

## How to read an AST Biotoxin report

When your Biotoxin analysis is complete and the data is reviewed and verified, a report will be sent directly to your email address. Reports are sent in PDF format, and require Acrobat Reader to view. We can also SMS a summary of important results, or include a CSV file for importing into a database or Excel, on request.

An example of an AST Biotoxin report is shown below.

If you require assistance with sample submission or interpretation of results please contact AST on 6165 3300.



### ANALYTICAL SERVICES TASMANIA

#### New Town Laboratory

18 St Johns Avenue

New Town, Tasmania, Australia, 7008

Telephone: (03) 6165 3300 Note that AST no longer has fax facilities

Email: enquiries@ast.tas.gov.au

---

---

## Laboratory Report

---

---

**Report No:** 101270   **Issue No:** 1   **Report Date:** 11-Mar-2021 11:03  
**Status:** Full Report

If you need to discuss test results with AST you need to include the Report Number in any communication to help us to quickly track and respond to your query.

**Site Description:** East Coast

**Received:** 10-Mar-21

The growing area is listed in the Site Description

**Submitted to:** New Town Laboratory

**Submitted By:** Tim Jordan

**Client Order No:**

**Report To:** ShellMAP

**Client:** ShellMAP

**Address:** Level 2 13 St Johns Ave New Town Tas 7008

## ANALYTICAL SERVICES TASMANIA

Report No: 101270      Issue No: 1      Report Date: 11-Mar-2021 11:03

**Lab No: 408414**  
**Sample ID: AST 123 POYS**  
**Sampled On: 09/03/21 08:15**

The Sample ID will show the Growing Area, Lease Number and shellfish type (Oyster/Mussel etc).

Method	Analyte	Units	
3411-Biota	AZA1	mg/kgWMB	<0.01
	AZA2	mg/kgWMB	<0.01
	AZA3	mg/kgWMB	<0.01
	DTX1 Free	mg/kgWMB	0.01
	DTX1 Total	mg/kgWMB	0.20
	DTX2 Free	mg/kgWMB	<0.01
	DTX2 Total	mg/kgWMB	0.80
	<b>Domoic Acid</b>	<b>mg/kgWMB</b>	<b>0.50</b>
	GYM	mg/kgWMB	<0.01
	Homo-YTX	mg/kgWMB	<0.03
	OA Free	mg/kgWMB	0.02
	OA Total	mg/kgWMB	0.05
	PnTx	mg/kgWMB	<0.01
	PTX2	mg/kgWMB	0.05
	SPX1	mg/kgWMB	<0.01
	<b>Total DST</b>	<b>OA eq. mg/kg</b>	<b>0.65</b>
	3416-Biota	YTX	mg/kgWMB
C1		STX eq. mg/kg	0.062
C2		STX eq. mg/kg	<0.005
C3*		STX eq. mg/kg	<0.05
C4*		STX eq. mg/kg	<0.04
dcGTX1		STX eq. mg/kg	<0.025
dcGTX2		STX eq. mg/kg	1.5
dcGTX3		STX eq. mg/kg	0.10
dcGTX4		STX eq. mg/kg	<0.02
dcNEO		STX eq. mg/kg	<0.02
dcSTX		STX eq. mg/kg	<0.02
GTX1		STX eq. mg/kg	1.7
GTX2		STX eq. mg/kg	0.18
GTX3		STX eq. mg/kg	0.29
GTX4		STX eq. mg/kg	1.2
GTX5		STX eq. mg/kg	0.65
GTX6		STX eq. mg/kg	<0.02
NEO	STX eq. mg/kg	<0.02	
STX	STX eq. mg/kg	<0.05	
<b>Total PST</b>	<b>STX eq. mg/kg</b>	<b>5.7</b>	

These are the results for each toxin.

A result with a "<" (less than) indicates the amount was less than the limit of reporting (i.e. not detected).

**Important results are:**

**Domoic Acid = AST**

**Total DST**

**Total PST**

The "Total PST" is the "final" result that should be used when assessing results against the regulatory limits specified in the ShellMAP Biotoxin Management Plan.

**Method Codes**

- 3411 – Lipophilic Toxins, including AST & DST
- 3411a – Neurotoxic Shellfish Toxins (NST)
- 3416 – PST by LC/MS/MS (Boundy Method)

## Toxin Abbreviations

### **PST**      **Paralytic Shellfish Toxins**

- STX      Saxitoxin
- Neo      Neosaxitoxin
- GTX      Gonyautoxins
- dc      Decarbamoyl analogue
- C toxins      N-sulfocarbamoylgonyautoxins

**Total PST** is reported as the sum of each of the toxins, corrected for toxicity.

\* A star (\*) appearing after a toxin (eg. C3\* and C4\*) in the results designates that the toxin is not covered by NATA accreditation as there are no authentic standards available for purchase at this time.

### **AST**      **Amnesic Shellfish Toxins**

- Domoic Acid

### **DST**      **Diarrhetic Shellfish Toxins**

- OA      Okadaic Acid
- DTX      Dinophysistoxin
- PTX      Pectenotoxin
- Free/Total      Total includes ALL forms (ie. esters)

**Total DST** is reported as "OA eq. mg/kg" and is calculated as follows:

$$= \text{OA Total} + \text{DTX1 Total} + 0.5 * \text{DTX2 Total}$$

### **Other Lipophilic Toxins**

- AZA      Azaspiracid
- GYM      Gymnodimine
- PnTx      Pinnatoxin
- SPX      Spirolide
- YTX      Yessotoxin

### **NST**      **Neurotoxin Shellfish Toxins**

- PbTx      Brevetoxin (tested on request)

Results are reported on a Wet Matter Basis (WMB)

### **Laboratory Measurement Uncertainty**

For any test that is undertaken, there is an inherent uncertainty (error margin) associated with the result, and knowing the uncertainty can sometimes help when making decision based upon the results. Factors that affect uncertainty include physical processes such as weighing and measuring volumes and instrumental responses. Other sources of uncertainty external to the laboratory (eg. sampling, weather, transport) are not considered part of the reported laboratory measurement uncertainty.

The overall uncertainty estimates for each test are listed on the final page on the report and are presented as a percentage of the result – for example "Total PST" has an estimated uncertainty of  $\pm 30\%$ .

Please contact ShellMAP (03 6165 3771) or your regulator if you require assistance in assessing your results against the regulatory limits specified in the ShellMAP Biotoxin Management Plan.

If you would like more information regarding Biotoxin testing, please contact:

Tim Jordan  
Biotoxin Facility Manager  
Section Head – Organic Chemistry  
Ph. 03 6165 3314  
[tim.jordan@ast.tas.gov.au](mailto:tim.jordan@ast.tas.gov.au)