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Port of Devonport Maintenance Dredging 2026

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Acknowledgement of Country

The project team acknowledges the Traditional Custodians of the land, sea, skies and waters that we live and work throughout Australia.

We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and acknowledge the importance of Indigenous Knowledge in sustainable management of our environment.

We pay our respects to Elders past and present, and extend that respect to all Aboriginal and Torres Strait Islander peoples today.



Executive Summary

TasPorts implemented an Adaptive Monitoring and Management Plan (AMMP) to assess whether maintenance dredging and dredged-material disposal at the Port of Devonport affected water quality at monitored sensitive receptors. The program included real-time monitoring across estuarine, nearshore, and offshore sites, laboratory sampling, and investigation of warning- and trigger-level turbidity events.

Turbidity varied before, during and after dredging. Although some elevations coincided with dredging or disposal, the combined timing, spatial pattern, environmental conditions, and sensor-performance evidence did not identify a sustained project-related response at the monitored sensitive receptors. Investigated events were attributed to natural environmental variability, documented monitoring or sensor issues, or classified as indeterminate isolated observations where the specific cause could not be confirmed. None was attributed to dredging or dredged-material disposal. The indeterminate observations were brief and did not indicate sustained exposure at the monitored receptors. Dissolved contaminant monitoring undertaken in accordance with the AMMP did not identify a consistent increase in dissolved metals, hydrocarbons, tributyltin or PAHs during dredging relative to pre-dredging or post-dredging conditions.

The estuarine and nearshore monitoring did not show sustained movement of elevated turbidity from the dredging areas towards Grayling or Seagrass. Representative events instead showed relationships with river flow, tidal exchange, and wind-driven sediment resuspension. Comparable responses at Seagrass and the Forth reference site also indicated broader environmental influences.

Offshore turbidity was generally low and intermittent. The Offshore monitoring station, located more than 4 km from the edge of the dredge spoil disposal ground, did not record a repeatable or sustained disposal-related response. No corresponding response was identified at the historical scallop area.

The monitoring results broadly supported the plume model's principal predictions. No sustained dredging- or disposal-related response was identified at the monitored seagrass habitat or historical scallop area. Monitoring results at these locations were consistent with the predicted influence areas and did not indicate sustained exposure at the monitored receptors. Numerical validation of modelled suspended sediment concentrations was not possible because the available paired turbidity and TSS data did not establish a reliable conversion relationship.

Overall, the monitoring program provided sufficient evidence to assess the campaign. No sustained deterioration in water quality attributable to dredging or dredged-material disposal was identified at the monitored sensitive receptors.

Contents

1 Introduction	7
2 Monitoring and Assessment Methods	8
2.1 Dredging and Disposal Activities	8
2.2 Real-Time Water Quality Monitoring.....	8
2.3 Environmental and Operational Datasets	10
2.4 Turbidity Event Investigation Method	11
2.5 In-Situ Sampling and Laboratory Analysis.....	14
2.6 Turbidity-TSS Relationship.....	15
2.7 Evaluation of Plume-Model Predictions	15
3 Results.....	17
3.1 Monitoring Coverage and Data Quality.....	17
3.2 Real-Time Turbidity	20
3.3 Warning and Trigger Investigations	25
3.4 Turbidity-TSS Relationship.....	26
3.5 Plume-model Comparison	27
3.6 Dissolved Contaminants.....	30
4 Discussion	32
4.1 Dredging-related Water Quality Influence.....	32
4.2 Evaluation of Plume-Model Predictions	35
4.3 AMMP Performance, Limitations and Recommendations	35
5 Conclusion	38
6 References	39
Annex A Turbidity Investigation and Rolling-Median Exceedance Records.....	A-1
Annex B Laboratory Analytical Results and Reports.....	B-1

Tables

Table 2.1 Real-time water-quality monitoring sites, purposes, depths, and coordinates	8
Table 2.2 Environmental and operational datasets reviewed	10
Table 2.3 AMMP turbidity screening thresholds applied during the 2026 campaign	11
Table 2.4 Rolling-median calculation and alert rules applied during the 2026 campaign	12
Table 3.1 Summary of real-time water quality monitoring coverage by site.....	18
Table 3.2 Summary of investigated turbidity events	26
Table 3.3 Evaluation of plume-model predictions against monitoring evidence	28

Table 3.4 Summary and interpretation of dissolved contaminant results	31
Table 4.1 Lines of evidence used to assess dredging-related influence	33
Table 4.2 Recommendations for future water quality monitoring.....	36
Table A.1. Turbidity Investigation Register	A-2
Table A.2. Continuous rolling-median exceedance occasions and associated investigation responses during the 2026 campaign	A-7
Table B.1. Dissolved contaminant concentrations in water samples collected before, during and after dredging	B-2

Figures

Figure 2.1 Real-time water quality monitoring locations, dredging areas and DSDG	9
Figure 3.1 Real-time turbidity at the estuarine and nearshore monitoring sites during a representative high river-flow event. Dredging activity and river flow are shown for context.....	21
Figure 3.2 Real-time turbidity at the estuarine and nearshore monitoring sites during a representative tidal period. Dredging activity and tidal height are shown for context.	22
Figure 3.3 Real-time turbidity at the estuarine and nearshore monitoring sites during a representative elevated-wind period. Dredging activity and wind speed are shown for context.....	23
Figure 3.4 Paired Seagrass turbidity records from 24 hours before to 24 hours after maintenance on 8 April 2026. The figure shows the surface and bottom records, the absolute difference between the paired measurements and the Forth reference record	24
Figure 3.5 Real-time turbidity at the Offshore and Scallop monitoring sites during a representative disposal period. Dashed vertical lines indicate disposal commencement. Surface and bottom turbidity are shown where available, together with significant wave height measured at the Integrated Marine Observing System wave buoy at Wilsons Promontory.	25
Figure 3.6 Relationship between field turbidity and laboratory TSS during and after dredging. Results below the TSS limit of reporting of 1 mg/L are plotted at 1 mg/L and identified by downward arrows	27

Terms and Abbreviations

Term / Abbreviation	Definition
AMMP	Adaptive Monitoring and Management Plan
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
DGV	Default Guideline Value
DSDG	Dredge Spoil Disposal Ground
FNU	Formazin Nephelometric Units
LOR	Limit of Reporting
LTMMP	Long-term Monitoring and Management Plan
NATA	National Association of Testing Authorities, Australia
NTU	Nephelometric Turbidity Units
PAH	Polycyclic Aromatic Hydrocarbons
pH	Measure of the acidity or alkalinity
PSU	Practical Salinity Units
QA/QC	Quality Assurance/Quality Control
SDP	Sea Dumping Permit
SSC	Suspended Sediment Concentrations
TasPorts	Tasmanian Ports Corporation Pty Ltd
TBT	Tributyltin
TSS	Total Suspended Solids

1 Introduction

TasPorts undertakes periodic maintenance dredging within the Port of Devonport to maintain safe navigable depths in the Entrance Channel and Inner Harbour. Future maintenance dredging campaigns are currently expected to occur approximately every three years. Dredging and offshore disposal can temporarily increase suspended sediment concentrations and turbidity. Water-quality monitoring was therefore undertaken during the 2026 campaign to assess potential effects at sensitive receptors.

The campaign was authorised under Sea Dumping Permit SD2024-4066 and managed in accordance with the Port of Devonport Maintenance Dredging Long-term Monitoring and Management Plan 2025–2035 (LTMMMP; BMT 2025a). The LTMMMP is the monitoring and management plan approved under the Permit, and its Annex D comprises the Adaptive Monitoring and Management Plan (AMMP). The resulting regulatory hierarchy is: Permit → approved LTMMMP → AMMP (Annex D of LTMMMP) → campaign monitoring report.

The Permit requires water-quality monitoring for all disposal activities at the locations specified in Table 3.1 of the approved monitoring and management plan. The AMMP establishes the operational monitoring procedures, trigger framework and investigation process applied during the campaign. Routine telemetry review and formal rolling-median alerts were used to identify turbidity requiring investigation. During the 2026 campaign, the logged investigations were initiated proactively through review of the original-resolution data, often before a rolling-median threshold was exceeded. A warning or trigger observation was not, by itself, considered evidence of an effect from dredging or disposal. Each event was assessed using monitoring, operational, environmental and equipment-condition information.

The AMMP also required periodic monitoring of dissolved contaminants to assess whether maintenance dredging resulted in elevated concentrations in the water column. This monitoring was precautionary, as previous sediment-quality investigations had found the dredged material suitable for unconfined ocean disposal. Dissolved metals, tributyltin, petroleum hydrocarbons and polycyclic aromatic hydrocarbons provided a supplementary line of evidence for assessing potential dredging-related water-quality effects.

This report presents the results of the 2026 water-quality monitoring program, including monitoring coverage and data quality, turbidity patterns, warning- and trigger-level event investigations, dissolved contaminant results, implementation of the AMMP and comparison with plume-model predictions. It also identifies limitations and considerations for future monitoring.

2 Monitoring and Assessment Methods

2.1 Dredging and Disposal Activities

Maintenance dredging was undertaken at the Port of Devonport from 17 March to 3 June 2026, with 231,484 m³ of dredged material transported to and placed within the approved offshore Dredge Spoil Disposal Ground (DSDG). Operations comprised repeated dredging, transit, and disposal cycles throughout the campaign. The campaign occurred outside the Australian grayling upstream migration period of 1 September to 30 November.

Daily operational reports recorded dredging and disposal timing and locations, dredged material characteristics and quantities, overflow where applicable, operational delays and visual plume observations. These records were reviewed with the water quality and environmental data when investigating turbidity elevations and trigger events.

2.2 Real-Time Water Quality Monitoring

Telemetered water-quality monitoring stations were deployed at six locations in the Mersey Estuary, adjacent coastal waters and offshore from Devonport. The monitoring network comprised:

- The Estuary Mouth sentinel site
- The Seagrass, Scallop and Grayling test sites
- The Forth and Offshore reference sites.

The test sites monitored water quality at or near sensitive receptors. The sentinel and reference sites provided information on broader spatial patterns and background conditions against which results from the test sites could be interpreted. The purpose, monitored depths and coordinates of each monitoring site are summarised in Table 2.1. The monitoring locations in relation to the dredging areas and DSDG are shown in Figure 2.1.

Table 2.1 Real-time water-quality monitoring sites, purposes, depths, and coordinates

Monitoring Site	Monitoring Purpose	Depth(s)	Latitude	Longitude
Estuary Mouth	Sentinel	Surface	41° 9.828'S	146° 22.644'E
Seagrass	Test	Surface Bottom	41° 9.684'S	146° 23.664'E
Scallop	Test	Surface Bottom	41° 6.546'S	146° 26.292'E
Grayling	Test	Surface	41° 12.540'S	146° 22.350'E
Forth	Reference	Surface Bottom*	41° 9.102'S	146° 13.680'E
Offshore	Reference	Surface Bottom	41° 3.948'S	146° 20.358'E

*Note: The bottom sonde was removed during the dredging campaign following equipment loss. The monitoring configuration was subsequently reviewed, and a replacement bottom sonde was not considered necessary given the shallow water depth.

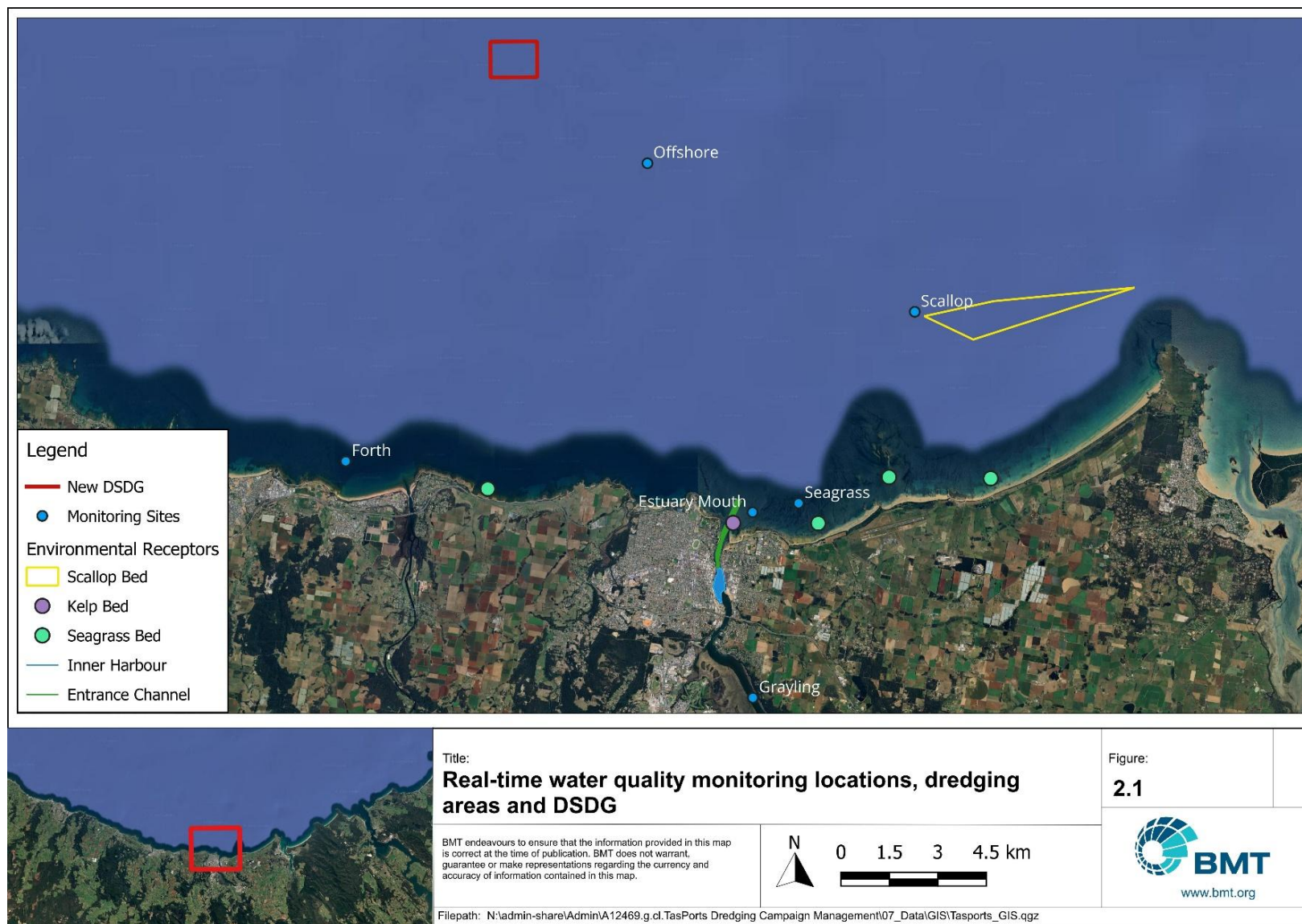


Figure 2.1 Real-time water quality monitoring locations, dredging areas and DSDG

Monitoring stations were fitted with YSI EXO3 multiparameter sondes that measured turbidity, temperature, conductivity, pH and dissolved oxygen. Turbidity was measured using YSI optical sensors, which use near-infrared light and 90-degree detection consistent with the ISO 7027 nephelometric method. Measurements were recorded as Formazin Nephelometric Units (FNU). Xylem advises that measurements made using YSI turbidity sensors are numerically comparable whether displayed as Nephelometric Turbidity Units (NTU) or FNU because the sensors use the same ISO 7027-consistent measurement method; no numerical conversion is required (Xylem 2019). FNU is used in this report because it more accurately identifies the method used.

Measurements were generally recorded at 10- or 15-minute intervals and transmitted to an online telemetry platform. Turbidity was the primary assessment parameter. Turbidity sensors were calibrated using YSI-approved formazin standards in accordance with the manufacturer's requirements. The remaining parameters supported interpretation of environmental conditions and potential sensor issues.

Monitoring was undertaken before, during and after dredging. Site-specific monitoring periods, recording intervals, data availability and identified gaps are summarised in Section 3.1.

Telemetry data were subject to preliminary review during monitoring and comprehensive quality assurance and quality control (QA/QC) review. Measurements affected by equipment faults, sensor drift, biofouling or other identified monitoring artefacts were flagged or excluded from the final quality-controlled dataset where they were not considered representative of ambient water quality. These measurements had contributed to the real-time rolling medians and were not removed retrospectively from the historical rolling-median calculations.

2.3 Environmental and Operational Datasets

Environmental and operational datasets (see Table 2.2) were aligned with the real-time monitoring records using recorded dates and times. These datasets were used to assess whether changes in turbidity corresponded with dredging or disposal, broader environmental conditions, or equipment conditions.

Table 2.2 Environmental and operational datasets reviewed

Dataset	Purpose
River flow and rainfall	Assess freshwater inflow, runoff, and catchment-derived turbidity
Tidal height	Assess tidal exchange, resuspension, and potential transport
Wind and wave conditions	Assess potential wind- and wave-driven sediment resuspension
Dredging and overflow records	Assess the timing and location of operations
Disposal records	Assess potential responses associated with individual disposal events
Inspection and maintenance records	Identify biofouling, sensor drift, instability, and other monitoring artefacts

River-flow data were obtained from the [NRE Tasmania Water Information Web Portal](#). Tidal height and wind speed were obtained from the TasPorts Devonport Fairway monitoring station. Significant wave height was obtained from the [Integrated Marine Observing System wave buoy at Wilsons Promontory](#). Operational information was obtained from the project dredging log.

2.4 Turbidity Event Investigation Method

2.4.1 AMMP Turbidity Thresholds

The approved AMMP expressed the turbidity warning and trigger values in NTU, while project measurements were recorded in FNU. As described in Section 2.2, the YSI EXO3 sensors use an ISO 7027-consistent measurement method, and Xylem advises that no conversion is required when YSI turbidity measurements are displayed as NTU or FNU.

The AMMP values were derived from external regional datasets rather than from the project sondes. The Grayling values were derived from the Mersey Catchment default guideline values, while the coastal values were based on data collected at Hebe Reef near the Tamar Estuary. The available source information did not identify the instrument or optical method used to generate all underlying data. Direct equivalence between the source NTU datasets and the project FNU measurements could therefore not be independently confirmed.

The numerical AMMP values were applied as operational screening thresholds for identifying sustained elevations and generating formal alerts. Investigations were also initiated proactively through routine review of the original-resolution telemetry data. All 32 investigations reported for the campaign commenced through proactive review rather than in response to a formal rolling-median alert. An exceedance was not treated as evidence of a dredging-related effect without supporting spatial, temporal, environmental and equipment-condition evidence. The thresholds applied during the campaign are presented in Table 2.3.

Table 2.3 AMMP turbidity screening thresholds applied during the 2026 campaign

Site	Rolling Statistic	Percentile Basis	Warning Threshold	Trigger Threshold
Grayling	15-day rolling median	80 th percentile	8.5	9.3 [^]
	6-day rolling median	95 th percentile	15.0	16.5
Seagrass	15-day rolling median	80 th percentile	3.0	3.3
	6-day rolling median	95 th percentile	4.0	4.33
Scallop	15-day rolling median	80 th percentile	3.0	3.3
	6-day rolling median	95 th percentile	4.0	4.33

Note: Project measurements were recorded in FNU. The table presents the numerical thresholds specified in the approved AMMP, where they were expressed in NTU. No conversion was applied. The values were used as operational screening thresholds for initiating investigation.

[^]There was an error in the reported 80th percentile value in Table 3.2 in the AMMP. The correct trigger value is provided here.

2.4.2 Rolling-Median Calculations and Alert Rules

Turbidity warning and trigger assessments were based on rolling medians of the original-resolution sonde measurements. The calculations were undertaken separately for each test-site sonde record.

For each new valid measurement, recorded at nominal intervals of 10 or 15 minutes, the 6-day rolling median was calculated from the measurements within the preceding six calendar days. The 15-day rolling median was calculated in the same manner using measurements within the preceding 15 calendar days. The rolling values were therefore updated with each new measurement and changed progressively throughout each day; they were not calculated from daily median values.

Missing measurements were not interpolated. The rolling median was calculated from the measurements available within the applicable six-day or 15-day window. No documented minimum data-completeness criterion was applied during the campaign. Consequently, a rolling value could be

generated from an incomplete monitoring window where data gaps occurred. Data availability and identified gaps were considered when investigating and interpreting exceedances.

At sites with paired surface and bottom sondes, rolling medians were calculated separately for each depth. Either depth could independently exceed an operational warning or trigger threshold and initiate an alert. The paired records were subsequently compared during investigation to assess whether the elevation represented a broader water-quality response or was specific to one instrument.

The real-time rolling medians included measurements that were available at the time of calculation. Comprehensive QA/QC was undertaken after data were downloaded at the end of the monitoring program. Measurements subsequently identified as affected by biofouling, sensor drift, equipment malfunction or other monitoring artefacts had therefore contributed to the rolling-median values and alerts generated during the campaign. These records were flagged or excluded from the final quality-controlled dataset and were considered during event attribution, but the historical real-time rolling medians were not retrospectively recalculated.

An alert commenced when either the 6-day or 15-day rolling median at a test-site sonde exceeded the corresponding operational warning or trigger threshold. Where surface and bottom sondes, or both rolling periods, exceeded a threshold during the same event, the available records were considered together during the investigation. An alert remained open until the applicable rolling median returned below the relevant threshold and/or the investigation had documented the outcome and any required action.

Table 2.4 Rolling-median calculation and alert rules applied during the 2026 campaign

Calculation Element	Method Applied During the Campaign
Input data	Original-resolution sonde measurements recorded at nominal 10- or 15-minute intervals
6-day statistic	Median of available measurements within the preceding six calendar days
15-day statistic	Median of available measurements within the preceding 15 calendar days
Update frequency	Recalculated with each new sonde measurement
Missing measurements	Not interpolated
Minimum data completeness	No documented minimum criterion was applied
Paired depths	Calculated separately; either depth could initiate an alert
Real-time QA/QC	Preliminary automated and manual review during monitoring
Final QA/QC	Comprehensive review after data download at the end of monitoring
Retrospective recalculation	Historical rolling medians were not recalculated after final QA/QC exclusions
Alert commencement	When a valid rolling median exceeded the corresponding operational threshold
Concurrent exceedances	Assessed together where they formed part of the same event
Alert closure	Rolling exceedance: ended when the applicable rolling median returned below the corresponding threshold. Investigation: closed following documentation of the outcome and required action.

A formal alert and an investigation were not necessarily initiated at the same time. During the 2026 campaign, investigations generally commenced through proactive review of the original-resolution data before the corresponding rolling statistic crossed a warning or trigger threshold. The formal rolling-median warning and trigger periods are presented in Annex A.2. These periods are reported separately from the proactive investigations in Annex A.1 because investigations could commence before a rolling-median threshold was exceeded.

2.4.3 Investigation and Attribution Process

Formal investigations were initiated when a 6-day or 15-day rolling-median turbidity value exceeded an operational warning or trigger threshold. Investigations were also initiated proactively where elevated or anomalous turbidity was identified through routine data review.

A rolling-median alert or an elevated original-resolution measurement prompted further assessment but was not, by itself, considered evidence of a change in ambient water quality or an effect from dredging or disposal. This distinction was important because measurements subsequently identified as affected by sensor condition had contributed to some real-time rolling medians.

The same weight-of-evidence process was applied to all investigations:

1. Verify data quality and sensor performance
2. Compare paired sondes and nearby sentinel or reference sites
3. Review operational and environmental conditions
4. Assess timing and plausible transport pathways
5. Assign and document the investigation outcome.

Timing alone was not sufficient to attribute an event to dredging or disposal. The assessment considered whether the response:

- Occurred during or after relevant dredging, overflow or disposal activity
- Recurred during comparable operations
- Followed a plausible spatial and temporal pathway
- Was supported by paired-sonde or nearby monitoring records
- Was also recorded at sentinel or reference locations
- Corresponded with river flow, rainfall, tides, wind or waves
- Was affected by biofouling, equipment malfunction, sensor drift or other monitoring artefacts.

The assigned outcome represented the most plausible explanation based on the available evidence and did not demonstrate causation with certainty. Where more than one influence was supported, the principal and relevant secondary influences were recorded. An event was classified as indeterminate where the available information was insufficient to distinguish between credible alternative explanations.

Classification was based on the following evidence:

- Dredging-related: a repeatable temporal relationship with relevant operations, a plausible transport pathway and a spatial response consistent with movement from the operational area, without a stronger environmental or equipment-related explanation.

- Possibly dredging-related: some evidence supported a dredging or disposal contribution, but the response could not be clearly separated from environmental variability, another local activity or uncertainty in the monitoring record.
- Natural environmental variability: the timing, spatial pattern or supporting parameters were consistent with river flow, rainfall, tides, wind, waves or broader background conditions, including comparable responses at sentinel or reference sites.
- Other local disturbance: the timing and available observations supported a non-dredging local source, such as vessel traffic or wake.
- Monitoring artefact or sensor issue: instrument inspection, maintenance results, paired-sonde disagreement, unstable behaviour or another documented equipment-related factor supported the classification.
- Indeterminate: the evidence was incomplete, conflicting or insufficient to distinguish between two or more credible explanations.

Temporal coincidence with dredging was not sufficient for a dredging-related classification. Conversely, the absence of a response at another monitoring site was not sufficient on its own to classify an event as a monitoring artefact. Each outcome was based on the combined evidence available for that event.

Detailed investigation records are provided in Annex A.

2.5 In-Situ Sampling and Laboratory Analysis

Pre-dredging sediment quality assessment did not identify contaminated sediments within the maintenance dredging footprint, and the material was considered clean and suitable for ocean disposal (BMT 2025b). As a precaution under the AMMP, discrete water sampling was undertaken before, during and after dredging to verify that maintenance dredging did not result in elevated dissolved contaminant concentrations in the water column.

Marine Solutions conducted the sampling program on behalf of TasPorts. Sampling was completed on 13 January 2026 (pre-dredging), 23 April 2026 (during dredging), and 10 and 11 June 2026 (post-dredging). Samples were collected at all monitoring locations associated with the telemetered buoy network.

The AMMP required pre- and post-dredging sampling and sampling at six-week intervals during dredging. Up to three during-dredging events had been anticipated for the originally planned 18-week campaign. The actual campaign extended from 17 March to 3 June 2026, a period of less than 12 weeks. One during-dredging event was therefore required and was completed approximately six weeks after dredging commenced. The next six-week interval fell after dredging had concluded. The sampling frequency was therefore consistent with the AMMP as applied to the actual campaign duration.

Surface samples were collected using pre-washed and pre-flushed buckets and transferred to laboratory-supplied sample containers. Bottom samples were collected approximately 1 m above the seabed using a pre-washed and pre-flushed Niskin sampler. Samples were stored chilled and protected from light before being transported to ALS Laboratories, a National Association of Testing Authorities (NATA) accredited laboratory, under chain-of-custody procedures and within applicable holding times.

Water samples were analysed for dissolved metals, including mercury; tributyltin; total recoverable hydrocarbon fractions; benzene, toluene, ethylbenzene, and xylenes (BTEX); polycyclic aromatic hydrocarbons (PAH); and total suspended solids (TSS). TSS was added to the analytical suite after the pre-dredging monitoring event and was therefore analysed only in samples collected during and after dredging.

2.5.1 Guideline Selection

Detected contaminant concentrations were assessed using the marine default guideline values (DGVs) applicable at the time of reporting. This retained the assessment framework established by the AMMP but incorporated final marine guideline values published after the AMMP was prepared.

The marine guideline values for aluminium and copper were updated in 2025. The report therefore applies the current 95% species-protection values of 37 µg/L for aluminium (ANZG 2025a) and 0.6 µg/L for copper (ANZG 2025b), rather than the respective AMMP values of 24 µg/L and 1.3 µg/L. The updated values supersede the earlier marine guideline values (ANZG 2018).

The remaining analytes were assessed using the marine DGVs identified in the AMMP because no more recent applicable value was identified. Where no marine DGV was available, results were compared among the pre-dredging, during-dredging and post-dredging sampling events and across monitoring locations.

Guideline comparisons were used as an initial screening step. A concentration above a DGV prompted further assessment of its timing, spatial distribution, relationship with dredging and comparison with pre-dredging and reference-site results. An exceedance was not, by itself, considered evidence of non-compliance, environmental harm or dredging-related contaminant mobilisation.

2.6 Turbidity-TSS Relationship

The relationship between measured turbidity and laboratory-derived total suspended solids (TSS; mg/L) was assessed to determine whether real-time turbidity results could be expressed as estimated TSS concentrations for indicative comparison with the suspended sediment concentrations (SSC; mg/L) predicted by the dredge-plume model.

Each laboratory TSS result was paired with the turbidity measurement collected at the same monitoring location, depth, and sampling time. The paired results were plotted and assessed to determine whether they showed a sufficiently consistent relationship to support estimation of TSS from turbidity. The assessment considered the strength of the relationship, variability in the paired results and the ranges of turbidity and TSS represented.

2.7 Evaluation of Plume-Model Predictions

The plume-model predictions were compared with monitoring results to assess whether the observed location, timing and duration of turbidity responses were consistent with the predicted plume behaviour.

A reliable relationship between turbidity and TSS was not established. Modelled suspended sediment concentrations could therefore not be compared numerically with real-time turbidity. The evaluation instead considered:

- Where elevated turbidity occurred
- Whether it corresponded with dredging, overflow, or disposal
- Whether the response was isolated, intermittent, or sustained
- Whether elevated conditions progressed towards sensitive receptors
- Whether responses reduced with distance
- Whether environmental conditions or sensor performance provided a more likely explanation.

The comparison assessed whether monitoring supported the principal spatial and temporal predictions of the model. It did not constitute numerical validation of modelled suspended sediment concentrations or exact impact-zone boundaries.

3 Results

Real-time monitoring identified elevated and anomalous turbidity measurements, including warning- and trigger-level observations and subsequent rolling-median exceedances. Event-specific investigations attributed 18 events to natural environmental variability and four to documented monitoring or sensor issues. Ten brief, isolated observations were classified as indeterminate because the specific cause could not be confirmed. None of the investigated events was attributed to dredging or dredged-material disposal, and no sustained project-related response was identified at the monitored sensitive receptors. Detailed records and rolling-median exceedance periods are provided in Annex A.

3.1 Monitoring Coverage and Data Quality

Monitoring periods and record availability differed among sites because of differences in deployment timing, monitoring continuity, and nominal recording interval. Estuary Mouth and Grayling recorded measurements at 10-minute intervals, while Forth, Offshore, Seagrass and Scallop generally recorded at 15-minute intervals. Record numbers should therefore be interpreted in conjunction with the monitoring period, recording interval and identified data gaps rather than compared directly among sites.

The monitoring record covered the pre-dredging, dredging and post-dredging phases, although coverage was not continuous for all sites and depths. Site- and period-specific gaps and differences in deployment timing are identified in Table 3.1 and were considered when interpreting temporal patterns and calculating rolling statistics.

Table 3.1 Summary of real-time water quality monitoring coverage by site

Site	Depth	Monitoring Phase	Monitoring Period	Recording Interval	Records Retained*	Coverage Limitations^
Estuary Mouth	Surface	Pre-dredging	21 Nov 2025 to 16 Mar 2026	15 min; 10 min from 02 Feb to 16 Mar	9431	
	Surface	Dredging	17 Mar to 03 Jun 2026	10 min	11376	
	Surface	Post-dredging	04 Jun to 09 Jul 2026	10 min	5094	
Grayling	Surface	Pre-dredging	18 Dec 2025 to 16 Mar 2026	10 min	9100	
	Surface	Dredging	17 Mar to 03 Jun 2026	10 min	10274	
	Surface	Post-dredging	04 Jun to 09 Jul 2026	10 min	5107	
Forth	Surface	Pre-dredging	18 Dec 2025 to 16 Mar 2026	15 min	8505	
	Surface	Dredging	17 Mar to 03 Jun 2026	15 min	7460	
	Surface	Post-dredging	04 Jun to 09 Jul 2026	15 min	3391	
	Bottom	Pre-dredging	03 Jan 2025 to 30 Mar 2025 18 Dec 2025 to 16 Mar 2026	15 min	16636	
	Bottom	Dredging	17 Mar to 28 Apr 2026	15 min	4085	
Offshore	Surface	Pre-dredging	26 Oct 2025 to 16 Mar 2026	15 min	6711	No usable records from 17 Dec 2025 to 24 Feb 2026 due to cable problems and then incorrect sonde programming
	Surface	Dredging	17 Mar to 03 Jun 2026	15 min	7459	
	Surface	Post-dredging	04 Jun to 09 Jul 2026	15 min	3402	
	Bottom	Pre-dredging	26 Oct 2025 to 09 Mar 2026	15 min	6074	No usable records from 17 Dec 2025 to 24 Feb 2026 due to cable problems and then incorrect sonde programming

Site	Depth	Monitoring Phase	Monitoring Period	Recording Interval	Records Retained*	Coverage Limitations^
	Bottom	Dredging	24 Apr to 03 Jun 2026	15 min	3896	
	Bottom	Post-dredging	04 Jun to 9 Jul 2026	15 min	3402	
Seagrass	Surface	Pre-dredging	11 Jan 2025 to 17 Jan 2025 25 Oct 2025 to 16 Mar 2026	15 min	7731	
	Surface	Dredging	17 Mar to 03 Jun 2026	15 min	6737	
	Surface	Post-dredging	04 Jun to 09 Jul 2026	15 min	3266	
	Bottom	Pre-dredging	25 Oct 2025 to 16 Mar 2026	15 min	11000	
	Bottom	Dredging	17 Mar to 03 Jun 2026	15 min	6909	
	Bottom	Post-dredging	04 Jun to 09 Jul 2026	15 min	3400	
Scallop	Surface	Pre-dredging	26 Oct 2025 to 16 Mar 2026	15 min	10868	No usable records from 17 Dec 2025 to 13 Jan 2026 due to incorrect sonde programming
	Surface	Dredging	17 Mar to 03 Jun 2026	15 min	7468	Break in data transmission from 06:45 on 01 May to 09:46 on 02 May 2026
	Surface	Post-dredging	04 Jun to 09 Jul 2026	15 min	3388	
	Bottom	Pre-dredging	26 Oct 2025 to 16 Mar 2026	15 min	10867	No usable records from 17 Dec 2025 to 13 Jan 2026 due to incorrect sonde programming
	Bottom	Dredging	17 Mar to 03 Jun 2026	15 min	6088	Break in data (lost sonde) between 29 Apr and 11 May 2025
	Bottom	Post-dredging	04 Jun to 09 Jul 2026	15 min	2684	

*Exclude rejected data

^Includes periods when pre-dredging baseline data were collected beyond the Permit's two-week minimum requirement.

3.2 Real-Time Turbidity

3.2.1 Overall Monitoring Outcome

Turbidity varied spatially and temporally across the monitoring network. Elevated turbidity occurred before, during and after dredging and included natural environmental responses, isolated anomalous measurements and periods affected by sensor condition.

Although some elevations coincided with dredging or disposal, the monitoring record did not show a consistent progression, activity-related timing or persistence indicative of a dredging-generated plume reaching the monitored sensitive receptors. Following QA/QC and event-specific investigation, no sustained response was attributed to dredging or dredged-material disposal.

3.2.2 Representative Monitoring Events

Figure 3.1 to Figure 3.5 present representative periods illustrating the principal environmental, sensor-related, and operational patterns considered during event assessment. These figures do not represent every investigated event. Complete event records are provided in Annex A.

3.2.3 Estuarine and Nearshore Sites

Turbidity at Estuary Mouth, Grayling, Seagrass and Forth was compared to determine whether elevated conditions progressed from the dredging areas towards the monitored sensitive receptors. The record did not show a consistent sequence in which turbidity first increased near the operational areas and subsequently increased at Grayling or Seagrass after a plausible transport interval. Several elevations occurred concurrently across the network, were also recorded at Forth or occurred outside active dredging periods.

Figure 3.1 presents a period of elevated river flow. Turbidity at Grayling increased with river flow, followed by a potentially delayed response at Estuary Mouth further downstream. This sequence was consistent with catchment-derived suspended sediment moving through the estuary.

Estuarine and nearshore turbidity during a representative event

Window: 02 June 2026 01:35 to 04 June 2026 01:35. Shading indicates dredging.

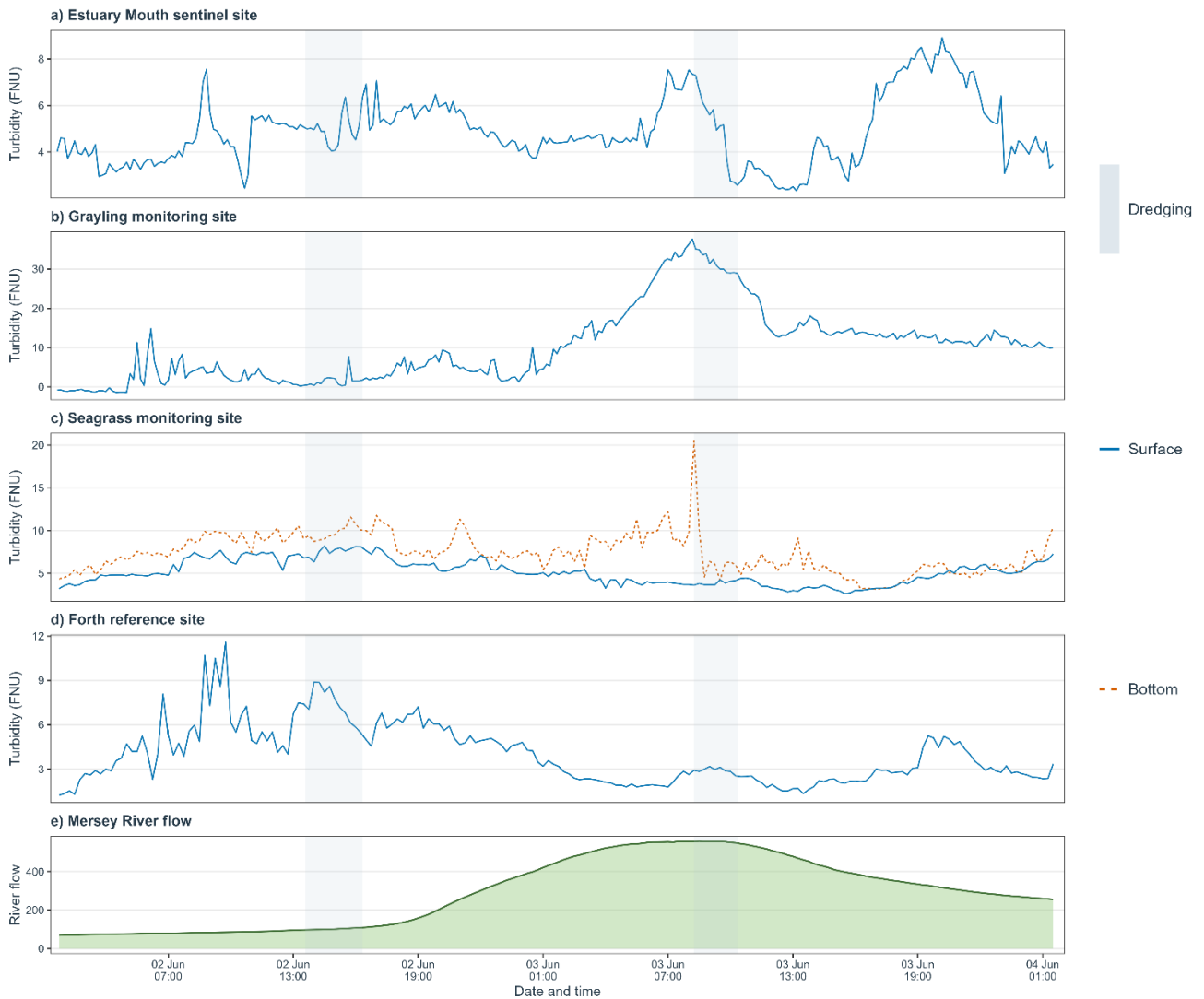


Figure 3.1 Real-time turbidity at the estuarine and nearshore monitoring sites during a representative high river-flow event. Dredging activity and river flow are shown for context

Figure 3.2 compares turbidity with tidal height. Estuary Mouth showed the clearest apparent relationship with tidal variation, indicating a greater influence from tidal exchange at this location during the period shown.

Estuarine and nearshore turbidity during a representative dredging period

Window: 28 March 2026 10:35 to 30 March 2026 10:35. Period selected for complete monitoring coverage and comparatively low and stable river flow. Shading distinguishes dredging from dredging with overflow.

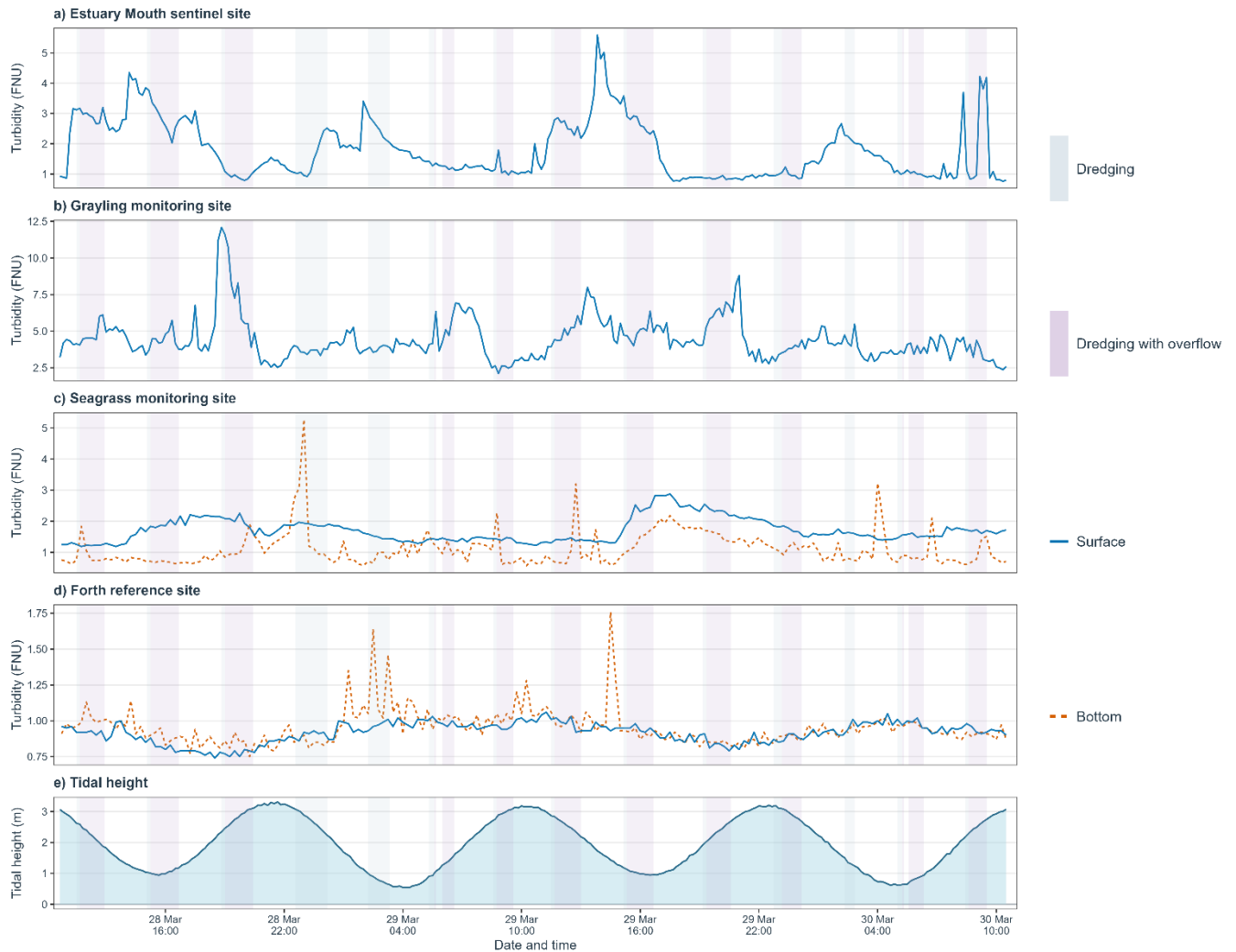


Figure 3.2 Real-time turbidity at the estuarine and nearshore monitoring sites during a representative tidal period. Dredging activity and tidal height are shown for context.

Figure 3.3 presents a period of increasing wind speed. Turbidity increased at Estuary Mouth, Seagrass and Forth after wind speeds increased, consistent with a delayed response to wind-generated waves and sediment resuspension. The response at Grayling was less pronounced, consistent with its more upstream and sheltered location.

Estuarine and nearshore turbidity during a representative dredging period

Window: 15 April 2026 12:00 to 17 April 2026 12:00. Wind speed is shown to provide context for wind-related resuspension. Shading distinguishes dredging from dredging with overflow.

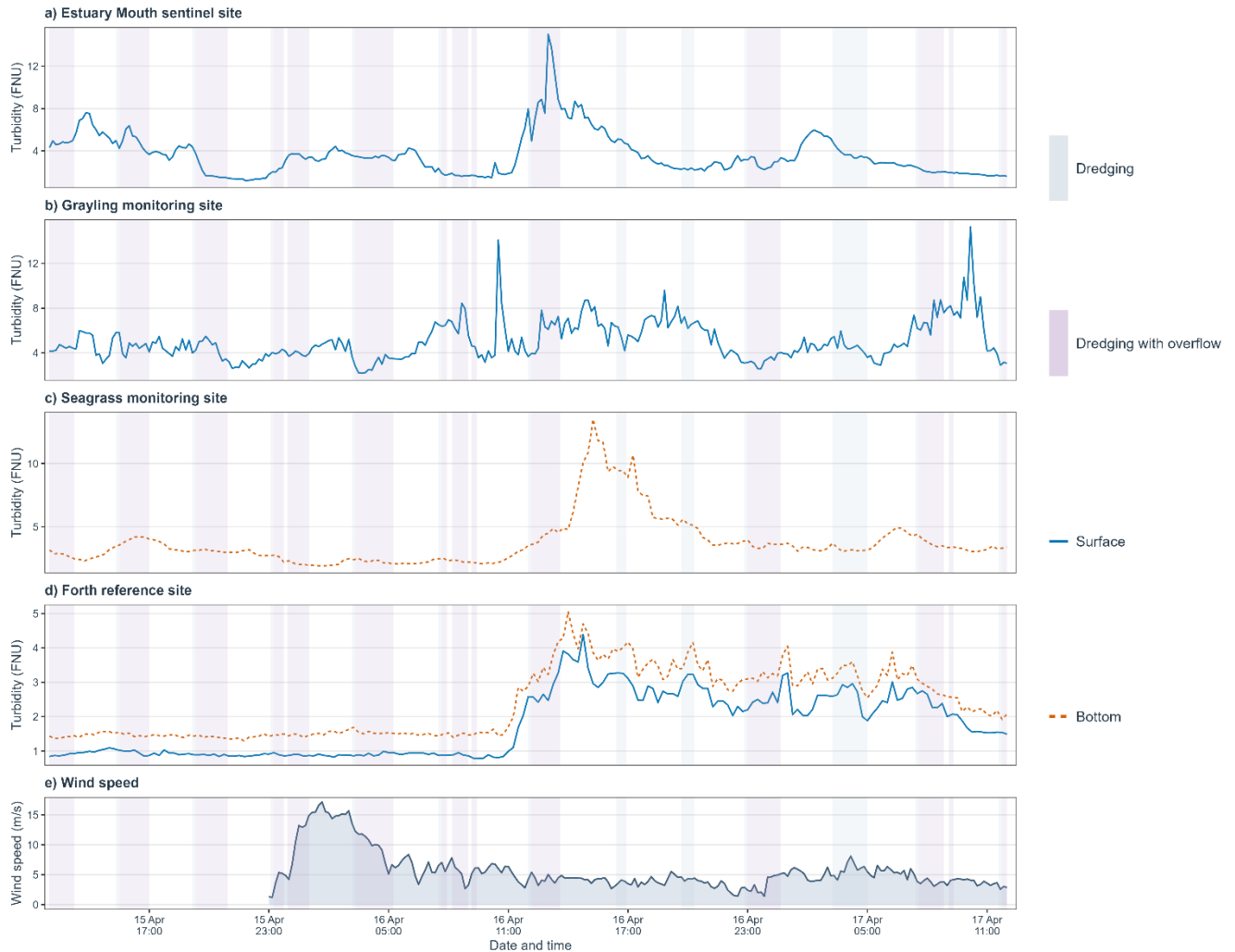


Figure 3.3 Real-time turbidity at the estuarine and nearshore monitoring sites during a representative elevated-wind period. Dredging activity and wind speed are shown for context

Figure 3.4 compares the paired Seagrass sonde records around maintenance on 8 April 2026.

Disagreement between the records and the response following maintenance demonstrate how paired-sonde and equipment information were used to identify sensor-affected measurements.

Representative anomalous or sensor-affected turbidity event

Seagrass surface and BottomRAW records from 07 April 2026 08:30 to 09 April 2026 08:30. The dashed line marks maintenance / calibration at 08:30 on 8 April 2026.

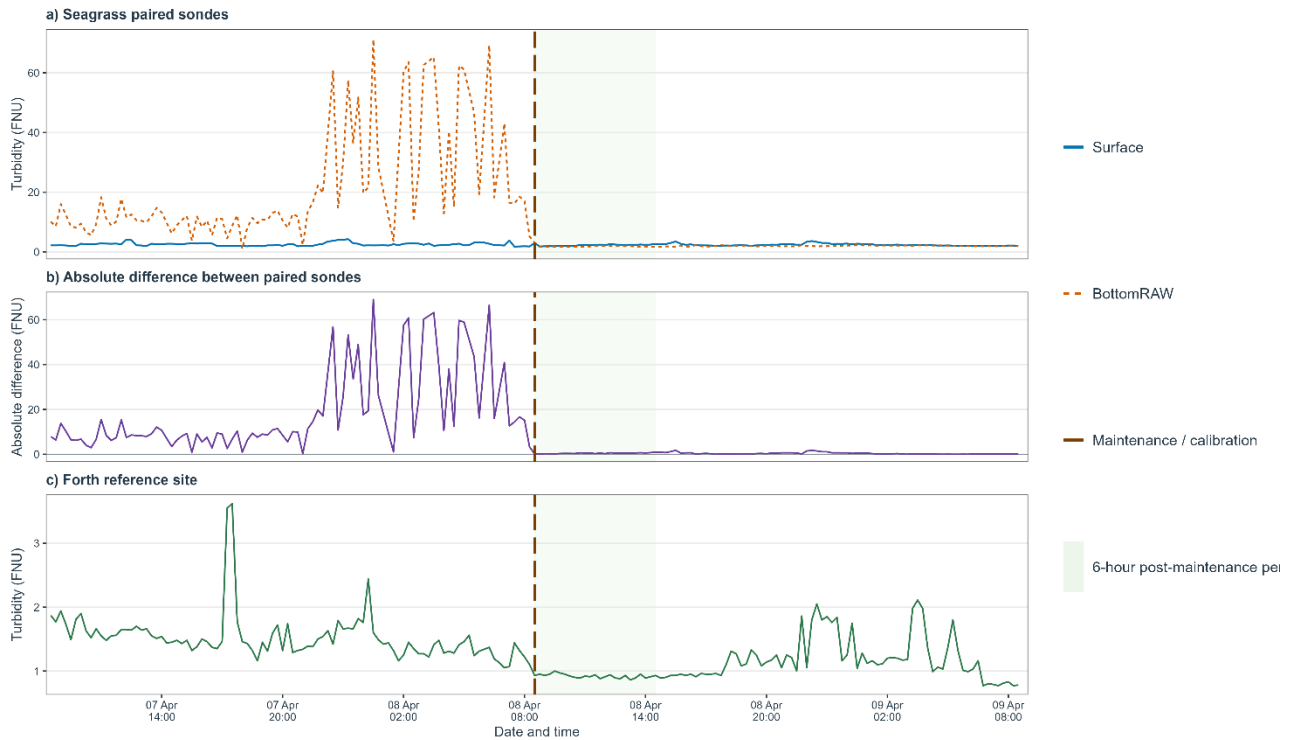


Figure 3.4 Paired Seagrass turbidity records from 24 hours before to 24 hours after maintenance on 8 April 2026. The figure shows the surface and bottom records, the absolute difference between the paired measurements and the Forth reference record

3.2.4 Offshore Sites

Turbidity at Offshore and Scallop was generally low, with small intermittent elevations. The monitored record did not show a sustained response extending from the DSDG towards the historical scallop area.

Figure 3.5 presents a representative disposal period with concurrent monitoring coverage at Offshore and Scallop. Multiple disposal events occurred during the period, allowing conditions at the two monitoring locations to be compared with disposal timing and significant wave height.

Offshore and Scallop turbidity during a representative disposal period

Window: 25 April 2026 10:55 to 26 April 2026 10:55. Dashed purple lines indicate disposal commencement.

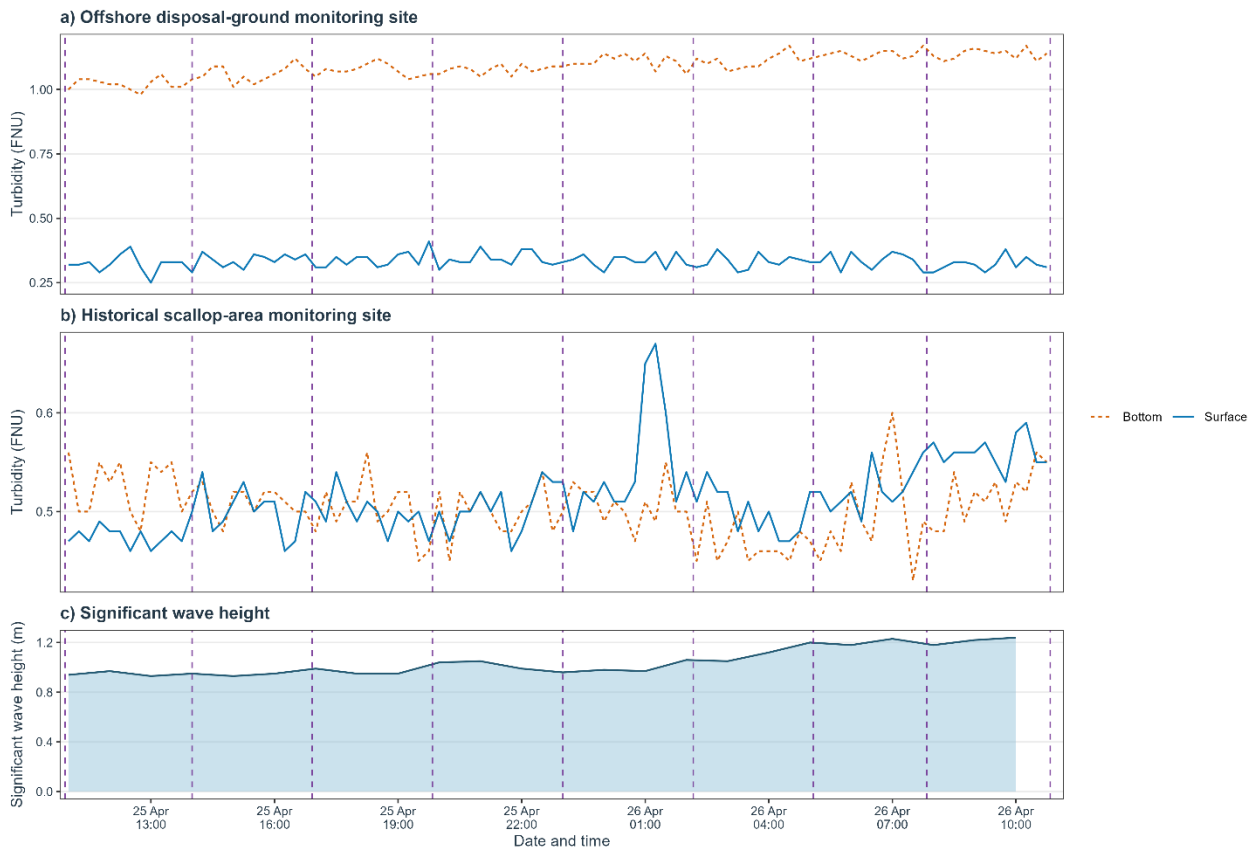


Figure 3.5 Real-time turbidity at the Offshore and Scallop monitoring sites during a representative disposal period. Dashed vertical lines indicate disposal commencement. Surface and bottom turbidity are shown where available, together with significant wave height measured at the Integrated Marine Observing System wave buoy at Wilsons Promontory.

3.3 Warning and Trigger Investigations

A total of 32 turbidity events was investigated, comprising 11 warning-level and 21 trigger-level observations based on the event levels assigned in the investigation log. All investigations were initiated proactively through review of the original-resolution telemetry data rather than in response to a formal rolling-median alert.

The six-day and 15-day rolling medians were subsequently assessed against the applicable operational thresholds. Table A.1. presents the rolling-median values available when each event was first observed. Table A.2. separately presents the formal warning and trigger exceedance periods, including their timing, duration and maximum rolling-median value. This distinction is important because the proactive investigations and rolling-median exceedance periods do not have a one-to-one relationship.

Investigation outcomes represent the most plausible explanation supported by the available evidence rather than proof of a single cause. Eighteen events were attributed to natural environmental variability and four to documented monitoring or sensor issues. Ten brief observations were classified as indeterminate because the specific cause could not be confirmed. None was attributed to dredging or dredged-material disposal.

Natural events were supported by evidence including rainfall and freshwater inflow, reduced salinity, wind-wave or tidal resuspension, comparable reference-site responses and occurrence outside active dredging periods. Documented monitoring or sensor events were supported by inspection findings, biofouling, debris, disagreement between paired sondes or a change in readings following cleaning or replacement.

The indeterminate observations comprised isolated measurements or short groups of measurements that returned rapidly towards the preceding range and were not reproduced at paired or nearby monitoring sites. This evidence indicated that the observations did not represent sustained receptor exposure but was insufficient to establish a specific natural or equipment-related cause.

Some events occurred during or following dredging. However, no event showed a repeatable temporal relationship, plausible spatial progression and sustained response consistent with a dredging-generated plume reaching a monitored receptor. Temporal coincidence alone was therefore not sufficient for attribution.

Table 3.2 Summary of investigated turbidity events

Investigation Outcome	Warning-level Proactive Investigations	Trigger-level Proactive Investigations	Total	Principal Evidence
Natural environmental variability	10	8	18	River flow, rainfall, wind-wave or tidal resuspension, reference-site responses, and occurrence outside dredging periods
Monitoring artefact or sensor issue	1	3	4	Documented biofouling, debris, paired-sonde disagreement, maintenance findings and response following cleaning or replacement
Indeterminate isolated observation	0	10	10	Brief or isolated measurements with no sustained or spatially coherent response; specific cause not confirmed
TOTAL	11	21	32	

Note: Warning and trigger levels in this table reflect the original-resolution observations that prompted proactive investigation. They do not necessarily indicate that a six-day or 15-day rolling-median threshold had been exceeded at that time. Formal rolling-median exceedance occasions are presented separately in Table A.2.

No event was classified as dredging-related, possibly dredging-related or other local disturbance. Detailed event records and formal rolling-median exceedance periods are provided in Annex A.

3.4 Turbidity-TSS Relationship

Twenty-three valid pairs of field turbidity and laboratory TSS results were available. Turbidity ranged from 0.00 to 4.43 FNU, while TSS ranged from below the laboratory limit of reporting of 1 mg/L to 6 mg/L.

The results did not show a sufficiently consistent relationship to estimate TSS reliably from turbidity (Figure 3.6). Similar TSS concentrations occurred across a range of turbidity values, and some comparatively high turbidity measurements corresponded with low TSS concentrations. No consistent difference was apparent between surface and bottom samples.

Turbidity is influenced by particle concentration and by particle size, shape, colour, composition and aggregation. These characteristics can vary among riverine, resuspended and dredging-related material. The limited number and range of paired results therefore did not support a reliable project-

specific conversion. The plume-model comparison consequently considered the spatial distribution, timing and duration of turbidity responses rather than converting FNU to estimated SSC.

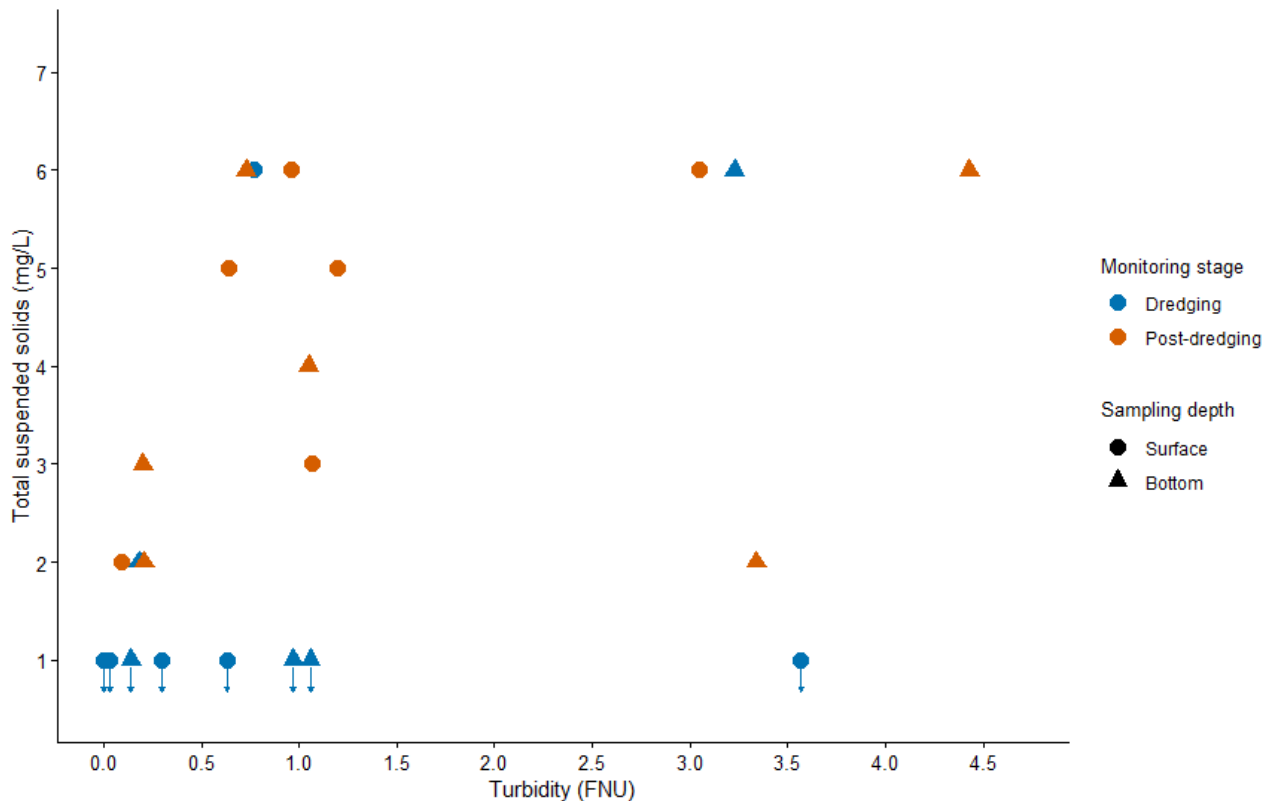


Figure 3.6 Relationship between field turbidity and laboratory TSS during and after dredging. Results below the TSS limit of reporting of 1 mg/L are plotted at 1 mg/L and identified by downward arrows

3.5 Plume-model Comparison

The plume model predicted the greatest dredging-related SSC influence near the Port and Entrance Channel, reducing influence with distance along the coast, very limited influence at the historical scallop area, localised and intermittent increases near the DSDG, and no sustained moderate-impact exposure at seagrass habitat. Monitoring evidence relevant to these predictions is summarised in Table 3.3.

Because a reliable relationship between turbidity and TSS was not established, the modelled SSC concentrations could not be validated numerically against the real-time turbidity record. The evaluation therefore assessed whether the observed spatial pattern, activity-related timing and persistence of turbidity responses were consistent with the predicted behaviour of the plume.

Table 3.3 Evaluation of plume-model predictions against monitoring evidence

Model Prediction	Monitoring Evidence	Evaluation	Limitation
Greatest dredging-related influence near the Port and Entrance Channel	Turbidity at Estuary Mouth, Grayling and Seagrass was compared with the timing of dredging and overflow. Elevated turbidity occurred during active and inactive periods, and the monitoring record did not show a repeated sequence in which turbidity increased near the dredging areas and then progressed towards Grayling or Seagrass. Several elevations corresponded more clearly with increased river flow, tidal exchange, wind-driven resuspension, or sensor condition.	Consistent with limited influence beyond the immediate dredging areas. The model predicted that the greatest increases would occur close to the Port and Entrance Channel. Monitoring did not identify a sustained dredging-related response at the more distant monitoring sites, supporting the prediction that influence would reduce away from the operational areas.	The monitoring network was designed to assess potential effects at the estuarine and nearshore receptors, rather than to measure the highest concentrations within the active dredging footprint. Measured turbidity in FNU could not be converted reliably to modelled SSC in mg/L.
Dredging-related influence reduced with distance	Seagrass was compared with Forth and the other estuarine and nearshore sites. Several turbidity increases occurred concurrently at Seagrass and Forth. During the elevated-wind example, Estuary Mouth, Seagrass and Forth responded after wind speed increased, whereas the response at the more upstream and sheltered Grayling site was less pronounced. The monitoring record did not show consistent movement of elevated turbidity from the Port towards the coastal monitoring sites.	Consistent with limited dredging influence at the more distant sites. Monitoring did not identify a sustained coastal turbidity pattern extending from the dredging areas. The observed differences among sites were more consistent with their relative exposure to river flow, tides, wind, and wave action than with progressive transport of a dredging plume.	Forth was selected as the reference site because it is also influenced by a river system and was expected to respond similarly to broader catchment and coastal conditions. Local differences in exposure, bathymetry and sediment characteristics may nevertheless affect the magnitude and timing of responses. The comparison therefore supports interpretation of regional patterns but cannot quantify the modelled reduction in influence with distance.
Very limited influence at the historical scallop area	Turbidity at Offshore and Scallop was generally low, with small intermittent elevations. The Offshore station was located more than 4 km from the edge of the DSDG, while Scallop represented the more distant historical scallop area.	Consistent. The absence of a sustained or repeatable disposal-related response at Offshore, and the absence of a corresponding response at Scallop, support the prediction that disposal-related effects would remain	Offshore and Scallop were fixed monitoring locations outside the area of greatest predicted disposal influence. The results demonstrate conditions at those locations only.

Model Prediction	Monitoring Evidence	Evaluation	Limitation
	Monitoring during representative disposal periods did not identify a sustained response at Offshore or a corresponding response at Scallop. No investigated event was attributed to dredged-material disposal.	localised and would not materially influence the historical Scallop area.	
Localised and intermittent SSC increases near the DSDG	The model predicted localised increases in suspended sediment within and near the DSDG. Such increases are an expected consequence of placing dredged material at the disposal ground. The Offshore monitoring station was located more than 4 km from the edge of the DSDG, beyond the predicted local influence area. No repeatable or sustained disposal-related response was detected at the Offshore station.	Consistent with the predicted spatial limit, but not a direct test of conditions within the DSDG. The absence of a response at a station more than 4 km from the disposal-ground boundary is consistent with the prediction that disposal-related increases would remain localised. Monitoring did not identify a sustained disposal-related response at the Offshore station. The monitoring result does not indicate that no plume occurred close to the point of disposal, where localised increases were expected.	No sonde was located within or immediately adjacent to the DSDG. Monitoring therefore could not directly confirm the magnitude of the expected localised increases.
No sustained moderate-impact exposure at seagrass habitat	The Seagrass record contained natural turbidity responses, isolated anomalous measurements and periods affected by biofouling or sensor condition. Events were assessed using paired-sonde agreement, reference-site responses, operational timing, and environmental conditions. Following QA/QC and event-specific investigation, no repeated or sustained turbidity elevation at Seagrass was attributed to dredging or overflow.	Consistent. The monitoring record did not identify sustained dredging-related exposure at the monitored seagrass habitat. This supports the model prediction that seagrass would not experience sustained moderate-impact conditions as a result of the dredging campaign.	The model's impact assessment was based on increases in SSC over specified durations, whereas monitoring was undertaken in turbidity units. The monitoring supports the predicted absence of sustained exposure but does not numerically validate the modelled SSC threshold or impact-zone boundary.

3.5.2 Overall Evaluation

The monitoring results were consistent with the model's main predictions for the extent of dredging and disposal effects.

The model predicted localised and intermittent increases in suspended sediment within and near the DSDG. Such increases are an expected consequence of placing dredged material at the disposal ground. The relevant question was therefore not whether a plume occurred close to the point of disposal, but whether the influence extended beyond the predicted Zone of Influence or resulted in sustained effects at more distant locations.

The Offshore monitoring station was located more than 4 km from the edge of the DSDG. No repeatable or sustained disposal-related turbidity response was detected at that station, and no corresponding response was identified at the historical scallop monitoring area. This supports the model prediction that disposal-related increases remained localised, with no sustained response identified at the Offshore or Scallop monitoring locations.

Similarly, the estuarine and nearshore monitoring record did not identify a sustained dredging-related response extending to the monitored seagrass habitat. Elevated turbidity at these locations was more consistently explained by river flow, tidal exchange, wind-driven resuspension, or sensor condition. No investigated warning- or trigger-level event was attributed to dredging or dredged-material disposal.

Overall, the observed spatial pattern, timing and duration of turbidity responses were consistent with the modelled prediction of localised effects near active dredging and disposal areas, with limited influence at the monitored sensitive receptors. The comparison does not numerically validate modelled SSC concentrations because a reliable relationship between measured turbidity and TSS was not established. However, the monitoring evidence indicates that no sustained dredging- or disposal-related response was identified at the monitored seagrass habitat, Offshore station or historical scallop monitoring area.

3.6 Dissolved Contaminants

Dissolved contaminant monitoring was undertaken in accordance with the AMMP to assess whether maintenance dredging resulted in mobilisation of contaminants to the water column. Unlike turbidity monitoring, this sampling program was not associated with adaptive management trigger levels. Instead, results were assessed using a weight-of-evidence approach that considered temporal patterns (pre-, during- and post-dredging), spatial distribution among monitoring sites and comparison against relevant ANZG guideline values. Laboratory monitoring was undertaken to confirm that dredging had not mobilised dissolved contaminants, consistent with the absence of contamination concerns identified through sediment sampling. The principal results and their interpretation are summarised in Table 3.4. Complete analytical results and the laboratory reports are provided in Annex B.

Some concentrations exceeded the marine DGVs adopted for this report. Aluminium and copper were assessed against the final marine guideline values published in 2025, while the remaining applicable values were retained from ANZG (2018) and the AMMP. Exceedances occurred before, during and after dredging, with no consistent increase during dredging or spatial pattern centred on the operational areas. Petroleum hydrocarbons were detected in selected pre-dredging samples but were below laboratory reporting limits during and after dredging. The isolated pre-dredging detection therefore did not indicate an increase associated with dredging. Cadmium, tributyltin, individual PAHs, and BTEX compounds were below their respective reporting limits in all samples.

Dissolved copper exceeded the adopted guideline value at several sites before and after dredging, including at the Offshore reference site. Concentrations were generally lower during dredging. The observed pattern did not indicate dredging-related mobilisation.

Interpretation of the copper results was limited because samples were filtered at the laboratory and field-quality-control samples (such as field blanks, equipment-rinse blanks and field duplicates) were not available to assess possible contamination during sampling, handling or transport. The results were retained for completeness but should be interpreted cautiously.

Table 3.4 Summary and interpretation of dissolved contaminant results

Parameter Group	Principal Result	Interpretation
Dissolved metals other than copper	No consistent increase during dredging	No dredging-related mobilisation indicated
Dissolved copper	Variable concentrations before and after dredging; generally lower during dredging	No consistent dredging-related pattern identified; interpretation limited by laboratory filtration and the absence of field QA/QC samples.
Petroleum hydrocarbons	Detected only in selected pre-dredging samples	No increase associated with dredging
TBT, PAHs, and BTEX	Below reporting limits	No mobilisation indicated

4 Discussion

4.1 Dredging-related Water Quality Influence

The monitoring program identified elevated turbidity, but the combined timing, spatial pattern, environmental conditions, and sensor-performance evidence did not identify a sustained dredging- or disposal-related response at the monitored sensitive receptors. Table 4.1 summarises the principal evidence used in reaching this conclusion.

The investigation outcomes were consistent with the absence of a sustained project-related response. Eighteen events were attributed to natural environmental variability, four to documented monitoring or sensor issues and 10 to isolated observations for which the specific cause could not be confirmed. The indeterminate observations were brief and did not form a sustained or spatially coherent response at a monitored receptor. No event was attributed to dredging or disposal.

The estuarine and nearshore monitoring did not show sustained movement of elevated turbidity from the dredging areas towards the sensitive receptors. Observed responses corresponded more clearly with river flow, tidal exchange, and wind-generated waves. Similar responses at Seagrass and Forth also indicated that some elevated periods reflected broader catchment or coastal conditions rather than effects centred on the dredging pathway.

Forth was selected as a reference because it is also influenced by a river system and was expected to respond to broader catchment and coastal conditions in a similar way to Seagrass. Local differences meant that responses were not expected to be identical, but comparison between the sites assisted in distinguishing regional variability from a plume following the predicted dredging pathway.

At the offshore sites, no repeatable or sustained disposal-related response was detected at the Offshore station. No corresponding response was identified at the historical scallop area. These findings indicate that localised increases expected near disposal did not extend materially beyond the predicted Zone of Influence towards the monitored offshore receptors.

Supporting laboratory results did not indicate dredging-related mobilisation of dissolved contaminants. The variable dissolved copper results were interpreted cautiously but did not show a pattern centred on the operational areas or the dredging period.

Table 4.1 Lines of evidence used to assess dredging-related influence

Line of Evidence	What Would Indicate a Dredging-related Effect	Observed Result
Temporal relationship	Turbidity would increase during, or within a physically plausible period following, relevant dredging, overflow, or disposal activity. Responses would be expected to recur during comparable operational periods.	Some elevations occurred during or following operations, but the relationship was not repeatable. Elevated turbidity also occurred before dredging, outside active operational periods and under changing environmental conditions. Multiple dredging and disposal events occurred without a corresponding turbidity response at the monitored receptors.
Spatial relationship	The strongest response would occur near the operational area or along the likely transport pathway, followed by a weaker or delayed response at more distant sites.	The monitoring record did not show a consistent spatial progression from the Inner Harbour or Entrance Channel towards Grayling, Seagrass, or the offshore receptors. Several elevations occurred concurrently across sites or were stronger at locations outside the expected pathway, indicating environmental drivers.
Sentinel and reference-site comparison	A dredging-related response at a test site would not be expected to occur with a similar magnitude and timing at a reference location outside the principal dredging pathway.	Several increases at Seagrass occurred concurrently with, or after, comparable responses at Forth. Forth was selected as a reference because it is also influenced by a river system and was expected to respond similarly to broader catchment and coastal conditions. The comparable responses supported a regional environmental influence rather than an effect centred on the dredging pathway.
Supporting water-quality parameters	If dredging mobilised contaminants from the seabed, dissolved contaminant concentrations could increase during dredging, particularly near the operational areas or along the potential plume pathway.	Sediment sampling had not identified contamination concerns requiring specific management. Laboratory water-quality monitoring was undertaken as a further check and did not identify a consistent increase in dissolved contaminants during dredging or a spatial pattern centred on the operational areas. The results therefore did not indicate contaminant mobilisation associated with dredging. A reliable relationship between turbidity and TSS was not established, so the continuous turbidity record could not be converted to suspended sediment concentrations.
Environmental drivers	The turbidity increase would not be better explained by river flow, tides, rainfall, wind, or waves.	Investigated elevations were more consistently associated with natural environmental conditions. Grayling responded clearly to increased river flow, with a potentially delayed response at Estuary Mouth. Estuary Mouth also showed an apparent tidal influence. Delayed turbidity increases at Estuary Mouth, Seagrass

Line of Evidence	What Would Indicate a Dredging-related Effect	Observed Result
		and Forth during elevated winds were consistent with wind-generated waves and sediment resuspension.
Sensor condition	The increase would be recorded by a functioning, stable sensor and, where paired sondes were available, would be supported by both instruments.	Documented equipment-related events involved biofouling, debris, paired-sonde disagreement or a change in measurements following cleaning or replacement. Other isolated observations lacked sufficient equipment evidence for classification as sensor issues and were recorded as indeterminate.

4.2 Evaluation of Plume-Model Predictions

Monitoring broadly supported the model's principal predictions for the monitored receptors. This conclusion was based on assessment of turbidity during and following dredging and disposal intervals, together with event-specific investigation of elevated measurements and rolling-median exceedances.

No investigated event showed a sustained dredging-related response at Grayling or the monitored seagrass habitat, or a disposal-related response at the historical scallop area. The monitoring record also did not show repeatable progression of elevated turbidity from the operational areas towards these receptors after a plausible transport interval. At Grayling, elevated turbidity was more consistently associated with river flow, rainfall, tidal conditions and other environmental influences than with dredging activity.

The Offshore station was located more than 4 km from the DSDG and beyond the predicted disposal-ground Zone of Influence. The absence of a repeatable or sustained response at that station was consistent with disposal-related effects remaining localised, but did not directly verify conditions within the DSDG or define the influence-area boundary.

Numerical validation of modelled SSC was not possible because a reliable project-specific turbidity–TSS relationship was not established. The comparison therefore supports the modelled spatial and temporal behaviour at the monitored receptors but does not validate modelled concentrations or exact impact-zone boundaries.

4.3 AMMP Performance, Limitations and Recommendations

4.3.1 AMMP Implementation

The AMMP established a structured framework for real-time monitoring, proactive data review, rolling-median assessment and event investigation. The monitoring network provided sufficient spatial and temporal evidence to assess whether sustained project-related effects reached the monitored receptors.

All 32 investigations were initiated proactively through review of original-resolution telemetry. Formal rolling-median exceedances occurred subsequently for some site and depth records. The proactive review process allowed elevated or anomalous measurements to be assessed before a sustained rolling-median threshold was reached.

Investigations incorporated operational timing, spatial patterns, environmental conditions, paired-sonde and reference-site comparisons, and equipment-condition information. Measurements identified through final QA/QC as affected by biofouling, sensor drift, equipment faults or other monitoring issues were excluded from the final assessment where they were not representative of ambient conditions. Historical real-time rolling medians were not retrospectively recalculated. The monitoring program provided sufficient evidence to assess whether dredging or disposal caused sustained effects at the monitored receptors. No such effect was identified.

The monitoring program also implemented the dissolved contaminant sampling requirements specified in the AMMP. Sampling was completed during the pre-dredging, dredging and post-dredging phases and included analysis of dissolved metals, TBT, petroleum hydrocarbons and PAHs. The results did not identify a consistent temporal or spatial pattern indicating dissolved contaminant mobilisation associated with dredging. This provided a supplementary line of evidence for the broader water-quality assessment, subject to the sampling and field QA/QC limitations identified in this report.

4.3.2 Monitoring Limitations

The principal monitoring limitations were:

- **Provisional turbidity thresholds:** The AMMP values were expressed in NTU and derived from external datasets for which the original instruments and optical methods could not be confirmed. Project measurements were collected using ISO 7027-consistent YSI EXO3 sensors and reported in FNU. The numerical AMMP values were therefore used as operational screening thresholds rather than directly instrument-equivalent criteria. This limitation supports deriving future thresholds from site-specific EXO3 baseline data expressed in FNU.
- **No reliable turbidity-TSS conversion:** The limited paired dataset prevented numerical comparison of real-time turbidity with modelled suspended sediment concentrations. The absence of a strong turbidity-TSS relationship was not unexpected given the complexity of suspended sediment dynamics within estuarine environments (Section 3.4). Variations in sediment source, particle characteristics and hydrodynamic conditions commonly result in substantial variability in turbidity-TSS relationships, even where both parameters are measured concurrently.
- **Sensor condition:** Biofouling, drift, debris, and equipment faults affected some monitoring periods and increased the effort required for event assessment.
- **Rolling-median completeness and QA/QC:** Rolling medians were calculated from the original-resolution measurements available within each six-day or 15-day window. Measurements subsequently identified during final QA/QC as affected by biofouling or other monitoring issues had contributed to the historical rolling medians, which were not retrospectively recalculated. These limitations were considered during event investigation and interpretation.
- **Differences between modelled and actual conditions:** The model represented an idealised scenario, while monitoring reflected the actual sequence of operations and environmental conditions.

These limitations reduced the precision of numerical and fine-scale spatial comparisons but did not alter the principal conclusion, which was supported by multiple independent lines of evidence.

4.3.3 Recommendations

Future monitoring should retain the effective components of the AMMP while addressing the limitations identified during this campaign. Recommendations for future water quality monitoring are provided in Table 4.2.

Table 4.2 Recommendations for future water quality monitoring

Recommendation	Purpose
Continue paired turbidity and TSS sampling before, during and after dredging and across a wider range of conditions	Assess whether reliable site-specific relationships can be established
Develop site-specific baseline distributions using quality-controlled data from the range of conditions to replace the provisional turbidity thresholds with values expressed in FNU	Establish one set of year-round warning and trigger values for each site that reflects the range of natural conditions likely to occur during future dredging campaigns and is aligned with the project instruments and measurement method
Review inspection and cleaning frequencies at sites susceptible to biofouling, debris, or drift	Reduce sensor-related events and data loss

Recommendation	Purpose
Retain paired sondes at key receptor sites where practicable	Distinguish ambient changes from sensor-specific effects
Reassess the monitoring network before each future campaign	Confirm that each site addresses a distinct objective and that the network remains proportionate to the proposed activities and risks
Include appropriate field-quality-control samples if dissolved metals monitoring continues	Improve interpretation of low-level or variable dissolved metal results

Any review of the monitoring network should consider overlap between sites, data quality, predicted exposure pathways and the proposed dredging and disposal activities. Changes should retain sufficient coverage of sensitive receptors and suitable reference conditions.

5 Conclusion

The monitoring program did not identify a sustained water-quality response attributable to maintenance dredging or dredged-material disposal at the monitored sensitive receptors. Most investigated events were attributed to natural environmental variability or documented monitoring and sensor issues. Ten brief, isolated observations remained indeterminate because their specific cause could not be confirmed; however, these observations did not indicate sustained or spatially coherent receptor exposure. Laboratory monitoring did not identify a consistent pattern of dissolved contaminant mobilisation associated with dredging.

The results broadly supported the plume model's principal predictions. No sustained response was identified at the monitored seagrass habitat, Offshore monitoring location or historical scallop area. Monitoring results at these locations were consistent with the predicted DSDG Zone of Influence. Numerical validation of modelled suspended sediment concentrations was not possible because a reliable turbidity-TSS relationship was not established.

The AMMP provided a structured framework for monitoring and investigating elevated turbidity. Future programs should focus on strengthening site-specific baselines, improving sonde reliability and paired turbidity-TSS data, and confirming that the monitoring network remains proportionate to the objectives and risks of each campaign.

6 References

ANZG (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra, ACT, Australia. Available here: [Water Quality Guidelines Home](#).

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Annex A Turbidity Investigation and Rolling-Median Exceedance Records

All investigations were initiated proactively through review of original-resolution telemetry. Table A.1 records the first-observed time, evidence considered, investigation outcome, management response and any related rolling-median exceedance occasion.

Table A.2 presents the formal rolling-median warning and trigger occasions identified during the campaign and cross-references the investigation through which each occasion was assessed. The two registers do not have a one-to-one relationship. Many proactive investigations did not result in a rolling-median exceedance, while one investigation could address several rolling statistics, monitoring depths or exceedance occasions.

Each row in Table A.2 represents one continuous statistical exceedance occasion. An occasion began when a rolling median exceeded its warning threshold and ended when it returned below that threshold. A trigger-level occasion may include an initial warning phase, a trigger phase and a subsequent warning phase as the rolling median declined. Separate statistical occasions could nevertheless be addressed through the same broader investigation.

Investigation outcomes represent the most plausible explanation supported by the available evidence and do not establish causation with certainty.

A.1 Turbidity Investigation Register

Table A.1. Turbidity Investigation Register

Event ID	First observed / Investigation opened	Site / depth	Proactive investigation level	Instantaneous turbidity (FNU)	Investigation basis	6-day value at first observation (FNU)	6-day status	15-day value at first observation (FNU)	15-day status	Operational screening thresholds (warning / trigger)	Related rolling median exceedance ID(s)	Key QA/QC evidence and assessment	Primary outcome	Secondary influence
A01	12 Mar 2026 20:10	Grayling	Trigger	24.67	Proactive review of original-resolution telemetry	4.97	Below warning	4.01	Below warning	6-day: 15 / 16.5 15-day: 8.5 / 9.3	R01, R02	Exceedance started prior to dredging commencing. Seaweed and debris around logger; sludge on base. Turbidity fell after cleaning on 24 March 2026.	Monitoring artefact or sensor issue	None identified
A02	26 Mar 2026 00:45	Seagrass Bottom	Warning	4.26	Proactive review of original-resolution telemetry	0.63	Below warning	0.69	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Short elevation after dredging had stopped; strong wind and wave conditions; no corresponding increase at other sites. No exceedances in 6-day or 15-day rolling medians were recorded.	Natural environmental variability	None identified
A03	26 Mar 2026 00:15	Seagrass Surface	Warning	4.02	Proactive review of original-resolution telemetry	1.22	Below warning	1.21	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Short elevation after dredging had stopped; strong wind and wave conditions; no corresponding increase at other sites. No exceedances in 6-day or 15-day rolling medians were recorded.	Natural environmental variability	None identified
A04	27 Mar 2026 04:45	Seagrass Bottom	Trigger	7.59	Proactive review of original-resolution telemetry	0.63	Below warning	0.69	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A05	27 Mar 2026 11:30	Seagrass Bottom	Trigger	6.80	Proactive review of original-resolution telemetry	0.63	Below warning	0.69	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A06	27 Mar 2026 15:00	Seagrass Bottom	Trigger	7.75	Proactive review of original-resolution telemetry	0.63	Below warning	0.68	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A07	28 Mar 2026 12:30	Seagrass Bottom	Trigger	75.89	Proactive review of original-resolution telemetry	0.67	Below warning	0.68	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated

A08	28 Mar 2026 22:00	Seagrass Bottom	Trigger	12.45	Proactive review of original- resolution telemetry	0.71	Below warning	0.68	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A09	31 Mar 2026 11:15	Seagrass Bottom	Trigger	4.71	Proactive review of original- resolution telemetry	0.98	Below warning	0.68	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A10	31 Mar 2026 14:45	Seagrass Bottom	Trigger	16.21	Proactive review of original- resolution telemetry	1.00	Below warning	0.68	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A11	01 Apr 2026 19:00	Seagrass Bottom	Trigger	4.96	Proactive review of original- resolution telemetry	0.94	Below warning	0.69	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	R03, R04, R05, R06	Short-lived elevation recorded at both Seagrass sondes and the reference site (Forth); coincided with tidal movement. Given the short duration of the event and its occurrence at both the monitoring and reference locations, the exceedance is not consistent with a dredging-related turbidity plume and is more likely attributable to a transient, localised resuspension event. As the elevations were short-lived and 6-day and 15-day rolling median turbidity values remained below warning and trigger thresholds.	Natural environmental variability	None identified
A12	02 Apr 2026 00:15	Seagrass Bottom	Trigger	27.56	Proactive review of original- resolution telemetry	0.94	Below warning	0.70	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	R03, R04, R05, R06	Erratic and sustained elevations were not reflected in the surface record. Heavy biofouling was reported when the turbidity sensor was replaced on 8 April 2026; readings subsequently returned towards the preceding range.	Monitoring artefact or sensor issue	None identified
A13	02 Apr 2026 20:00	Seagrass Surface	Trigger	4.61	Proactive review of original- resolution telemetry	1.57	Below warning	1.41	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Brief elevation with wind gusts up to 28 knots; returned to baseline within about one hour. As the elevations were short-lived and 6-day and 15-day rolling median turbidity values remained below warning and trigger thresholds.	Natural environmental variability	None identified
A14	02 Apr 2026 22:55	Grayling	Warning	15.68	Proactive review of original- resolution telemetry	4.55	Below warning	5.83	Below warning	6-day: 15 / 16.5 15-day: 8.5 / 9.3	None	Variable turbidity occurred predominantly outside dredging; wind gusts were about 30 knots and no clear operational relationship was evident.	Natural environmental variability	None identified
A15	04 Apr 2026 00:30	Grayling	Trigger	41.56	Proactive review of original- resolution telemetry	5.23	Below warning	5.69	Below warning	6-day: 15 / 16.5 15-day: 8.5 / 9.3	None	Most exceedances occurred before dredging, during a large tidal exchange; no sustained operational pattern. As the elevations were short-lived and 6-day and 15-day rolling median turbidity values remained below warning and trigger thresholds.	Natural environmental variability	None identified

A16	05 Apr 2026 05:00	Grayling	Trigger	46.60	Proactive review of original-resolution telemetry	5.65	Below warning	5.45	Below warning	6-day: 15 / 16.5 15-day: 8.5 / 9.3	None	The maximum turbidity occurred before dredging, during late ebb tide. Moderate to strong winds and tidal movement were present, and no sustained relationship with dredging was evident. As the elevations were short-lived and 6-day and 15-day rolling median turbidity values remained below warning and trigger thresholds.	Natural environmental variability	None identified
A17	06 Apr 2026 03:10	Grayling	Trigger	29.64	Proactive review of original-resolution telemetry	5.91	Below warning	5.32	Below warning	6-day: 15 / 16.5 15-day: 8.5 / 9.3	None	Six erratic exceedances were recorded during the monitoring period. without a repeatable operational relationship or coherent downstream response. The first five exceedances occurred 3 to 8 hours after dredging had ceased. Their timing, isolated nature and absence of a consistent spatial pattern do not support attribution to dredging activities.	Natural environmental variability	None identified
A18	07 Apr 2026 00:15	Seagrass Bottom	Trigger	37.18	Proactive review of original-resolution telemetry	6.15	Trigger exceedance	1.29	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	A broader elevation coincided with rainfall/runoff and extended across periods without dredging, supporting an environmental contribution. The bottom-sonde response was substantially greater than the paired surface response during a period subsequently identified as affected by biofouling.	Natural environmental variability	Sensor condition amplified bottom-sonde response
A19	07 Apr 2026 02:10	Grayling	Trigger	40.48	Proactive review of original-resolution telemetry	6.03	Below warning	5.17	Below warning	6-day: 15 / 16.5 15-day: 8.5 / 9.3	None	All exceedances occurred outside active dredging. Rainfall, fresh winds and tidal transitions were the likely drivers. As the elevations were short-lived and 6-day and 15-day rolling median turbidity values remained below warning and trigger thresholds.	Natural environmental variability	None identified
A20	09 Apr 2026 10:00	Seagrass Bottom	Trigger	4.57	Proactive review of original-resolution telemetry	7.71	Trigger exceedance	2.08	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Both sondes and the reference site (Forth) showed sustained elevation during strong winds; dredging occurred for only part of the period.	Natural environmental variability	None identified
A21	13 Apr 2026 18:30	Seagrass Surface	Warning	4.24	Proactive review of original-resolution telemetry	4.02	Warning exceedance	2.15	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	R07, R08	Surface readings remained elevated while the bottom record did not. Sensor replaced on 21 April 2026 and biofouling (sludge) observed around all sensors; readings subsequently returned towards the preceding range.	Monitoring artefact or sensor issue	None identified
A22	16 Apr 2026 12:40	Seagrass Bottom	Warning	4.17	Proactive review of original-resolution telemetry	3.51	Below warning	4.36	Trigger exceedance	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Strong WNW winds and a similar response at the reference site (Forth) supported wind- and wave-driven resuspension.	Natural environmental variability	Sensor condition amplified top-sonde response
A23	17 Apr 2026 05:45	Seagrass Bottom	Warning	4.12	Proactive review of original-resolution telemetry	3.42	Below warning	4.36	Trigger exceedance	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Elevations occurred while the dredger was predominantly transiting or at the DSDG; strong winds and a corresponding reference site (Forth) response were recorded.	Natural environmental variability	None identified
A24	04 May 2026 18:05	Seagrass Bottom	Warning	4.05	Proactive review of original-resolution telemetry	1.99	Below warning	2.05	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Elevation continued for almost 24 hrs. Sustained high winds on 4 and 5 May. Highest rainfall for the month recorded on 5 May. Similar increases occurred at the surface sonde, Forth and Estuary Mouth.	Natural environmental variability	None identified
A25	06 May 2026 15:00	Seagrass Bottom	Warning	4.27	Proactive review of original-resolution telemetry	2.03	Below warning	2.12	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Comparable responses occurred in both Seagrass sondes, at Forth and at Estuary Mouth during strong NW winds (highest gusts recorded for May).	Natural environmental variability	None identified
A26	14 May 2026 07:00	Seagrass Bottom	Trigger	4.43	Proactive review of original-resolution telemetry	1.85	Below warning	1.94	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Intermittent turbidity elevations occurred during both active and inactive dredging periods. A larger concurrent increase at Estuary Mouth and a weaker surface response do not support a response centred on the Seagrass site. Dredging-related transport cannot be excluded; however, available evidence was insufficient to establish a clear operational relationship. As the elevations were short-lived and 6-day and 15-day rolling median turbidity values remained below warning and trigger thresholds, the event was classified as indeterminate.	Indeterminate isolated observation	None identified

A27	19 May 2026 10:15	Seagrass Bottom	Warning	4.28	Proactive review of original- resolution telemetry	1.91	Below warning	1.93	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Variable turbidity occurred while dredging was inactive for most of the event; a slightly earlier response occurred at Forth. As the elevations were short-lived and 6-day and 15-day rolling median turbidity values remained below warning and trigger thresholds.	Natural environmental variability	None identified
A28	22 May 2026 22:00	Seagrass Bottom	Trigger	5.92	Proactive review of original- resolution telemetry	2.12	Below warning	1.90	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A29	28 May 2026 16:50	Seagrass Bottom	Trigger	9.80	Proactive review of original- resolution telemetry	1.98	Below warning	1.96	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	The event comprised a single measurement above the applicable threshold, followed by an immediate return to the preceding range. No corresponding response was recorded by the paired sonde or nearby monitoring sites. No supporting operational or spatial evidence of a dredging-related plume was identified. The measurement is therefore considered an isolated anomalous observation and is not considered representative of sustained ambient turbidity. The specific cause of the individual observation could not be confirmed.	Indeterminate isolated observation	No sustained receptor exposure indicated
A30	31 May 2026 11:30	Scallop Bottom	Trigger	5.21	Proactive review of original- resolution telemetry	0.09	Below warning	0.09	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	None	Alternating spikes continued without corresponding surface or other-site responses. Spike commended when no dredging was occurring. Wind and wave activity began increasing late on 30 May, consistent with observations at other sites (seagrass and Forth); however, only minimal change has been recorded by the upper sonde. Elevated turbidity was recorded in the upper water column for several days, consistent with wind and wave influences (and remaining below warning and trigger thresholds). While some corresponding variability was evident in the bottom sonde during this period, the signal remained sufficiently episodic to support biofouling as the primary cause. Turbidity immediately fell after cleaning on 11 June.	Monitoring artefact or sensor issue	None identified
A31	31 May 2026 01:10	Seagrass Bottom	Warning	4.10	Proactive review of original- resolution telemetry	2.19	Below warning	2.09	Below warning	6-day: 4 / 4.3 15-day: 3 / 3.3	R10	Elevation persisted after dredging was completed and occurred with high winds, substantial rainfall and a similar response at Forth.	Natural environmental variability	None identified
A32	03 Jun 2026 03:00	Grayling	Warning	15.17	Proactive review of original- resolution telemetry	-0.19	Below warning	0.01	Below warning	6-day: 15 / 16.5 15-day: 8.5 / 9.3	None	Turbidity increased with high river discharge and reduced salinity after substantial rainfall; similar increases occurred at Estuary Mouth.	Natural environmental variability	None identified

All investigations were initiated proactively from review of original-resolution telemetry. Six-day and 15-day rolling values shown are the values available at the first-observed event time; they do not imply that the rolling threshold initiated the investigation.

A.2 Rolling-Median Warning and Trigger Periods

Table A.2 presents continuous rolling-median exceedance occasions rather than each warning- and trigger-level crossing as a separate event. An exceedance occasion commenced when a rolling median first exceeded its warning threshold and ended when it returned below the warning threshold. Where the rolling median subsequently exceeded the trigger threshold before returning below the warning threshold, the complete period was recorded as one exceedance occasion and classified by the highest level reached.

Consequently, a trigger-level occasion may include an initial warning phase, a trigger phase and a subsequent warning phase as the rolling median declined.

e.g. normal → warning → trigger → warning → normal

The declining phase may continue after the environmental conditions or monitoring issue associated with the elevated measurements had resolved because earlier measurements remained within the applicable six-day or 15-day rolling window.

Table A.2. Continuous rolling-median exceedance occasions and associated investigation responses during the 2026 campaign

Exceedance ID	Site / depth2	Rolling statistic	Highest level reached	Warning level first exceeded	Trigger level first exceeded	Maximum rolling median (FNU)	Returned below trigger	Returned below warning	Related investigation ID	Status at threshold crossing	Outcome and management response
R01	Grayling	6-day	Trigger	16 Mar 2026 01:40	16 Mar 2026 04:50	354.05	27 Mar 2026 02:00	27 Mar 2026 05:50	A01	Already under investigation	Sonde inspected and replaced; biofouling documented. Measurements returned towards preceding range following replacement.
R02	Grayling	15-day	Trigger	19 Mar 2026 20:40	19 Mar 2026 23:50	55.07	01 Apr 2026 06:10	01 Apr 2026 07:30	A01	Already under investigation	Sonde inspected and replaced; biofouling documented. Measurements returned towards preceding range following replacement.
R03	Seagrass Bottom	6-day	Warning	05 Apr 2026 18:30	NA	4.01	NA	05 Apr 2026 18:45	A11, A12 Assessed as part of the same broader investigation period	Already under investigation	Natural environmental variability followed sonde inspection and replacement with biofouling documented. Measurements returned towards preceding range following replacement
R04	Seagrass Bottom	6-day	Warning	05 Apr 2026 19:30	NA	4.01	NA	05 Apr 2026 19:45	A11, A12 Assessed as part of the same broader investigation period	Already under investigation	Natural environmental variability followed sonde inspection and replacement with biofouling documented. Measurements returned towards preceding range following replacement
R05	Seagrass Bottom	6-day	Trigger	05 Apr 2026 20:00	05 Apr 2026 23:45	7.84	13 Apr 2026 10:45	13 Apr 2026 18:45	A11, A12 Assessed as part of the same broader investigation period	Already under investigation	Natural environmental variability followed sonde inspection and replacement with biofouling documented. Measurements returned towards preceding range following replacement
R06	Seagrass Bottom	15-day	Trigger	10 Apr 2026 19:00	11 Apr 2026 02:45	4.48	21 Apr 2026 00:45	22 Apr 2026 01:15	A11, A12 Assessed as part of the same broader investigation period	Already under investigation	Natural environmental variability followed sonde inspection and replacement with biofouling documented. Measurements returned towards preceding range following replacement.
R07	Seagrass Surface	6-day	Trigger	13 Apr 2026 17:15	14 Apr 2026 19:00	9.06	24 Apr 2026 11:45	24 Apr 2026 11:45	A21	Already under investigation	Sonde inspected and replaced; biofouling documented. Measurements returned towards preceding range following replacement.
R08	Seagrass Surface	15-day	Trigger	16 Apr 2026 13:30	16 Apr 2026 22:00	5.00	28 Apr 2026 22:30	28 Apr 2026 23:00	A21	Already under investigation	Sonde inspected and replaced; biofouling documented. Measurements returned towards preceding range following replacement.
R09	Scallop Bottom	6-day	Apparent Trigger, not verified	NA	11 May 2026 13:50	4.43	11 May 2026 14:00	11 May 2026 14:00	NA	Data gap following sonde loss; threshold crossing not verifiable	Apparent exceedance generated during a 12-day data gap following loss of the sonde. No valid data were available during this time. Classified as a monitoring/data-availability issue; monitoring resumed following replacement
R10	Seagrass Bottom	6-day	Trigger	03 Jun 2026 20:30	04 Jun 2026 02:45	5.66	12 Jun 2026 00:15	13 Jun 2026 00:00	A31	Already under investigation	Natural environmental variability that commenced 31 May. Dredging was completed at 11:35 on 03 June.

Note: Each row represents one continuous exceedance occasion and is classified by the highest threshold reached. A trigger-level occasion may include warning-level periods before and after the trigger threshold was exceeded. Periods without valid measurements were not treated as confirmed turbidity exceedances. Where the rolling-median record indicated an exceedance during a monitoring gap, the entry was retained for traceability but classified as a monitoring/data-availability issue.

The periods in Table A.2 are rolling-median threshold exceedances and do not correspond directly to the 32 proactive investigations in Table A.1. Investigations were initiated through review of original-resolution telemetry and could commence before a rolling-median threshold was exceeded. A single investigation could also overlap more than one rolling statistic, monitoring depth or exceedance period

Annex B Laboratory Analytical Results and Reports

B.1 Analytical Results

Table B.1. Dissolved contaminant concentrations in water samples collected before, during and after dredging

Monitoring Period	Depth	Aluminium	Arsenic	Chromium	Copper	Lead	Nickel	Silver	Zinc	Mercury	Petroleum Hydrocarbons ¹
Unit		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
LOR		5	0.5	0.5	1 ³	0.2	0.5	0.1	5	0.04	Fraction-specific
Adopted marine DGV ²		37	-	4.4	0.6	4.4	70	1.4	8	0.1	-
Seagrass											
Pre-dredging	Surface	10	1.7	<0.5	6	0.2	<0.5	0.2	<5	0.12	
	Bottom	16	1.8	<0.5	22	0.6	<0.5	0.2	6	0.16	
Dredging	Surface	<5	1.5	<0.5	<1	<0.2	<0.5	<0.1	33	<0.04	
	Bottom	<5	1.5	<0.5	<1	0.2	<0.5	<0.1	<5	<0.04	
Post-dredging	Surface	<5	2.2	<0.5	4	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	<5	1.9	<0.5	30	<0.2	<0.5	<0.1	<5	<0.04	
Estuary Mouth											
Pre-dredging	Surface	15	1.8	<0.5	81	0.6	<0.5	0.1	<5	<0.04	TRH C10-C40 sum: 610
	Bottom	8	1.7	<0.5	12	1.1	<0.5	<0.1	<5	<0.04	
Dredging	Surface	<5	1.5	<0.5	<1	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	<5	1.7	<0.5	<1	<0.2	<0.5	<0.1	<5	<0.04	
Post-dredging	Surface	<5	1.9	0.5	115	0.4	<0.5	<0.1	8	<0.04	
	Bottom	<5	2.0	<0.5	7	<0.2	<0.5	<0.1	10	<0.04	
Grayling											
Pre-dredging	Surface	53	1.7	0.5	4	1.8	<0.5	0.2	11	<0.04	
	Bottom	65	1.8	0.9	77	3.8	0.6	<0.1	21	<0.04	
Dredging	Surface	<5	0.9	<0.5	<1	<0.2	<0.5	<0.1	33	<0.04	
	Bottom	<5	1.2	<0.5	<1	<0.2	<0.5	<0.1	33	<0.04	
Post-dredging	Surface	17	1.1	<0.5	3	<0.2	<0.5	<0.1	5	<0.04	
	Bottom	11	1.0	<0.5	<1	<0.2	<0.5	<0.1	<5	<0.04	
Forth											
Pre-dredging	Surface	32	1.4	<0.5	15	1.3	<0.5	0.2	<5	0.004	
	Bottom	9	1.8	<0.5	25	3.8	<0.5	0.6	18	<0.04	TRH C10-C40 sum: 120
Dredging	Surface	5	1.4	<0.5	1	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	<5	1.7	<0.5	1	<0.2	<0.5	<0.1	<5	<0.04	

Monitoring Period	Depth	Aluminium	Arsenic	Chromium	Copper	Lead	Nickel	Silver	Zinc	Mercury	Petroleum Hydrocarbons ¹
Post-dredging	Surface	42	1.2	<0.5	6	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	7	2.2	<0.5	7	<0.2	<0.5	<0.1	<5	<0.04	
Scallop											
Pre-dredging	Surface	<5	1.7	<0.5	18	0.4	<0.5	0.4	6	0.12	
	Bottom	<5	1.7	<0.5	19	0.8	<0.5	0.1	5	0.08	
Dredging	Surface	<5	1.6	<0.5	<1	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	<5	1.7	<0.5	<1	0.4	<0.5	<0.1	<5	<0.04	
Post-dredging	Surface	<5	2.2	<0.5	15	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	<5	2.1	<0.5	2	<0.2	<0.5	<0.1	<5	<0.04	
Offshore											
Pre-dredging	Surface	<5	1.7	<0.5	33	<0.2	<0.5	0.2	<5	0.04	
	Bottom	<5	1.7	<0.5	14	<0.2	<0.5	<0.1	<5	<0.04	
Dredging	Surface	<5	1.5	<0.5	<1	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	<5	1.6	<0.5	5	0.8	<0.5	<0.1	7	<0.04	
Post-dredging	Surface	<5	2.1	<0.5	14	<0.2	<0.5	<0.1	<5	<0.04	
	Bottom	<5	2.2	<0.5	6	<0.2	<0.5	<0.1	<5	<0.04	

Values in yellow exceeded the marine DGV adopted for this report. Cadmium results (below LOR for all samples) are reported in the attached laboratory certificates, and are not include in this table

¹ Petroleum hydrocarbons are represented as a detection summary because ANZG (2018) does not provide a single generic marine guideline value applicable to all reported fractions.

² Marine default guideline values adopted for this report. The aluminium and copper values are the final marine DGVs published in 2025. The remaining applicable values were retained from ANZG (2018) and the AMMP unless otherwise stated. The guideline-selection basis is described in Section 2.5.

³ The laboratory LOR for copper was 1 µg/L, which exceeded the adopted 95% species-protection DGV of 0.6 µg/L. Results reported below the LOR therefore do not demonstrate that copper was below the DGV.

⁴ Sampling depths in Table B.1. relate to discrete grab sampling and do not necessarily correspond to the telemetry-sonde configuration shown in Table 2.1.

B.2 ALS Laboratory Reports



CERTIFICATE OF ANALYSIS

Work Order : **EM2600462**
Client : **MARINE SOLUTIONS**
Contact : Kurt Burgess
Address : 110 Swanston Street
New Town HOBART, TASMANIA 7008
Telephone : ---
Project : TASPORT Davenport
Order number : ---
C-O-C number : ---
Sampler : ---
Site : ---
Quote number : EM25MARSOLU0001
No. of samples received : 12
No. of samples analysed : 12

Page : 1 of 12
Laboratory : Environmental Division Melbourne
Contact : Graeme Jablonskas
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +6138549 9609
Date Samples Received : 15-Jan-2026 12:05
Date Analysis Commenced : 16-Jan-2026
Issue Date : 23-Jan-2026 14:14



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Timothy Creagh	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG093: Samples containing high levels of sulfate may precipitate barium under the acidic conditions of this method and may therefore bias results low.



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				SEAG_S	SEAG_B	KELP_S	KELP_B	MERS_S
Sampling date / time				13-Jan-2026 08:06	13-Jan-2026 08:08	13-Jan-2026 07:26	13-Jan-2026 07:28	13-Jan-2026 06:32
Compound	CAS Number	LOR	Unit	EM2600462-001	EM2600462-002	EM2600462-003	EM2600462-004	EM2600462-005
				Result	Result	Result	Result	Result
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	0.00012	0.00016	<0.00004	<0.00004	<0.00004
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	10	16	15	8	53
Arsenic	7440-38-2	0.5	µg/L	1.7	1.8	1.8	1.7	1.7
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	0.5
Copper	7440-50-8	1	µg/L	6	22	81	12	4
Lead	7439-92-1	0.2	µg/L	0.2	0.6	0.6	1.1	1.8
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	7440-22-4	0.1	µg/L	0.2	0.2	0.1	<0.1	0.2
Zinc	7440-66-6	5	µg/L	<5	6	<5	<5	11
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				SEAG_S	SEAG_B	KELP_S	KELP_B	MERS_S
Sampling date / time				13-Jan-2026 08:06	13-Jan-2026 08:08	13-Jan-2026 07:26	13-Jan-2026 07:28	13-Jan-2026 06:32
Compound	CAS Number	LOR	Unit	EM2600462-001	EM2600462-002	EM2600462-003	EM2600462-004	EM2600462-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	590	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	640	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	610	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	610	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Sample ID	SEAG_S	SEAG_B	KELP_S	KELP_B	MERS_S
Sampling date / time					13-Jan-2026 08:06	13-Jan-2026 08:08	13-Jan-2026 07:26	13-Jan-2026 07:28	13-Jan-2026 06:32
Compound	CAS Number	LOR	Unit		EM2600462-001	EM2600462-002	EM2600462-003	EM2600462-004	EM2600462-005
					Result	Result	Result	Result	Result
EP090: Organotin Compounds (Soluble)									
Tributyltin	56573-85-4	2	ngSn/L		<2	<2	<2	<2	<2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		40.0	44.0	44.4	46.3	36.3
2-Chlorophenol-D4	93951-73-6	1.0	%		48.1	50.2	48.7	46.0	44.5
2,4,6-Tribromophenol	118-79-6	1.0	%		73.0	77.9	88.3	79.1	74.1
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		82.5	88.4	86.5	82.2	80.8
Anthracene-d10	1719-06-8	1.0	%		78.1	84.1	86.7	79.5	75.7
4-Terphenyl-d14	1718-51-0	1.0	%		77.2	83.9	81.3	77.1	74.9
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		105	110	119	115	96.3
Toluene-D8	2037-26-5	2	%		88.3	87.0	93.7	86.5	80.0
4-Bromofluorobenzene	460-00-4	2	%		92.4	89.6	103	97.4	86.4
EP090S: Organotin Surrogate									
Tripropyltin	----	5	%		48.1	87.2	55.0	60.8	78.6



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				MERS_B	COASTAL_S	COASTAL_B	DISP_S	DISP_B
Sampling date / time				13-Jan-2026 06:34	13-Jan-2026 12:20	13-Jan-2026 12:22	13-Jan-2026 10:40	13-Jan-2026 10:42
Compound	CAS Number	LOR	Unit	EM2600462-006	EM2600462-007	EM2600462-008	EM2600462-009	EM2600462-010
				Result	Result	Result	Result	Result
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	<0.00004	0.00004	<0.00004
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	65	32	9	<5	<5
Arsenic	7440-38-2	0.5	µg/L	1.8	1.4	1.8	1.7	1.7
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L	0.9	<0.5	<0.5	<0.5	<0.5
Copper	7440-50-8	1	µg/L	77	15	25	33	14
Lead	7439-92-1	0.2	µg/L	3.8	1.3	3.8	<0.2	<0.2
Nickel	7440-02-0	0.5	µg/L	0.6	<0.5	<0.5	<0.5	<0.5
Silver	7440-22-4	0.1	µg/L	<0.1	0.2	0.6	0.2	<0.1
Zinc	7440-66-6	5	µg/L	21	<5	18	<5	<5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				MERS_B	COASTAL_S	COASTAL_B	DISP_S	DISP_B
Sampling date / time				13-Jan-2026 06:34	13-Jan-2026 12:20	13-Jan-2026 12:22	13-Jan-2026 10:40	13-Jan-2026 10:42
Compound	CAS Number	LOR	Unit	EM2600462-006	EM2600462-007	EM2600462-008	EM2600462-009	EM2600462-010
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	110	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	110	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	120	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	120	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Sample ID	MERS_B	COASTAL_S	COASTAL_B	DISP_S	DISP_B
Sampling date / time					13-Jan-2026 06:34	13-Jan-2026 12:20	13-Jan-2026 12:22	13-Jan-2026 10:40	13-Jan-2026 10:42
Compound	CAS Number	LOR	Unit		EM2600462-006	EM2600462-007	EM2600462-008	EM2600462-009	EM2600462-010
					Result	Result	Result	Result	Result
EP090: Organotin Compounds (Soluble)									
Tributyltin	56573-85-4	2	ngSn/L		<2	<2	<2	<2	<2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		45.5	42.2	43.8	43.6	49.3
2-Chlorophenol-D4	93951-73-6	1.0	%		53.6	50.0	51.1	50.8	54.7
2,4,6-Tribromophenol	118-79-6	1.0	%		79.9	86.6	89.4	81.7	90.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		99.7	89.3	92.4	90.6	96.8
Anthracene-d10	1719-06-8	1.0	%		87.3	85.6	87.4	85.9	90.3
4-Terphenyl-d14	1718-51-0	1.0	%		84.3	82.1	83.6	83.5	88.3
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		110	91.0	95.8	120	103
Toluene-D8	2037-26-5	2	%		89.9	75.3	79.9	90.8	89.5
4-Bromofluorobenzene	460-00-4	2	%		92.7	81.4	83.1	98.8	94.0
EP090S: Organotin Surrogate									
Tripropyltin	----	5	%		91.4	86.5	86.7	91.2	113



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	SCAL_S	SCAL_B	----	----	----
Sampling date / time				13-Jan-2026 09:10	13-Jan-2026 09:12	----	----	----	
Compound	CAS Number	LOR	Unit	EM2600462-011	EM2600462-012	-----	-----	-----	
				Result	Result	----	----	----	
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.00004	mg/L	0.00012	0.00008	----	----	----	
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS									
Aluminium	7429-90-5	5	µg/L	<5	<5	----	----	----	
Arsenic	7440-38-2	0.5	µg/L	1.7	1.7	----	----	----	
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	----	----	----	
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	----	----	----	
Copper	7440-50-8	1	µg/L	18	19	----	----	----	
Lead	7439-92-1	0.2	µg/L	0.4	0.8	----	----	----	
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	----	----	----	
Silver	7440-22-4	0.1	µg/L	0.4	0.1	----	----	----	
Zinc	7440-66-6	5	µg/L	6	5	----	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----	
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----	
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----	
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----	
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----	
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----	
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----	
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----	
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----	
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	----	----	----	
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----	
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----	
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----	



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Sample ID	SCAL_S	SCAL_B	----	----	----
Sampling date / time					13-Jan-2026 09:10	13-Jan-2026 09:12	----	----	----
Compound	CAS Number	LOR	Unit		EM2600462-011	EM2600462-012	-----	-----	-----
				Result	Result		----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----

Page : 11 of 12
 Work Order : EM2600462
 Client : MARINE SOLUTIONS
 Project : TASPORT Davenport



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Sample ID	SCAL_S	SCAL_B	----	----	----
				Sampling date / time	13-Jan-2026 09:10	13-Jan-2026 09:12	----	----	----
Compound	CAS Number	LOR	Unit		EM2600462-011	EM2600462-012	-----	-----	-----
					Result	Result	----	----	----
EP090: Organotin Compounds (Soluble)									
Tributyltin	56573-85-4	2	ngSn/L		<2	<2	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		44.6	39.3	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		50.6	47.6	----	----	----
2,4,6-Tribromophenol	118-79-6	1.0	%		81.5	74.4	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		94.6	81.8	----	----	----
Anthracene-d10	1719-06-8	1.0	%		82.7	76.0	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		80.9	76.7	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		106	99.2	----	----	----
Toluene-D8	2037-26-5	2	%		95.2	90.8	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		102	92.8	----	----	----
EP090S: Organotin Surrogate									
Tripropyltin	----	5	%		90.6	58.9	----	----	----

Page : 12 of 12
 Work Order : EM2600462
 Client : MARINE SOLUTIONS
 Project : TASPORT Davenport



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2,4,6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129
EP090S: Organotin Surrogate			
Tripropyltin	----	24	116

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry / Biology).

(WATER) EP090: Organotin Compounds (Soluble)

(WATER) EP090S: Organotin Surrogate

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EG093F: Dissolved Metals in Saline Water by ORC-ICPMS

(WATER) EG035F: Dissolved Mercury by FIMS



CERTIFICATE OF ANALYSIS

Work Order : **EM2607362**
Client : **MARINE SOLUTIONS**
Contact : Kurt Burgess
Address : 110 Swanston Street
New Town HOBART, TASMANIA 7008
Telephone : ----
Project : TASPORT Davenport
Order number : ----
C-O-C number : ----
Sampler : KW
Site :
Quote number : EM25MARSOLU0001_V2
No. of samples received : 12
No. of samples analysed : 12

Page : 1 of 12
Laboratory : Environmental Division Melbourne
Contact : Graeme Jablonskas
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +6138549 9609
Date Samples Received : 24-Apr-2026 11:45
Date Analysis Commenced : 29-Apr-2026
Issue Date : 06-May-2026 15:29



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Tatijana Markoska	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG093: Samples containing high levels of sulfate may precipitate barium under the acidic conditions of this method and may therefore bias results low.



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				SEAG_S	SEAG_B	KELP_S	KELP_B	MERS_S
Sampling date / time				23-Apr-2026 11:07	23-Apr-2026 11:11	23-Apr-2026 11:30	23-Apr-2026 11:35	23-Apr-2026 12:00
Compound	CAS Number	LOR	Unit	EM2607362-001	EM2607362-002	EM2607362-003	EM2607362-004	EM2607362-005
				Result	Result	Result	Result	Result
EA025: Total Suspended Solids in Saline Waters dried at 104°C ± 2°C								
Suspended Solids (SS)	----	1	mg/L	<1	<1	6	6	<1
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	<5	<5	<5	<5	<5
Arsenic	7440-38-2	0.5	µg/L	1.5	1.5	1.5	1.7	0.9
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Copper	7440-50-8	1	µg/L	<1	<1	<1	<1	<1
Lead	7439-92-1	0.2	µg/L	<0.2	0.2	<0.2	<0.2	<0.2
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	5	µg/L	<5	<5	<5	<5	33
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				SEAG_S	SEAG_B	KELP_S	KELP_B	MERS_S
Sampling date / time				23-Apr-2026 11:07	23-Apr-2026 11:11	23-Apr-2026 11:30	23-Apr-2026 11:35	23-Apr-2026 12:00
Compound	CAS Number	LOR	Unit	EM2607362-001	EM2607362-002	EM2607362-003	EM2607362-004	EM2607362-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
[^] Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
[^] Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
[^] C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
[^] Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Sample ID	SEAG_S	SEAG_B	KELP_S	KELP_B	MERS_S
Sampling date / time					23-Apr-2026 11:07	23-Apr-2026 11:11	23-Apr-2026 11:30	23-Apr-2026 11:35	23-Apr-2026 12:00
Compound	CAS Number	LOR	Unit		EM2607362-001	EM2607362-002	EM2607362-003	EM2607362-004	EM2607362-005
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^A Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP090: Organotin Compounds (Soluble)									
Tributyltin	56573-85-4	2	ngSn/L		<2	<2	<2	<2	<2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		37.3	36.9	36.6	40.1	33.8
2-Chlorophenol-D4	93951-73-6	1.0	%		55.9	56.8	52.1	59.7	53.9
2,4,6-Tribromophenol	118-79-6	1.0	%		75.2	74.2	73.4	77.9	73.4
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		92.0	91.9	86.4	95.3	88.7
Anthracene-d10	1719-06-8	1.0	%		88.6	88.0	84.8	91.0	90.0
4-Terphenyl-d14	1718-51-0	1.0	%		82.7	83.3	79.3	86.0	85.7
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		101	108	100.0	104	102
Toluene-D8	2037-26-5	2	%		89.8	100	90.3	92.9	98.8
4-Bromofluorobenzene	460-00-4	2	%		98.3	107	92.7	96.6	99.8
EP090S: Organotin Surrogate									
Tripropyltin	----	5	%		86.0	85.3	91.6	96.7	87.3



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				MERS_B	COASTAL_S	COASTAL_B	DISP_S	DISP_B
Sampling date / time				23-Apr-2026 12:05	23-Apr-2026 10:20	23-Apr-2026 10:25	23-Apr-2026 07:26	23-Apr-2026 07:30
Compound	CAS Number	LOR	Unit	EM2607362-006	EM2607362-007	EM2607362-008	EM2607362-009	EM2607362-010
				Result	Result	Result	Result	Result
EA025: Total Suspended Solids in Saline Waters dried at 104°C ± 2°C								
Suspended Solids (SS)	----	1	mg/L	7	<1	<1	<1	2
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	<5	5	<5	<5	<5
Arsenic	7440-38-2	0.5	µg/L	1.2	1.4	1.7	1.5	1.6
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Copper	7440-50-8	1	µg/L	<1	1	1	<1	5
Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	0.8
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	5	µg/L	33	<5	<5	<5	7
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Sample ID	MERS_B	COASTAL_S	COASTAL_B	DISP_S	DISP_B
Sampling date / time					23-Apr-2026 12:05	23-Apr-2026 10:20	23-Apr-2026 10:25	23-Apr-2026 07:26	23-Apr-2026 07:30
Compound	CAS Number	LOR	Unit		EM2607362-006	EM2607362-007	EM2607362-008	EM2607362-009	EM2607362-010
					Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
[^] Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
[^] Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
[^] C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	<20
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
[^] >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	<100	<100
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
[^] Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

				Sample ID	MERS_B	COASTAL_S	COASTAL_B	DISP_S	DISP_B
Sampling date / time					23-Apr-2026 12:05	23-Apr-2026 10:20	23-Apr-2026 10:25	23-Apr-2026 07:26	23-Apr-2026 07:30
Compound	CAS Number	LOR	Unit		EM2607362-006	EM2607362-007	EM2607362-008	EM2607362-009	EM2607362-010
					Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
^A Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP090: Organotin Compounds (Soluble)									
Tributyltin	56573-85-4	2	ngSn/L		<2	<2	<2	<2	<2
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		34.5	35.9	34.7	36.0	41.9
2-Chlorophenol-D4	93951-73-6	1.0	%		54.4	53.5	53.5	55.7	57.7
2,4,6-Tribromophenol	118-79-6	1.0	%		77.6	70.0	68.4	71.2	75.3
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		87.3	87.1	87.2	89.8	92.0
Anthracene-d10	1719-06-8	1.0	%		88.5	84.2	84.8	86.4	88.4
4-Terphenyl-d14	1718-51-0	1.0	%		84.0	79.3	79.5	81.5	81.7
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		104	106	101	102	109
Toluene-D8	2037-26-5	2	%		93.9	96.6	90.1	101	101
4-Bromofluorobenzene	460-00-4	2	%		101	101	94.5	103	102
EP090S: Organotin Surrogate									
Tripopyltin	----	5	%		87.8	97.3	91.1	84.3	73.1



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID				SCAL_S	SCAL_B	----	----	----
Sampling date / time				23-Apr-2026 20:30	23-Apr-2026 20:35	----	----	----
Compound	CAS Number	LOR	Unit	EM2607362-011	EM2607362-012	-----	-----	-----
				Result	Result	----	----	----
EA025: Total Suspended Solids in Saline Waters dried at 104°C ± 2°C								
Suspended Solids (SS)	----	1	mg/L	<1	<1	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	----	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	<5	<5	----	----	----
Arsenic	7440-38-2	0.5	µg/L	1.6	1.7	----	----	----
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	----	----	----
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	----	----	----
Copper	7440-50-8	1	µg/L	<1	<1	----	----	----
Lead	7439-92-1	0.2	µg/L	<0.2	0.4	----	----	----
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	----	----	----
Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	----	----	----
Zinc	7440-66-6	5	µg/L	<5	<5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				SCAL_S	SCAL_B	----	----	----
Sampling date / time				23-Apr-2026 20:30	23-Apr-2026 20:35	----	----	----
Compound	CAS Number	LOR	Unit	EM2607362-011	EM2607362-012	-----	-----	-----
				Result	Result	----	----	----

EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued

Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----
[^] Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	----	----	----
[^] Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	----	----	----

EP080/071: Total Petroleum Hydrocarbons

C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
[^] C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	----	----	----

EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions

C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	----	----	----
[^] C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	<100	----	----	----
[^] >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	----	----	----
[^] >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	----	----	----

EP080: BTEXN

Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
[^] Total Xylenes	----	2	µg/L	<2	<2	----	----	----

Page : 11 of 12
 Work Order : EM2607362
 Client : MARINE SOLUTIONS
 Project : TASPORT Davenport



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID				SCAL_S	SCAL_B	----	----	----
Sampling date / time				23-Apr-2026 20:30	23-Apr-2026 20:35	----	----	----
Compound	CAS Number	LOR	Unit	EM2607362-011	EM2607362-012	-----	-----	-----
Result				Result	Result	----	----	----
EP080: BTEXN - Continued								
^A Sum of BTEX	----	1	µg/L	<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	----	----	----
EP090: Organotin Compounds (Soluble)								
Tributyltin	56573-85-4	2	ngSn/L	<2	<2	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	1.0	%	45.9	45.5	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%	61.2	61.3	----	----	----
2,4,6-Tribromophenol	118-79-6	1.0	%	86.6	78.7	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	95.7	93.2	----	----	----
Anthracene-d10	1719-06-8	1.0	%	97.5	88.8	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	91.9	82.7	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	2	%	102	110	----	----	----
Toluene-D8	2037-26-5	2	%	97.2	108	----	----	----
4-Bromofluorobenzene	460-00-4	2	%	100	104	----	----	----
EP090S: Organotin Surrogate								
Tripropyltin	----	5	%	88.6	94.3	----	----	----



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	51
2-Chlorophenol-D4	93951-73-6	30	114
2,4,6-Tribromophenol	118-79-6	26	133
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129
EP090S: Organotin Surrogate			
Tripropyltin	----	24	116

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry / Biology).

(WATER) EP090: Organotin Compounds (Soluble)

(WATER) EP090S: Organotin Surrogate

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EG035F: Dissolved Mercury by FIMS

(WATER) EG093F: Dissolved Metals in Saline Water by ORC-ICPMS



CERTIFICATE OF ANALYSIS

Work Order : **EM2610966**
Client : **MARINE SOLUTIONS**
Contact : Kurt Burgess
Address : 110 Swanston Street
New Town HOBART, TASMANIA 7008
Telephone : ---
Project : TASPORT Davenport
Order number : ---
C-O-C number : ---
Sampler : KB
Site : ---
Quote number : EM25MARSOLU0001_V2
No. of samples received : 12
No. of samples analysed : 12

Page : 1 of 12
Laboratory : Environmental Division Melbourne
Contact : Graeme Jablonskas
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +6138549 9609
Date Samples Received : 15-Jun-2026 14:25
Date Analysis Commenced : 16-Jun-2026
Issue Date : 24-Jun-2026 15:15



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Andrew Lu	VOC Section Supervisor	Melbourne Organics, Springvale, VIC
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Tatijana Markoska	Senior Chemist - Organics	Brisbane Organics, Stafford, QLD



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- EP075 (SIM): Where reported, Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenzo(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.
- EG093: Samples containing high levels of sulfate may precipitate barium under the acidic conditions of this method and may therefore bias results low.



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID

				SEAG_S 0.5 m	SEAG_B 6 m	KELP_S 0.5 m	KELP_B 5 m	MERS_S 0.5 m
Sampling date / time				10-Jun-2026 16:30	10-Jun-2026 16:32	10-Jun-2026 16:20	10-Jun-2026 16:22	10-Jun-2026 15:30
Compound	CAS Number	LOR	Unit	EM2610966-001	EM2610966-002	EM2610966-003	EM2610966-004	EM2610966-005
				Result	Result	Result	Result	Result
EA025: Total Suspended Solids in Saline Waters dried at 104°C ± 2°C								
Suspended Solids (SS)	----	1	mg/L	3	6	6	2	6
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	<5	<5	<5	<5	17
Arsenic	7440-38-2	0.5	µg/L	2.2	1.9	1.9	2.0	1.1
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	0.5	<0.5	<0.5
Copper	7440-50-8	1	µg/L	4	30	115	7	3
Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	0.4	<0.2	<0.2
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	5	µg/L	<5	<5	8	10	5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID

				SEAG_S 0.5 m	SEAG_B 6 m	KELP_S 0.5 m	KELP_B 5 m	MERS_S 0.5 m
Sampling date / time				10-Jun-2026 16:30	10-Jun-2026 16:32	10-Jun-2026 16:20	10-Jun-2026 16:22	10-Jun-2026 15:30
Compound	CAS Number	LOR	Unit	EM2610966-001	EM2610966-002	EM2610966-003	EM2610966-004	EM2610966-005
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2

Page : 5 of 12
 Work Order : EM2610966
 Client : MARINE SOLUTIONS
 Project : TASPORT Davenport



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID				SEAG_S 0.5 m	SEAG_B 6 m	KELP_S 0.5 m	KELP_B 5 m	MERS_S 0.5 m
Sampling date / time				10-Jun-2026 16:30	10-Jun-2026 16:32	10-Jun-2026 16:20	10-Jun-2026 16:22	10-Jun-2026 15:30
Compound	CAS Number	LOR	Unit	EM2610966-001	EM2610966-002	EM2610966-003	EM2610966-004	EM2610966-005
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP090: Organotin Compounds (Soluble)								
Tributyltin	56573-85-4	2	ngSn/L	<2	<2	<2	<2	<2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	73.2	73.9	101	73.8	79.4
Anthracene-d10	1719-06-8	1.0	%	86.0	75.3	98.1	86.5	85.0
4-Terphenyl-d14	1718-51-0	1.0	%	94.6	81.1	108	96.1	91.8
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	2	%	118	117	124	122	115
Toluene-D8	2037-26-5	2	%	102	103	110	109	104
4-Bromofluorobenzene	460-00-4	2	%	105	104	114	110	108
EP090S: Organotin Surrogate								
Tripropyltin	----	5	%	79.6	79.6	59.5	81.2	76.7



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID

				MERS_B 4 m	COASTAL_S 0.5 m	COASTAL_B 6 m	DISP_S 0.5 m	DISP_B 40 m
Sampling date / time				10-Jun-2026 15:30	11-Jun-2026 14:10	11-Jun-2026 14:12	11-Jun-2026 15:00	11-Jun-2026 15:02
Compound	CAS Number	LOR	Unit	EM2610966-006	EM2610966-007	EM2610966-008	EM2610966-009	EM2610966-010
				Result	Result	Result	Result	Result
EA025: Total Suspended Solids in Saline Waters dried at 104°C ± 2°C								
Suspended Solids (SS)	----	1	mg/L	6	5	4	2	3
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	11	42	7	<5	<5
Arsenic	7440-38-2	0.5	µg/L	1.0	1.2	2.2	2.1	2.2
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Copper	7440-50-8	1	µg/L	<1	6	7	14	6
Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc	7440-66-6	5	µg/L	<5	<5	<5	<5	<5
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID

				MERS_B 4 m	COASTAL_S 0.5 m	COASTAL_B 6 m	DISP_S 0.5 m	DISP_B 40 m
Sampling date / time				10-Jun-2026 15:30	11-Jun-2026 14:10	11-Jun-2026 14:12	11-Jun-2026 15:00	11-Jun-2026 15:02
Compound	CAS Number	LOR	Unit	EM2610966-006	EM2610966-007	EM2610966-008	EM2610966-009	EM2610966-010
				Result	Result	Result	Result	Result
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID				MERS_B 4 m	COASTAL_S 0.5 m	COASTAL_B 6 m	DISP_S 0.5 m	DISP_B 40 m
Sampling date / time				10-Jun-2026 15:30	11-Jun-2026 14:10	11-Jun-2026 14:12	11-Jun-2026 15:00	11-Jun-2026 15:02
Compound	CAS Number	LOR	Unit	EM2610966-006	EM2610966-007	EM2610966-008	EM2610966-009	EM2610966-010
Result				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP090: Organotin Compounds (Soluble)								
Tributyltin	56573-85-4	2	ngSn/L	<2	<2	<2	<2	<2
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	86.1	78.1	82.3	80.2	76.6
Anthracene-d10	1719-06-8	1.0	%	87.6	79.7	85.2	84.4	79.8
4-Terphenyl-d14	1718-51-0	1.0	%	91.2	83.9	89.5	87.4	85.3
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	2	%	119	117	120	122	119
Toluene-D8	2037-26-5	2	%	107	106	107	107	106
4-Bromofluorobenzene	460-00-4	2	%	109	108	110	110	106
EP090S: Organotin Surrogate								
Tripropyltin	----	5	%	76.4	81.7	82.3	73.7	77.9



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID

				SCAL_S 0.5 m	SCAL_B 30 m	----	----	----
Sampling date / time				11-Jun-2026 07:35	11-Jun-2026 07:37	----	----	----
Compound	CAS Number	LOR	Unit	EM2610966-011	EM2610966-012	-----	-----	-----
				Result	Result	----	----	----
EA025: Total Suspended Solids in Saline Waters dried at 104°C ± 2°C								
Suspended Solids (SS)	----	1	mg/L	5	2	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.00004	mg/L	<0.00004	<0.00004	----	----	----
EG093F: Dissolved Metals in Saline Water by ORC-ICPMS								
Aluminium	7429-90-5	5	µg/L	<5	<5	----	----	----
Arsenic	7440-38-2	0.5	µg/L	2.2	2.1	----	----	----
Cadmium	7440-43-9	0.2	µg/L	<0.2	<0.2	----	----	----
Chromium	7440-47-3	0.5	µg/L	<0.5	<0.5	----	----	----
Copper	7440-50-8	1	µg/L	15	2	----	----	----
Lead	7439-92-1	0.2	µg/L	<0.2	<0.2	----	----	----
Nickel	7440-02-0	0.5	µg/L	<0.5	<0.5	----	----	----
Silver	7440-22-4	0.1	µg/L	<0.1	<0.1	----	----	----
Zinc	7440-66-6	5	µg/L	<5	<5	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	----	----	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	----	----	----



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID				SCAL_S 0.5 m	SCAL_B 30 m	----	----	----
Sampling date / time				11-Jun-2026 07:35	11-Jun-2026 07:37	----	----	----
Compound	CAS Number	LOR	Unit	EM2610966-011	EM2610966-012	-----	-----	-----
				Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	----	----	----
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	----	----	----
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	----	----	----
Toluene	108-88-3	2	µg/L	<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L	<2	<2	----	----	----

Page : 11 of 12
 Work Order : EM2610966
 Client : MARINE SOLUTIONS
 Project : TASPORT Davenport



Analytical Results

Sub-Matrix: SALINE WATER
 (Matrix: WATER)

Sample ID

				SCAL_S 0.5 m	SCAL_B 30 m	----	----	----
Sampling date / time				11-Jun-2026 07:35	11-Jun-2026 07:37	----	----	----
Compound	CAS Number	LOR	Unit	EM2610966-011	EM2610966-012	-----	-----	-----
				Result	Result	----	----	----
EP080: BTEXN - Continued								
^ Sum of BTEX	----	1	µg/L	<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	<5	----	----	----
EP090: Organotin Compounds (Soluble)								
Tributyltin	56573-85-4	2	ngSn/L	<2	<2	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	1.0	%	84.8	80.6	----	----	----
Anthracene-d10	1719-06-8	1.0	%	90.9	78.4	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%	97.0	85.3	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1,2-Dichloroethane-D4	17060-07-0	2	%	114	122	----	----	----
Toluene-D8	2037-26-5	2	%	98.2	109	----	----	----
4-Bromofluorobenzene	460-00-4	2	%	102	110	----	----	----
EP090S: Organotin Surrogate								
Tripopyltin	----	5	%	88.1	86.3	----	----	----

Page : 12 of 12
Work Order : EM2610966
Client : MARINE SOLUTIONS
Project : TASPORT Davenport



Surrogate Control Limits

Sub-Matrix: SALINE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	35	127
Anthracene-d10	1719-06-8	44	122
4-Terphenyl-d14	1718-51-0	44	124
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129
EP090S: Organotin Surrogate			
Tripropyltin	----	24	116

Inter-Laboratory Testing

Analysis conducted by ALS Brisbane, NATA accreditation no. 825, site no. 818 (Chemistry / Biology).

(WATER) EP090: Organotin Compounds (Soluble)

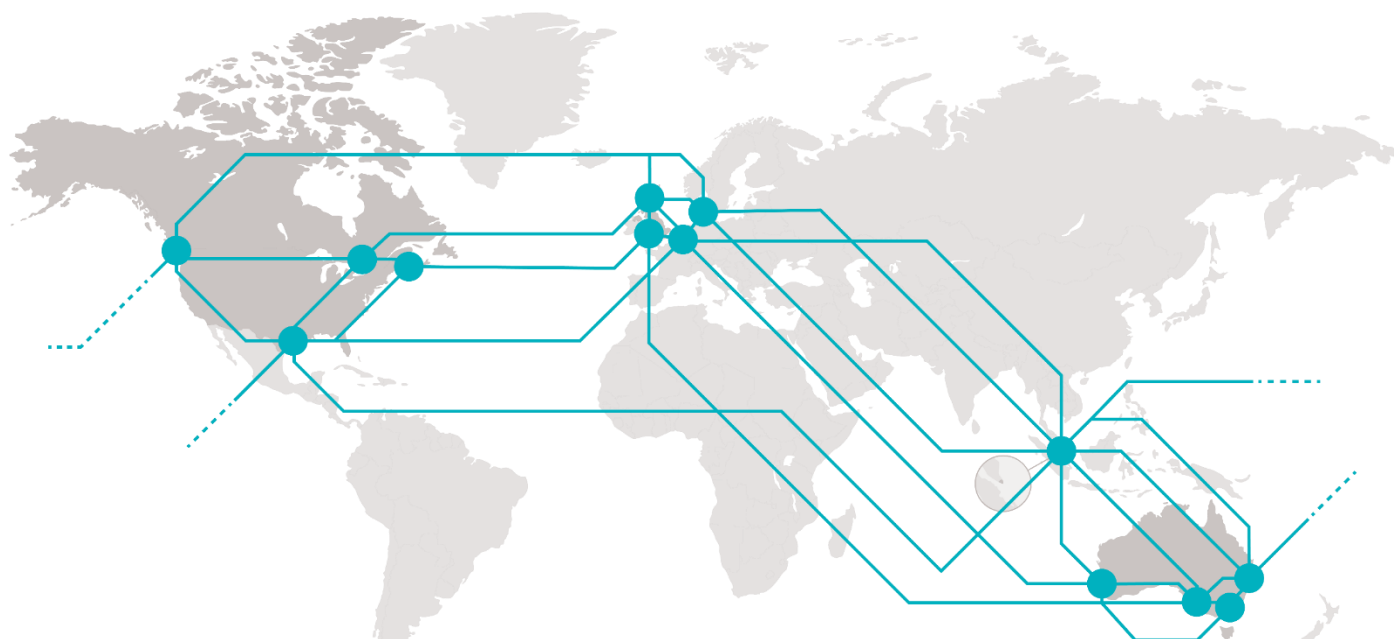
(WATER) EP090S: Organotin Surrogate

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EG093F: Dissolved Metals in Saline Water by ORC-ICPMS

(WATER) EG035F: Dissolved Mercury by FIMS

{None}



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