

Algal bloom wildlife post-mortem report



Government
of South Australia

Department for
Environment and Water

Species – Common dolphin

Date collected – 10 December 2025

Location – Chiton Rocks, Hayborough

History relating to the animal

A juvenile female common dolphin (*Delphinus delphis*) was found at Chiton Rocks, Hayborough on 10 December 2025.

Clinical examination

The animal was already dead and so could not be examined prior to death.

Necropsy

The necropsy (looking at the whole body) revealed that the dolphin was in poor body condition, weighing 24.6 kg and measuring 1.4 m in length. There was atrophy (smaller in size) of the epaxial (along the spine) and intercostal (between the ribs) muscles. The subcutaneous (under the skin) fat was 10 mm thick near the dorsal fin (fin in the middle of the back), and ventral (on the underside) midline.

There was moderate post-mortem autolytic change (decomposition after death), including sloughing of the skin (detaching from the underlying muscles). There was 2 mL of watery fluid within the stomach, there were no faeces, and the bladder was empty.

Tissues were collected for histopathology (looking at tissues under the microscope for more detailed information) and testing for *Mycobacterium tuberculosis* (MTb) and *Mycobacterium avium* (*M. avium*) complex organisms, *Brucella* species bacteria, and brevetoxins and other algal biotoxins (a possibility due to the algal bloom).

Histopathology

Samples from available organs were examined under the microscope. Examination of the lungs revealed hyperaemia/congestion (tissues full of fluid, usually from circulation problems). There were coccoid (round shaped) bacteria within the capillaries (small blood vessels) of the lungs, and low numbers of these bacteria along the epithelial lining (first protective layer of cells) of the alveolar spaces (air-filled cavities within the lungs where gas exchange occurs). There were occasional capillaries within the myocardium (heart muscle tissue) containing bacterial emboli (focus of infection) of coccoid bacteria.

Bacteriology

Polymerase chain reaction (PCR) testing for MTb and *M. avium* complex organisms, and *Brucella* species bacteria was negative.

Algal bloom wildlife post-mortem report



Government
of South Australia

Department for
Environment and Water

Brevetoxins

No samples were above the limits of reporting.

Other algal biotoxins

No samples were above the limits of reporting.

Summary

A juvenile female common dolphin was found dead in poor body condition (underweight). Laboratory examination did not reveal a cause for the weight loss and death of this animal. Bacteria were found in the lungs and heart, which could be a sign of acute infection (less than 6 hours before death) or simply a post-mortem (after death) change. Pulmonary congestion (fluid in the lungs) was also noted, which was likely an agonal (at the time of death) change, rather than a sign of disease. Testing for tuberculosis (*Mycobacterium tuberculosis* and *Mycobacterium avium* complex organisms) and brucellosis (*Brucella* species bacteria) was negative. Brevetoxins and other algal biotoxins were also not detected.

PATH RESULTS: DOLPHIN, COMMON (Ma) [REDACTED]

From [REDACTED]

Date Thu 11/12/2025 11:30 AM

To [REDACTED]

[REDACTED]

Tested on 10/12/25
Reported on 11/12/25 12:00
Referred on 10/12/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:
Marine Mammal
COMMON
DOB: N/A

Collected: 10/12/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

CASE MANAGEMENT DETAILS

Case Managed by: [REDACTED]
Case Management Requested by: [REDACTED]
Case Management Requested on: 11/12/25

Case Details: The dead juvenile common dolphin was found at Chiton Rocks at Elliot.

[REDACTED]

Tested on 10/12/25
Reported on 11/12/25 12:00
Referred on 10/12/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:
Marine Mammal
COMMON
DOB: N/A

Collected: 10/12/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

NECROPSY REPORT

CLINICAL HISTORY

This is a summary of the clinical history from the request form;
The dead common dolphin and was collected by department environment and water from Chiton Rocks, Pt Elliot on 10 Dec 2025

SAMPLES SUBMITTED

One dead juvenile female common dolphin, *Delphinus Delphi*

NECROPSY FINDINGS

The animal is in poor body condition, there is atrophy of intercostal and epaxial skeletal muscles, and weighs approximately 24.6 kg. The animal is 1.4 m in length and there is approximately 10 mm in width of subcutaneous adipose tissue over the cranial edge of the dorsal fin and along the ventral midline.

There are moderate post-mortem autolytic changes including sloughing of the skin.

There is 2ml of watery content in the stomach, the rectum is empty and the bladder is empty.

GROSS SUMMARY

Chronic weight loss

SAMPLES COLLECTED & TESTING

Formalin fixed tissues will be processed for histopathology.

Lung and brain will be sent to ACDP for Brucella sp. and Mycobacterium sp. testing, as approved by the CVO SA.

AST Hobart, will be contacted for a quote for biotoxin and brevetoxin testing on liver, kidney, spleen, heart, lung, brain

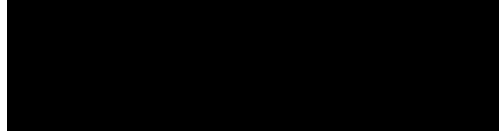
Fresh liver, kidney, spleen, heart, lung, brain and oropharyngeal swab (in VTM) are stored.

COMMENTS

Weight loss contributed to morbidity for this animal. Could the decrease in feed abundance associated with the recent Karenia sp. algal blooms,



Tested on 10/12/25
Reported on 11/12/25 12:00
Referred on 10/12/25 by:



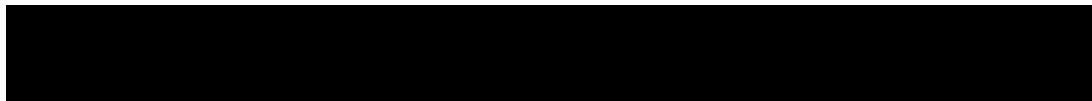
Owner:
DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:
Marine Mammal
COMMON
DOB: N/A

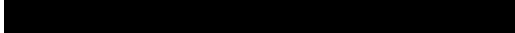
Collected: 10/12/25 00:25 **Subm.No:**  **Lab No.:** 

Samples tested as received
be a contributing factor?

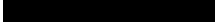
The cause of death is not determined by Gross findings.



Specialist Veterinary Anatomic Pathologist



Validated by 

This email is confidential and may contain legally privileged information and copyright material. You may not disclose, copy, distribute, rely on, modify or use this email except as authorised by  If you have received this message in error, please notify us immediately by return email and delete this email. Any opinions expressed in emails are those of the individual author of the email and do not necessarily represent the views of  The sender is not responsible for any changes made to this email other than those made by the sender, or for the effect of any such changes on the meaning of the email. It is the responsibility of the recipient to virus check this email and any attachments.

PATH RESULTS: DOLPHIN, COMMON (Ma) [REDACTED]

From [REDACTED]

Date Thu 18/12/2025 4:00 PM

To [REDACTED]

[REDACTED]

Tested on 10/12/25
Reported on 18/12/25 16:30
Referred on 10/12/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:
Marine Mammal
COMMON
DOB: N/A

Collected: 10/12/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

HISTOPATHOLOGY

REF: [REDACTED]

CLINICAL HISTORY

This is a summary of the clinical history from the request form;
The dead common dolphin and was collected by department environment and water from Chiton Rocks, Pt Elliot on 10 Dec 2025

SAMPLES SUBMITTED

One dead juvenile female common dolphin, Delphinus Delphi

MACROSCOPY

Cassettes contain the following tissues

A: liver, lung

B: spleen, kidney

C: heart

D: skeletal muscle

E-G: stomach, duodenum, jejunum, colon, uterus, bladder

Brain

H: medulla

I: cerebellum
J-L: thalamus, hippocampus, parietal cortex
M: occipital cortex
N: midbrain
O-P: midbrain and basal ganglia; Ae GK

MICROSCOPY

Lung: Diffusely alveolar interstitium is expanded by hyperaemia / congestion. Within low numbers of capillaries are bacterial emboli of coccoid bacteria. Low numbers of coccoid bacteria replace alveolar epithelium lining alveolar spaces.

Heart, brain, skeletal muscle: Rare capillaries within the myocardium contain bacterial emboli consisting of coccoid bacteria.

Those organs not described appear normal.

DIAGNOSIS / SUMMARY

Chronic weight loss
Multi-organ bacterial emboli
Pulmonary congestion / hyperaemia

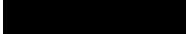


Tested on 10/12/25
Reported on 18/12/25 16:30
Referred on 10/12/25 by:



Owner:
DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:
Marine Mammal
COMMON
DOB: N/A

Collected: 10/12/25 00:25 **Subm.No:**  **Lab No.:** 

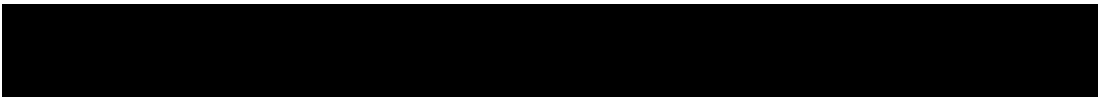
Samples tested as received

COMMENTS

The definitive cause for the weight loss and death are not found based on gross and histopathological findings.

The bacterial emboli may indicate a per-acute bacteraemia (< 6 hours before death) or may simply be a post mortem process (although usually there is a mix of bacteria including large *Cl. perfringens* like rod bacteria post death). There are no other vascular or inflammatory changes to indicate if the possible bacteraemia caused the death of the animal. Antemortem assessment of the animal, for evidence of pyrexia, depression etc and culture of blood pre-mortem would be required to confirm peracute bacteraemia. This unfortunately is not possible. Culture of lung could be considered but will not differentiate between a pre-mortem bacteraemia or post mortem bacterial overgrowth.

The pulmonary hyperaemia / congestion is likely an agonal process.



Specialist Veterinary Anatomic Pathologist



Validated by 

PATH RESULTS: DOLPHIN, COMMON (Ma) [REDACTED]

From [REDACTED]

Date Mon 22/12/2025 12:30 PM

To [REDACTED]

[REDACTED]

Tested on 10/12/25
Reported on 22/12/25 13:00
Referred on 10/12/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:
Marine Mammal
COMMON
DOB: N/A

Collected: 10/12/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

REFERRED TEST

Disease/Test : Brucella sp. PCR
Specimen Type: Fresh Brain & Lung Tissue

RESULT : Negative for both samples.

Comment : NATA/RCPA accreditation does not cover the performance of this service

This test was performed by: Australian Centre for Disease Preparedness (CSIRO)
NATA accreditation number: 13546

REFERRED TEST

Disease/Test : Mycobacterium tuberculosis complex IS6110 - TaqMan Assay

Specimen Type: Fresh Brain & Lung Tissue

RESULT : Negative for both samples.

Comment : NATA/RCPA accreditation does not cover the performance of
this service

This test was performed by: Australian Centre for Disease Preparedness
(CSIRO)
NATA accreditation number: 13546

REFERRED TEST

Disease/Test : Mycobacterium avium complex Taqman
Specimen Type: Fresh Lung & Brain Tissue

RESULT : Negative for both samples.

Comment : NATA/RCPA accreditation does not cover the performance of
this service

This test was performed by: Australian Centre for Disease Preparedness
(CSIRO)
NATA accreditation number: 13546

[REDACTED]

Tested on 10/12/25
Reported on 22/12/25 13:00
Referred on 10/12/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:
Marine Mammal
COMMON
DOB: N/A

Collected: 10/12/25 00:25 **Subm.No:** [REDACTED] **Lab No.:** [REDACTED]

Samples tested as received

REFERRED TEST

Disease/Test : Pan-Mycobacterium Taqman
Specimen Type: Fresh Brain & Lung Tissue

RESULT : Negative for both samples.

Comment : NATA/RCPA accreditation does not cover the performance of this service

This test was performed by: Australian Centre for Disease Preparedness
(CSIRO)
NATA accreditation number: 13546

This email is confidential and may contain legally privileged information and copyright material. You may not disclose, copy, distribute, rely on, modify or use this email except as authorised by [REDACTED]. If you have received this message in error, please notify us immediately by return email and delete this email. Any opinions expressed in emails are those of the individual author of the email and do not necessarily represent the views of [REDACTED]. The sender is not responsible for any changes made to this email other than those made by the sender, or for the effect of any such changes on the meaning of the email. It is the responsibility of the recipient to virus check this email and any attachments.

PATH RESULTS: DOLPHIN, COMMON (Ma) [REDACTED]

From [REDACTED]

Date Fri 02/01/2026 5:00 PM

To [REDACTED]

[REDACTED]

Tested on 10/12/25
Reported on 02/01/26 17:30
Referred on 10/12/25 **by:** [REDACTED]

[REDACTED]

Owner:

DOLPHIN
CHITON ROCKS
HAYBOROUGH 5211

Animal/s:

Marine Mammal
COMMON
DOB: N/A

Collected: 10/12/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

SUMMARY DIAGNOSES AND GROSS FINDINGS

Chronic weight loss
Multi-organ bacterial emboli
Pulmonary congestion / hyperaemia

SUMMARY COMMENTS

The definitive cause for the weight loss and death are not found based on gross and histopathological findings.

The bacterial emboli may indicate a per-acute bacteraemia (< 6 hours before death) or may simply be a post mortem process (although usually there is a mix of bacteria including large *Cl. perfringens* like rod bacteria post death). *Mycobacterium* sp. and *Brucella* sp. did not contribute to any changes in the lung, based on the negative test results at ACDP.

The pulmonary hyperaemia / congestion is likely an agonal process.

Biotoxin and brevetoxin testing of tissues is pending.

[REDACTED]

Specialist Veterinary Anatomic Pathologist
[REDACTED]

Validated by [REDACTED]

This email is confidential and may contain legally privileged information and copyright material. You may not disclose, copy, distribute, rely on, modify or use this email except as authorised by [REDACTED]. If you have received this message in error, please notify us immediately by return email and delete this email. Any opinions expressed in emails are those of the individual author of the email and do not necessarily represent the views of [REDACTED]. The sender is not responsible for any changes made to this email other than those made by the sender, or for the effect of any such changes on the meaning of the email. It is the responsibility of the recipient to virus check this email and any attachments.

CERTIFICATE OF ANALYSIS

Customer:

Address:

Contact:

Submission Description:

Sample Received Date:

Contract Number:

Client Order Number:

Common Dolphin

11/03/2026

Sample(s) analysed as received. Sampling date and time data supplied by the client. The document shall not be reproduced except in full.

Additional information relating to this submission can be found in the sample receipt notification.

This report supersedes any previous reports with this submission number.

Many tests specify a holding time which gives the recommended timeframe by which a sample should be preserved/extracted and/or analysed after the sample is taken.

Holding time information can be found on the AST website <https://analyticalservices.tas.gov.au/our-services/containers-samples-and-submissions>.

Whilst every effort is made to analyse samples within these timeframes, situations can occur where this is not possible.

Where a test has been conducted outside the recommended sample holding time this should be taken into account when interpreting results.

The results in this report were authorised by:

Name

Position

Chemist

Test Information:

Method ID	Test Description	Date Commenced:
3411	Lipophilic Toxins in Shellfish by LC-MS/MS	01-04-2026
3411A	Brevetoxins in Shellfish by LC-MS/MS	27-03-2026
3416	PST in Biota by LC-MS/MS (Boundy Method)	02-04-2026

Chemistry Test Results (Biota - Food)		Sample Description	LIVER	SPLEEN	HEART	LUNG	BRAIN	KIDNEY
		Sampled Date/ Time	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00
Method ID	Analyte	Units	439936	439937	439938	439939	439940	439941
3411	AZA1	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	AZA2	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	AZA3	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Domoic Acid	mg/kg WMB	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DTX1 Free	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	DTX1 Total	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	DTX2 Free	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	DTX2 Total	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GYM	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Homo-YTX	mg/kg WMB	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	OA Free	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	OA Total	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	PnTx-G	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	PTX2	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	SPX1	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Total DST	OA eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	YTX	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3411A	Brevetoxin 1	mg/kg WMB	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*
	Brevetoxin 2	mg/kg WMB	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*
	Brevetoxin 3	mg/kg WMB	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*
3416	C1	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	C2	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	C3	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	C4	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcGTX1	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*
	dcGTX2	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcGTX3	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcGTX4	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*

* NATA accreditation does not cover this result

Chemistry Test Results (Biota - Food)

		Sample Description	LIVER	SPLEEN	HEART	LUNG	BRAIN	KIDNEY
		Sampled Date/ Time	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00	11/12/25 0:00
Method ID	Analyte	Units	439936	439937	439938	439939	439940	439941
3416	dcNEO	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcSTX	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	doSTX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*
	GTX1	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX2	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX3	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX4	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX5	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	GTX6	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	NEO	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	STX	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Total PST	STX.2HCl eq. mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

* NATA accreditation does not cover this result