm water release during TC Debbie.

EHP issued a Penalty Infringement Notice to APBC Pty Ltd, Sunland Enterprises Pty Ltd and Yarrabee Coal Company Pty Ltd.

The department also issued a Direction Notice to Glencore Coal Company Pty Ltd and Rockhampton Regional Council.

### **ENDS**

For further media enquiries contact Media Services on (07) 3339 5831 or email media@ehp.qld.gov.au.

### AGENCY BACKGROUND – NOT FOR PUBLICATION PINS

PIN6286 Sunland Enterprises Pty Ltd Issued 12/06/2017 PIN6295 Yarrabee Coal Company Pty Ltd Issued 19/07/2017 PIN6298 Abbot Point Bulkcoal Pty Ltd issued 20/07/2017

**Direction Notice** 

STAT1184 Glencore Coal Queensland Pty Limited (Collinsville Coal Mine) issued 07/08/2017 20170113 Rockhampton Regional Council Issued 05/04/2017 Hi - Adani issued a release today saying Abbot Point Bulk Coal is disappointed that Department of Environment and Heritage Protection has released details of the fine to media but did not detail the fine notices issued to other parties following Cyclone Debbie. Can you confirm other companies were fined – and if so who? Regards Sent: Friday, 11 August 2017 3:46 PM To: Media EHP/NPSR Subject: Media query Hi, I'm following up on the media release "Abbot Point Coal fined for storm water release" issued by EHP today. Is EHP investigating any other companies or groups, for an unauthorised storm water release that occurred during Tropical Cyclone Debbie, other than

Abbot Point Bulk Coal Pty Ltd?

Will EHP fine any other companies or groups?

Can you please respond so I know you have received my inquiry?

Regards,

Personal Informa

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From: Danielle Cohen

Sent: Wednesday, 31 May 2017 3:35 PM

To: LEWIS Kieran

Cc: Katharine Wright; Alison Brown

Subject: RE: Dingo Beach

Hi Kieran, what's the likely ETA for this?

Thanks Danielle

From: LEWIS Kieran [mailto:Kieran.Lewis@ehp.qld.gov.au]

**Sent:** Wednesday, 31 May 2017 3:34 PM **To:** Katharine Wright; Media EHP/NPSR **Cc:** Alison Brown; Danielle Cohen

Subject: RE: Dingo Beach

We shall, thanks Kat

Kieran

From: Katharine Wright [mailto:Katharine.Wright@ministerial.qld.gov.au]

Sent: Wednesday, 31 May 2017 3:30 PM

To: LEWIS Kieran < Kieran.Lewis@ehp.qld.gov.au>; Media EHP/NPSR < Media@ehp.qld.gov.au>

Cc: Alison Brown <Alison.Brown@ministerial.qld.gov.au>; Danielle Cohen <Danielle.Cohen@ministerial.qld.gov.au>

Subject: Fwd: Dingo Beach

Hi Kieran,

This release is now approved. Can you please put out departmentally?

Thank you.

From: Alison Brown

Sent: Wednesday, 17 May 2017 5:17 PM

To: Danielle Cohen < Danielle.Cohen@ministerial.qld.gov.au>

Subject:

**Dingo Beach test results** 

Adani Abbot Point Bulkcoal was authorised to release water from two licensed release points under a temporary emissions licence (TEL), from 27 to 30 March.

The TEL was granted to assist with site water management during and after Cyclone Debbie.

It authorised total suspended solids releases of up to 100 milligrams per litre.

On 21 April, Adani Abbot Point Bulkcoal advised EHP that samples collected on 30 March from the release point on the northern side of the terminal concluded that the release contained 806mg/L of sediment.

EHP took sand samples on the beach below the release point on 20 April to determine if there was coal present.

The results of the samples showed trace amounts of coal of between one and two percent were found in the sediment samples.

These trace amounts would be unlikely to cause any environmental harm to the surrounding area.

The analysis also found that naturally occurring minerals and magnetite made up between 98 and 99 percent of the sediment samples.

Magnetite is often found in large quantities in beach sand, which is the most likely reason for the dark colouration observed at Dingo Beach.

The investigation into the release of water and assessment of any impacts to the Calley Valley Wetlands is ongoing.

**ENDS** 

Alison Brown

Media Advisor

Office of the Hon. Dr Steven Miles MP

Minister for Environment and Heritage Protection

Minister for National Parks and the Great Barrier Reef

Pirelevant

1 William Street Brisbane QLD 4000

PO Box 15185 City East Qld 4002

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\_\_\_\_\_

From: BAKER-LOWE Andrew <Andrew.Baker-Lowe@ehp.qld.gov.au> on behalf of DLO

EHP <DLO.EHP@ehp.qld.gov.au>

Sent: Tuesday, 28 November 2017 3:07 PM

To: Danielle Cohen

Subject: RE: CTS 31843/17 - Abbot Point Bulk Coal matter

Thanks Dan, I have forwarded this request on to the department and have asked for a response by midday tomorrow (or earlier if possible).

Cheers Andrew



#### Andrew Baker-Lowe

Assistant Departmental Liaison Officer

Ministerial & Executive Correspondence Unit

Department of Environment and Heritage Protection

## <sub>P</sub> Irrelevant

1 William Street, Brisbane QLD 4000 GPO Box 2454, Brisbane QLD 4001

----Original Message----

From: Danielle Cohen [mailto:Danielle.Cohen@ministerial.qld.gov.au]

Sent: Tuesday, 28 November 2017 2:58 PM

To: DLO EHP

Cc: ELLWOOD Dean

Subject: CTS 31843/17 - Abbot Point Bulk Coal matter

Hi team

Can you please request an urgent update for me on the Abbot Point Bulk Coal/Caley Valley wetlands matter? At this stage I'm only interested in the matter of the exceedance resulting in a PIN, not the environmental evaluation of the wetlands

**Thanks** 

Dan

Sent from my iPadThis email, together with any attachments, is intended for the named recipient(s) only; and may contain privileged and confidential information. If received in error, you are asked to inform the sender as quickly as possible and delete this email and any copies of this from your computer system network.

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From:

Naomi van Brug

Sent:

Tuesday, 6 June 2017 9:52 AM

To:

External - Stafford Electorate Office

Subject:

RE: CONSTITUENT QUERY - Abbott Pt pollution

**Attachments:** 

20170518\_Adani Standard Words Final May 2017.docx; 170605 Steven Miles MP

Adani response.docx

# Good morning Janet

Regarding Abbot Point, the Department of Environment and Heritage Protection (EHP) advises it is continuing its investigation into the Abbot Point water releases during Tropical Cyclone Debbie.

Adani Abbot Point Bulkcoal was authorised to release water under a temporary emissions licence, from 27 to 30 March, to assist with site water management during and after TC Debbie.

The temporary licence authorised sediment releases of up to 100 milligrams per litre. Adani's own test results from the Caley Valley wetlands indicate that the release into that environment was within the temporary licence's limits.

However, Adam has further advised there was a second release of water on the northern side of the terminal, containing 806 milligrams per litre of sediment.

Adani has advised the department that none of the water from this second release point reached the Caley Valley wetlands and that the use of sediment traps prevented coal from entering the ocean. EHP has taken sand samples on the beach below the release point to determine if there was coal present as a result of the water release.

EHP and DSITI have also taken in situ water monitoring, sediment samples and water samples across 7 sites in the Caley Valley Wetland to determine the state of the relevant areas and the contribution of releases from the terminal. DSITI's report outlining the outcomes of the wetland assessment will be made publicly available when it is completed.

There are serious penalties for non-compliance with environmental authorities or temporary emissions licences that causes environmental harm. This includes fines of up to \$3.8 million if the non-compliance was wilful, or \$2.7 million if the non-compliance was unintentional.

I have also attached some standard words on Adani to assist your office in preparing responses to constituents with concerns about Adani.

Kind regards

Naomi van Brug

Queensland Government Assistant Advisor / Caucus Liaison

Office of the Hon Dr Steven Miles MP

Minister for Environment and Heritage Protection

Minister for National Parks and the Great Barrier Reef

Ph Irrelevant

1 William Street, Brisbane QLD 4000 | GPO Box 2454 Brisbane QLD 4001

We aim to respond to all Caucus enquiries within 5 to 10 business days. If you require urgent advice, please let us know.

Members you can book your Parliament Caucus drop-in with Minister Miles on Tuesday 4.45pm-5.45pm, Wednesday 4pm-5pm and Thursday 4.45pm-5.45pm. We're looking forward to it.

From: Stafford Electorate Office [mailto:Stafford@parliament.qld.gov.au]

Sent: Tuesday, 6 June 2017 9:25 AM

To: Naomi van Brug

Subject: FW: CONSTITUENT QUERY - Abbott Pt pollution

Good morning Naomi

Please find below emails from one of Dr Lynham's constituents. I have been advised that EHP may be able to provide me with a response. I'd be grateful if you could have a look for me.

Thank you.

Kind regards

Janet Hackwood

Office of Hon Dr Anthony Lynham MP STATE MEMBER FOR STAFFORD

Minister for State Development, Minister for Natural Resources and Mines

Unit 207, 6 Babarra Street

Stafford Qld 4053

P: 07) 3554-8100

E: Stafford@parliament.qld.gov.au W: www.dranthonylynham.com.au

Facebook: www.facebook.com/dranthonylynham



From: Helena Langton [mailto:Helena.Langton@ministerial.qld.gov.au]

Sent: Tuesday, 6 June 2017 9:20 AM

To: Stafford Electorate Office <Stafford@parliament.qld.gov.au>

Subject: RE: CONSTITUENT QUERY - FW: PLEASE - NO Holiday for Royalties for Adani

Hi Janet,

That's actually an EHP Question as it's an environmental breach.

From: Stafford Electorate Office [mailto:Stafford@parliament.qld.gov.au]

Sent: Tuesday, 6 June 2017 9:17 AM

To: Helena Langton < Helena. Langton@ministerial.qld.gov.au>

Subject: CONSTITUENT QUERY - FW: PLEASE - NO Holiday for Royalties for Adani

Good morning Helena

Please find below a series of emails from one of Dr Lynham's constituents, Personal

Can you please provide

Thank you.

Kind regards

Janet Hackwood

Office of Hon Dr Anthony Lynham MP STATE MEMBER FOR STAFFORD

Minister for State Development, Minister for Natural Resources and Mines

Unit 207, 6 Babarra Street

Stafford Qld 4053

P: 07) 3554-8100

E: <u>Stafford@parliament.qld.gov.au</u> W: www.dranthonylynham.com.au

Facebook: www.facebook.com/dranthonylynham



From: Personal Information

Sent: Sunday, 4 June 2017 8:53 AM

To: Stafford Electorate Office <Stafford@parliament.qld.gov.au>

Subject: Re: PLEASE - NO Holiday for Royalties for Adani

Hi Janet

Thanks again. I read in the news that Adani admitted to the Government that they breached their licence to pollute at the Abbott Pt Coal Terminal. I don't want to believe this until I check with Dr Lynham first.

Did Adani breach their licence to pollute? Did they spill water with coal dust in it into the surrounding wetlands at Abbott point?

Thankyou

Personal Information

On Thu, Jun 1, 2017 at 9:35 AM, Stafford Electorate Office < Stafford@parliament.qld.gov.au > wrote:

Good morning Perso

Thank you for your email.

Please be assured that your concerns will be brought to Dr Lynham's attention when he is next in the Electorate Office.

Kind regards

Janet Hackwood

Office of Hon Dr Anthony Lynham MP

STATE MEMBER FOR STAFFORD

Minister for State Development, Minister for Natural Resources and Mines

Unit 207, 6 Babarra Street

Stafford Qld 4053

P: 07) 3554-8100

E: Stafford@parliament.qld.gov.au

W: www.dranthonylynham.com.au

Facebook: www.facebook.com/dranthonylynham

# NOT NOW, NOT EVER

Take up the challenge to put an end to domestic and family violence.

qld.gov.au/notnownotever

#NNNEchallenge



From: Personal Information

Sent: Wednesday, 31 May 2017 6:39 PM

To: Stafford Electorate Office <Stafford@parliament.qld.gov.au>

Subject: Re: PLEASE - NO Holiday for Royalties for Adani

Thanks you for your reply.

Events have moved on since my email, and I am please that a deal has been worked out with Adani so that they will pay full royalties, albeit perhaps deferred.

Our family are still strongly against any support for the Adani mine to proceed, so again I was disappointed to hear that the Qld Government will facilitate the NAIF loan from the Federal Government, and I still disapprove of any deal to subsidise or give freee access to water for Adani. If it is to be part of our energy future, let it stand up on its own in the Market..... and compete with other industries equally.

Yours sincerely

Personal Information

On Wed, May 31, 2017 at 9:44 AM, Stafford Electorate Office < Stafford@parliament.qld.gov.au> wrote:

# Personal Information

Thank you for your email to the Honourable Dr Anthony Lynham MP, State Member for Stafford, Minister for State Development and Minister for Natural Resources and Mines.

Minister Lynham appreciates the time you have taken to contact him with your comments regarding Adani's Carmichael mine.

As the matters you have raised relate to the Minister's portfolio, your email has been sent to his Ministerial office <u>sdnrm@ministerial.qld.gov.au</u> for attention.

Kind regards

Janet Hackwood

Office of Hon Dr Anthony Lynham MP

STATE MEMBER FOR STAFFORD

Minister for State Development, Minister for Natural Resources and Mines

Unit 207, 6 Babarra Street

Stafford Qld 4053

P: 07) 3554-8100

E: Stafford@parliament.qld.gov.au

W: www.dranthonylynham.com.au

Facebook: www.facebook.com/dranthonylynham

Sent: Monday, 22 May 2017 7:38 PM

To: Stafford Electorate Office <Stafford@parliament.qld.gov.au>

Subject: PLEASE - NO Holiday for Royalties for Adani

From: Personal Information

Subject: PLEASE - NO Holiday for Royalties for Adani

Message Body: Dear Dr Lynham

I want to ask you to please NOT Support a holiday from royalties for the Adani Carmichael mine. It would be salt rubbed into a sore wound.

I am very pleased to see that the number one item on your website is a committment to renewable energy. I congratulate the Government on progress toward this BUT how can this be consistent with subsidising a Mega Coal Mine that will produce Greenhouse gases for the next 60 years????? One action cancels out the other. It does not make any sense to be investing in renewables while you subsidise its main competition... Coal????? It defies economic and political reason!

If Coal is to be part of our energy future, then let it survive in the market on its own without tax payer subsidy. I do not support any of my taxes going toward propping up this industry

Thankyou

#### Personal Information

This e-mail was sent from a contact form on Dr Anthony Lynham (http://www.dranthonylynham.com.au)

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## **ADANI STANDARD WORDS**

#### **ELECTION COMMITMENTS**

The Palaszczuk Government has ensured the Adani Carmichael coal project has been through a rigorous and comprehensive assessment process for the mine, rail and port development.

The Palaszczuk Government delivered each of the commitments it made at the last State Election in relation to the project including:

- · to protect the nationally-significant Caley Valley Wetlands;
- to prohibit the sea-based disposal of capital dredge spoil within the Great Barrier Reef World Heritage Area;
- · the project will not be subsidised by Queensland taxpayers; and
- that dredging for Adani's coal terminal at Abbot Point swill not proceed until Adani demonstrates it has the necessary finance in place for the full mine, rail and port project.

#### WATER

Multi-million dollar financial and regulatory safeguards, and a stringent monitoring regime, are in place to manage water supply in and around the Carmichael coal project. Adani's water licences for surface water and groundwater provide the mine with a volume of water about 1 per cent of what farmers are able to use in the Burdekin catchment now.

In relation to groundwater, the licence is to allow Adani to remove water that comes into the mine to ensure it can operate safely and efficiently and must have make good agreements in place with landholders whose existing ground water entitlements might be affected.

In relation to surface water, Adani has to pay the government more than \$20 million before they can use any surface water, and Adani will be charged at a rate about three times what farmers currently pay in the lower Burdekin irrigation area. Most importantly, the Queensland Government has the ability to require a mine to stop operations if any of these water licences are breached.

For the first time, the assessment process for Adani's groundwater licence included advice from an independent panel including the Queensland Chief Scientist and experts in law, public administration and natural resource matters.

## **ENVIRONMENTAL PROTECTION**

The Carmichael coal project has undergone extensive scrutiny by State and Federal Governments, and the community, during public consultation and in the courts. There are now almost 270 conditions on this project to protect the natural environment and the interests of landholders and traditional owners. More than 100 of these conditions relate to groundwater. These safeguards will ensure that the environment, natural and water resources are protected.

# **CURRENT PROJECT STATUS**

The Department of Environment and Heritage Protection has advised that the environmental authority (EA) for the Carmichael Coal Mine Project was approved on 2 February 2016 with additional conditions for the Black-throated finch. The mining leases (ML70441, 70505, and 70506) were granted on 3 April 2016. The EA for the Carmichael Coal Mine became effective on the granting of the mining leases.

Before any mining activities can commence, a plan of operations and the required amount of financial assurance must be lodged with EHP. To date, a plan of operations has not been submitted and an amount of financial assurance has not been set and paid. It should be noted that there are additional associated approvals required and enquiries regarding the status of these approvals should be directed to the Office of the Coordinator-General.

## **REEF AND CLIMATE CHANGE**

Protecting the Great Barrier Reef and the jobs it supports is a key priority for the Queensland Government.

The Palaszczuk Government has a strong record of achievement when it comes to protecting the Reef. We are investing heavily in measures that will improve the resilience of the Great Barrier Reef and its capacity to adapt and change in response to warming ocean temperatures. We're delivering an additional \$100 million in funding to protect the Great Barrier Reef. The Reef 2050 Long-Term Sustainability Plan will ensure the outstanding universal value of the Great Barrier Reef continues to improve each decade between now and 2050, ensuring the Great Barrier Reef remains a natural wonder for successive generations.

But we know that the most significant threat to the Great Barrier Reef is climate change.

The Palaszczuk Government is committed to doing our bit to reduce the carbon pollution that is contributing to climate change.

Queensland was once a leader in climate action. But Tim Nicholls and the former LNP government systematically dismantled all the policies and programs that were helping Queensland reduce carbon pollution and prepare for the impacts of a changing climate. It was reckless and irresponsible.

The good news is that we've begun to rebuild. We have a bold renewable energy program with a project pipeline of over 1000 MW of committed projects and over 4000 MW of proposed projects including solar, wind, hydropower, biomass and geothermal.

The Palaszczuk Government is also working towards a 50% renewable energy target in Queensland by 2030. The Independent Renewable Energy Expert Panel has identified the pathways to meet this 50 per cent renewable energy target in Queensland by 2030 which will support over 6000 jobs, the majority of which will be created in regional Queensland.

Plus we're developing a new Queensland Climate Response, which sets out our strategy for adapting to a changing climate and managing the transition to a low carbon economy.

# ABBOT POINT / TC DEBBIE

The Department of Environment and Heritage Protection is continuing its investigation into the Abbot Point water releases during TC Debbie. Adam Abbot Point Bulkcoal was authorised to release water under a temporary emissions licence, from 27 to 30 March, to assist with site water management during and after TC Debbie.

The temporary licence authorised sediment releases of up to 100 milligrams per litre. Adani's own test results from the Caley Valley wetlands indicate that the release into that environment was within the temporary licence's limits. However, Adani has further advised there was a second release of water on the northern side of the terminal, containing 806 milligrams per litre of sediment.

Adani has advised the department that none of the water from this second release point reached the Caley Valley wetlands and that the use of sediment traps prevented coal from entering the ocean. EHP has taken sand samples on the beach below the release point to determine if there was coal present as a result of the water release.

EHP and DSITI have also taken in situ water monitoring, sediment samples and water samples across 7 sites in the Caley Valley Wetland to determine the state of the relevant areas and the contribution of releases from the terminal. DSITI's report outlining the outcomes of the wetland assessment will be made publicly available when it is completed.

There are serious penalties for non-compliance with environmental authorities or temporary emissions licences that causes environmental harm. This includes fines of up to \$3.8 million if the non-compliance was wilful, or \$2.7 million if the non-compliance was unintentional.

#### FINANCIAL ASSURANCE

The Palaszczuk Government has also announced major reforms to mine rehabilitation and the financial "bonds" for mines to better protect the environment and taxpayers, and encourage jobs, more investment and growth in the resources sector. This will be the most significant upgrade to the state's multi-billion dollar resources sector financial assurance and rehabilitation framework in nearly 20 years.

The package of comprehensive reforms, includes:

- A redesigned financial assurance framework tailored to operators based on their size and level of risk
- Pooling financial assurance from mining companies into an interest-earning multi-million dollar rehabilitation fund
- More options, such as insurance bonds, to make it easier for miners to provide their financial assurances
- More funds to rehabilitate abandoned mines
- Measures to ensure mined land is rehabilitated progressively rather than toward the end of a mine's life
- Regular checks and reporting on progressive rehabilitation
- Better planning for rehabilitation and regular monitoring and reporting
- More realistic calculation of rehab costs and a phase out of discounts on financial assurances for miners.

The changes proposed to financial assurance and rehabilitation will apply to new and existing mine operations.

## MISC

The Government also welcomes Adani's proposal to establish a \$200 million large-scale solar project near Moranbah.

## Steven Miles MP - Adani standard response

Thanks for contacting me about the Adani Carmichael mine project.

In line with our election commitment, Adani will pay every cent of royalties owed to taxpayers.

Adani will pay royalties to the state in every year of production, full royalties every year after year five, and interest on any royalties deferred.

If they cease production any outstanding royalties will be due as a lump sum, guaranteed by a security of payment bond.

The government will require the miner to rehabilitate progressively and full financial assurance for outstanding rehabilitation will also apply.

The same arrangement will apply to any similar economic development proposals and will replace ad hoc deals negotiated behind closed doors by previous governments.

Under this approach, there will be no special deals, no royalty holidays, no royalty rebates and no exemptions. The same approach will apply to all greenfield projects in these Basins and the North West Minerals Province.

This approach provides certainty for the proponents and the Queensland taxpayer.

All greenfield proponents will now be required, after the completion of comprehensive environmental impact assessments by State and Commonwealth agencies, to:

- pay all royalties as per the rates set in the Mineral Resources Regulation 2013;
- in recognition of the upfront capital costs of these projects, proponents will be eligible for a repayment plan, with all deferred payments to be subject to an interest rate charge;
- maximum period for a payment plan will be 30 years;
- following an agreement on a royalty payment plan, the proponent will undertake to start construction and operations within as specified period.
- Require job-generating common-user infrastructure to support to development of these Basins and NWMP.

In respect of funding under the Northern Australia Infrastructure Facility, we have been clear that under finance provided to Adani through this facility is a matter for the Federal Government. Queensland will fulfil our obligations in the Master Facility Agreement, but any project financing will need to flow directly from the Federal Government to Adani.

This approach honours our election commitment and is in stark contrast to the reckless approach of the LNP, who wanted to provide \$455 million to subsidise the construction of a rail line for the Carmichael Coal project and permit dredged spoil for the port expansion of the project to be dumped into the Great Barrier Reef Marine Park or Caley Valley wetlands.

Meanwhile, the Palaszczuk Government will do our fair share to address climate change and protect the Great Barrier Reef. It's why we're on a path to get half our energy from solar and wind and why we're spending more than \$57 million a year on reef protection.

The Palaszczuk Government's signature climate change policy, a 50 per cent renewable energy target by 2030, will reduce Queensland's own greenhouse gas emissions.

And we will continue to advocate for a national emissions target in the range recommended by the independent Climate Change Authority of 40-50 per cent by 2030, best achieved through a national cap and trade scheme.

The Palaszczuk Government is committed to reducing Queensland's emissions in line with the Paris treaty and will announce soon our own climate transition strategy for our economy.

The Palaszczuk Government is the first Queensland Government to promote the development of large-scale renewable energy projects, and to date, there are \$2 billion in proposed projects with the potential for almost 2000 jobs. As part of our plan for 50% renewable energy by 2030, the Palaszczuk Government will undertake a reverse auction for up to 400MW of renewable capacity, to commence in the second half of 2017, including 100MW for energy storage prior to 2020.



From:

Naomi van Brug

Sent:

Thursday, 13 July 2017 9:24 AM

To:

External - Brisbane Central Electorate Office

Subject:

RE: Adani spill

**Attachments:** 

20170518\_Adani Standard Words Final May 2017.docx

Hi Judi

The Department of Environment and Heritage Protection (EHP) advises it is continuing its investigation into the Abbot Point water releases during Tropical Cyclone Debbie.

Adani Abbot Point Bulkcoal was authorised to release water under a temporary emissions licence, from 27 to 30 March, to assist with site water management during and after TC Debbie.

The temporary licence authorised sediment releases of up to 100 milligrams per litre. Adani's own test results from the Caley Valley wetlands indicate that the release into that environment was within the temporary licence's limits.

However, Adami has further advised there was a second release of water on the northern side of the terminal, containing 806 milligrams per litre of sediment.

Adani has advised the department that none of the water from this second release point reached the Caley Valley wetlands and that the use of sediment traps prevented coal from entering the ocean. EHP has taken sand samples on the beach below the release point to determine if there was coal present as a result of the water release.

EHP and DSITI have also taken in situ water monitoring, sediment samples and water samples across 7 sites in the Caley Valley Wetland to determine the state of the relevant areas and the contribution of releases from the terminal. DSITI's report outlining the outcomes of the wetland assessment will be made publicly available when it is completed.

There are serious penalties for non-compliance with environmental authorities or temporary emissions licences that causes environmental harm. This includes fines of up to \$3.8 million if the non-compliance was wilful, or \$2.7 million if the non-compliance was unintentional.



Lhave also attached some standard words on Adani to assist your office in preparing responses to constituents.

Kind regards

**Queensland**Government

Naomi van Brug

Assistant Advisor / Caucus Liaison

Office of the Hon Dr Steven Miles MP

Minister for Environment and Heritage Protection
Minister for National Parks and the Great Barrier Reef

Phirrelevant

1 William Street, Brisbane QLD 4000 | GPO Box 2454 Brisbane QLD 4001

We aim to respond to all Caucus enquiries within 5 to 10 business days. If you require urgent advice, please let us know.

Members you can book your Parliament Caucus drop-in with Minister Miles on Tuesday 4.45pm-5.45pm, Wednesday 4pm-5pm and Thursday 4.45pm-5.45pm. We're looking forward to it.

From: Brisbane Electorate Office [mailto:Brisbane.Central@parliament.qld.gov.au]

Sent: Thursday, 13 July 2017 9:17 AM

To: Naomi van Brug Subject: FW: Adani spill

Hi Naomi,

See question below from constituent Personal Information

Seeking advice please.

Cheers,

Judi Jabour **Ph**Irrelevant



Be green, read from the screen.

---- Forwarded message -----

From: Personal Information

Date: Thu, Jul 6, 2017 at 10:49 AM

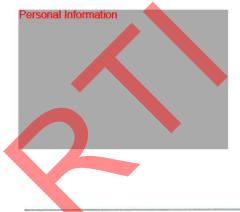
Subject: Adani spill

To: "southbrisbanelabor@gmail.com" <southbrisbanelabor@gmail.com>

Dear Minister Trad,

May we have an update please on Adani's restoration of the lagoon in the wetlands where they performed a total and irregular spill? This sure has created jobs and are they paying the costs and when?

Respectfully,



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## ADANI STANDARD WORDS

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- Better planning for rehabilitation and regular monitoring and reporting
- More realistic calculation of rehab costs and a phase out of discounts on financial assurances for miners.

The changes proposed to financial assurance and rehabilitation will apply to new and existing mine operations.

## MISC

The Government also welcomes Adani's proposal to establish a \$200 million large-scale solar project pear Moranbah.

From:

Kerryn Manifold

Sent:

Tuesday, 19 September 2017 5:00 AM

To:

Katharine Wright; Michelle Wellington; @Premiers Media

Cc:

Alison Brown; Danielle Cohen; Benton Wecker

Subject:

RE: Abbot Point spill

Thanks Katharine- any news on when it will be public?



# Kerryn Manifold

Deputy Director-Government Media Unit Office of the Hon. Annastacia Palaszczuk MP Premier of Queensland and Minister for the Arts

## Irrelevant

1 William Street, Brisbane QLD 4000 PO Box 15185 City East QLD 4002

From: Katharine Wright

Sent: Monday, 18 September 2017 6:20 PM To: Michelle Wellington; @Premiers Media Cc: Alison Brown; Danielle Cohen; Benton Wecker

Subject: RE: Abbot Point spill

Hi Michelle,

The draft release is a bit confusing and I've gone back to the department to clarify a few things. Nothing is publicly available yet, I've attached a draft HIB that we can use once it is but be aware it is also being fact checked.

Thanks,

Kat

From: Michelle Wellington

Sent: Monday, 18 September 2017 4:32 PM

To: Katharine Wright < Katharine. Wright@ministerial.qld.gov.au >; @Premiers Media

remiers.media@ministerial.qld.gov.au>

Cc: Alison Brown < Alison.Brown@ministerial.qld.gov.au >; Danielle Cohen < Danielle.Cohen@ministerial.qld.gov.au >;

Benton Wecker < Benton. Wecker@ministerial.qld.gov.au>

Subject: RE: Abbot Point spill

Hi Katharine

It's having a bit of an each way bet isn't it. Have you got a media release? We'll also need a HIB

From: Katharine Wright

Sent: Monday, 18 September 2017 1:07 PM

To: Michelle Wellington < Michelle. Wellington@ministerial.qld.gov.au >; @Premiers Media

remiers.media@ministerial.qld.gov.au>

Cc: Alison Brown < Alison.Brown@ministerial.qld.gov.au>; Danielle Cohen < Danielle.Cohen@ministerial.qld.gov.au>;

Benton Wecker <Benton.Wecker@ministerial.qld.gov.au>

Subject: Abbot Point spill



EHP has received a final report on the Calley Valley Wetlands and whether it was contaminated with coal from Abbot Point during cyclone Debbie (you'll remember green groups putting out satellite imagery that looked like the Wetlands were much darker after the storm).

EHP will now make this report public on their website and issue Abbott Point with an Environmental Evaluation notice which requires further monitoring of the area.

I'll send you a media release shortly. Here are the key findings of the report:

Key findings of this preliminary assessment were:

- Although there were indications of recent flooding, there was little visual evidence of coal fines across the whole of the wetland. This is consistent with trace levels (
- Coal fines were only visually observed at a site immediately downstream of the licensed discharge point to
  the south of the spillway of settlement pond 2. This is consistent with the results from the sediment analysis
  at this site, which found that coal composed approximately 10% of the sample. There appeared to be partial
  coverage of the wetland substrate and the lower stems of marine couch (Sporobolus virginicus) with coal
  fines. Even so, there did not appear to be any impediment to growth of wetland plants in this area as new
  growth, in response to the recent flooding, was evident.
- Minor concentrations (approximately 2%) of coal fines were measured downstream of the spillway at a site
  in the wetlands opposite the licensed discharge point site.

Coal fines do not appear to have caused widespread impacts in the wetland. It is likely that any impacts from the stormwater discharge were mitigated by the large amount of water flowing naturally through the wetland. Nonetheless, further assessment is warranted to more accurately delineate the area potentially impacted downstream of the licensed discharge point, and to monitor the response of the wetland to the authorised discharge.

Talk to you at the 3pm, **Katharine Wright** Senior Media Advisor

Office of the Hon. Dr Steven Miles MP

Minister for Environment and Heritage Protection
Minister for National Parks and the Great Barrier Reef

#### Irrelevant

Level 34, 1 William Street, Brisbane QLD 4000 GPO Box 2454, Brisbane QLD 4001



From:

Michelle Wellington

Sent:

Monday, 18 September 2017 4:32 PM Katharine Wright; @Premiers Media

To: Cc:

Alison Brown; Danielle Cohen; Benton Wecker

Subject:

RE: Abbot Point spill



Hi Katharine

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Sent: Monday, 18 September 2017 1:07 PM To: Michelle Wellington; @Premiers Media

Cc: Alison Brown; Danielle Cohen; Benton Wecker

Subject: Abbot Point spill

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Nonetheless, further assessment is warranted to more accurately delineate the area potentially impacted downstream of the licensed discharge point, and to monitor the response of the wetland to the authorised discharge.

1

Talk to you at the 3pm,

Katharine Wright
Senior Media Advisor
Office of the Hon. Dr Steven Miles MP
Minister for Environment and Heritage Protection
Minister for National Parks and the Great Barrier Reef



From:

Benton Wecker

Sent:

Monday, 18 September 2017 12:51 PM

To:

Danielle Cohen

Cc:

Katharine Wright

Subject:

**RE: Abbot Point Communication Strategy** 

Thanks Dan. Will let ESR know.

----Original Message-----From: Danielle Cohen

Sent: Monday, 18 September 2017 12:48 PM

To: Benton Wecker <Benton.Wecker@ministerial.qld.gov.au>
Cc: Katharine Wright <Katharine.Wright@ministerial.qld.gov.au>

Subject: Re: Abbot Point Communication Strategy

Ok for EE to be issued today.

Dept will need to issue a release in the next few days advising of the EE and the availability of the wetland evaluation online - timing in consultation with Kat please I will review the docs as well D

# Sent from my iPad

- > On 18 Sep 2017, at 12:34 pm, Benton Wecker < Benton. Wecker@ministerial.qld.gov.au> wrote:
- > > Info from Dept.

> 11110 110111 .

>

>

> Key findings of this preliminary assessment were:

> Although there were indications of recent flooding, there was little visual evidence of coal fines across the whole of the wetland. This is consistent with trace levels (<1%) of coal measured at most sites.

> Coal fines were only visually observed at a site immediately downstream of the licensed discharge point to the south of the spillway of settlement pond 2. This is consistent with the results from the sediment analysis at this site, which found that coal composed approximately 10% of the sample. There appeared to be partial coverage of the wetland substrate and the lower stems of marine couch (Sporobolus virginicus) with coal fines. Even so, there did not appear to be any impediment to growth of wetland plants in this area as new growth, in response to the recent flooding, was evident.

> Minor concentrations (approximately 2%) of coal fines were measured downstream of the spillway at a site in the wetlands opposite the licensed discharge point site.

> Coal fines do not appear to have caused widespread impacts in the wetland. It is likely that any impacts from the stormwater discharge were mitigated by the large amount of water flowing naturally through the wetland. Nonetheless, further assessment is warranted to more accurately delineate the area potentially impacted downstream of the licensed discharge point, and to monitor the response of the wetland to the authorised discharge.

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> From: LOWE Trinity [mailto:Trinity.Lowe@ehp.qld.gov.au] On Behalf Of

- > ESR
- > Sent: Monday, 18 September 2017 12:31 PM
- > To: Benton Wecker <Benton.Wecker@ministerial.qld.gov.au>
- > Cc: CAGNEY Justin < Justin.Cagney@ehp.qld.gov.au>
- > Subject: FW: Abbot Point Communication Strategy