

Memorandum

To	Wentworth Shire Council		
From	Tonkin	Date	16 July 2025
Ref Number	240929C01Rev0_Environmental Monitoring	Rev	0
Subject	Buronga Landfill, Environmental Monitoring 2025		

Introduction and Background

Tonkin has been engaged by Wentworth Shire Council (Council) to undertake a single environmental monitoring event at the Buronga Landfill site. It is Tonkin's understanding that Council requires this one-off monitoring event to cover groundwater, surface water, leachate and landfill gas conditions across the site. It is understood that this work is required to meet Councils broader obligations at the site and also give Council an understanding of the current status of the site and as such a simple interpretation of results. The single monitoring event was undertaken between 28 – 30 May 2025.

Refer field notes provided in Attachment 1. Laboratory certificates are included in Attachment 2 while calibration certificates are included in Attachment 3. Analytical Results Tables are provided in Attachment 4.

Environmental Monitoring Results

Groundwater Results

All seven of the groundwater wells were gauged prior to the sampling of the wells. Groundwater sampling was undertaken using passive HydraSleeve® sampling and supplemented with plastic bailers where insufficient sample was collected with the HydraSleeve®. Note, only five of the seven wells were able to be sampled, one well was dry (MW07), and one well had an apparent bend where the HydraSleeve® had insufficient sample, and the plastic bailer could not be deployed down the well (MW06). Intra-laboratory and inter-laboratory duplicate samples were collected at MW04.

Field parameters were measured for each of the sampled wells and summarised in the table below:

Table 1 Groundwater Field Parameters

Field Measurements	MW01	MW02	MW03	MW04	MW05
Temp (°C)	12.8	17.8	18.1	17.6	17.9
EC (µS/cm)	43,454	47,935	47,964	45,688	38,576
pH	3.24	5.90	5.78	5.75	5.73
DO (mg/L)	72.57	27.38	9.95	19.18	40.23
ORP (mV)	349.5	52.2	169.2	211.3	46.1



Field Measurements	MW01	MW02	MW03	MW04	MW05
SWL (mTOC)	13.600	7.204	8.950	8.979	7.070
Colour	Pale brown	Brown	Pale brown	Pale brown	Pale brown
Turbidity	Moderate	High	Moderate	Low - Moderate	Moderate
Odour	Nil	Nil	Nil	Nil	Nil
Hydrocarbon Sheen	Nil	Nil	Nil	Nil	Nil

Groundwater analytical results were compared against the following current and relevant criteria in accordance with the Water Management Plan:

- ANZECC 2000 FW 95%
- ANZECC 2000 Livestock DW Low Risk
- NEPM 2013 Table 1C GILs, Drinking Water
- NEPM 2013 Table 1C GILs, Fresh Waters

The results of the Tier 1 qualitative data review are presented following. Data summary tables showing highlighted exceedances of established screening criteria are presented in Attachment 4.

- Concentrations of aluminium exceeded the ANZECC 2000 FW 95%, ANZECC 2000 Livestock DW Low Risk and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW01.
- Concentrations of cadmium exceeded the ANZECC 2000 FW 95% and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW02 and MW03.
- Concentrations of copper exceeded the ANZECC 2000 FW 95% and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW01, MW02, MW03 and MW04.
- Concentrations of lead exceeded the ANZECC 2000 FW 95%, NEPM 2013 Table 1C GILs, Drinking Water and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW01 and exceeded the ANZECC 2000 FW 95% and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW04.
- Concentrations of manganese exceeded the NEPM 2013 Table 1C GILs, Drinking Water criteria at MW04, and exceeded the ANZECC 2000 FW 95% and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW02 and MW05.
- Concentrations of nickel exceeded the ANZECC 2000 FW 95%, NEPM 2013 Table 1C GILs, Drinking Water and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW01, MW02 and MW03, and exceeded the ANZECC 2000 FW 95% and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW04 and MW05.
- Concentrations of zinc exceeded the ANZECC 2000 FW 95% and NEPM 2013 Table 1C GILs, Fresh Waters criteria at MW01 to MW05.
- Concentrations of sulphate exceeded the ANZECC 2000 Livestock DW Low Risk and NEPM 2013 Table 1C GILs, Drinking Water criteria at MW01 to MW05.
- Concentrations of Total Dissolved Solids (TDS) exceeded the ANZECC 2000 Livestock DW Low Risk criteria at MW01 to MW05.



Surface Water Results

The surface water pond was sampled via grab sampler and plastic bottle. Intra-laboratory and inter-laboratory duplicate samples were collected and analysed as a QA/QC measure. Field parameters were measured for the surface water pond and summarised in the table below:

Table 2 Surface Water Field Parameters

Field Measurements	SW01
Temp (°C)	15.1
EC (µS/cm)	3430
pH	8.61
DO (mg/L)	30.00
ORP (mV)	116.1
Colour	Clear
Turbidity	Low
Odour	Organic/biotic
Hydrocarbon Sheen	Nil

Surface water analytical results were compared against the following current and relevant criteria in accordance with the Water Management Plan:

- ANZECC 2000 FW 95%

The results of the Tier 1 qualitative data review are presented following. Data summary tables showing highlighted exceedances of established screening criteria are presented in Attachment 4.

- Concentrations of copper exceeded the ANZECC 2000 FW 95% criteria for SW01, DUP2A and DUP2B.
- Concentrations of nickel exceeded the ANZECC 2000 FW 95% criteria for SW01 and DUP2A.
- Concentrations of zinc exceeded the ANZECC 2000 FW 95% criteria for DUP2A.

Leachate Results

The leachate pond and sump were both dry, so no leachate sampling could be undertaken.



Landfill Gas Results

A landfill gas emissions screening was undertaken with a GA5000 and Huberg Laser One to target the existing listed enclosed structures and LFG monitoring locations including interior and exterior of onsite buildings. Note, there were some locations which were not yet installed and one location that was inaccessible as it was still under construction. A landfill gas emissions survey was also undertaken for the landfill cap excluding new and existing areas of active construction and dumping areas. Refer to Attachment 4 for field notes including a plan of the landfill cap survey and LFG monitoring measurements. All methane measurements for the emissions screening and the landfill cap emissions survey were below the acceptance criteria outlined within Table 2-1 within the Landfill Gas Monitoring Plan. Based on this environmental monitoring round, LFG appears to have a low risk to human health on-site. Due to the Buronga Landfill being an active site, these conditions can change dynamically and as such, ongoing monitoring is considered prudent to ensure the risk to human health continues to remain low.

Closure

It is understood that Council has the requirement to undertake ongoing monitoring at the Buronga Landfill site in the future and that this single environmental monitoring event will provide an understanding of the current status of the site, which will feed into the future monitoring rounds.

Attachments

1. Field Notes
2. Laboratory Certificates
3. Calibration Certificates
4. Analytical Results Tables

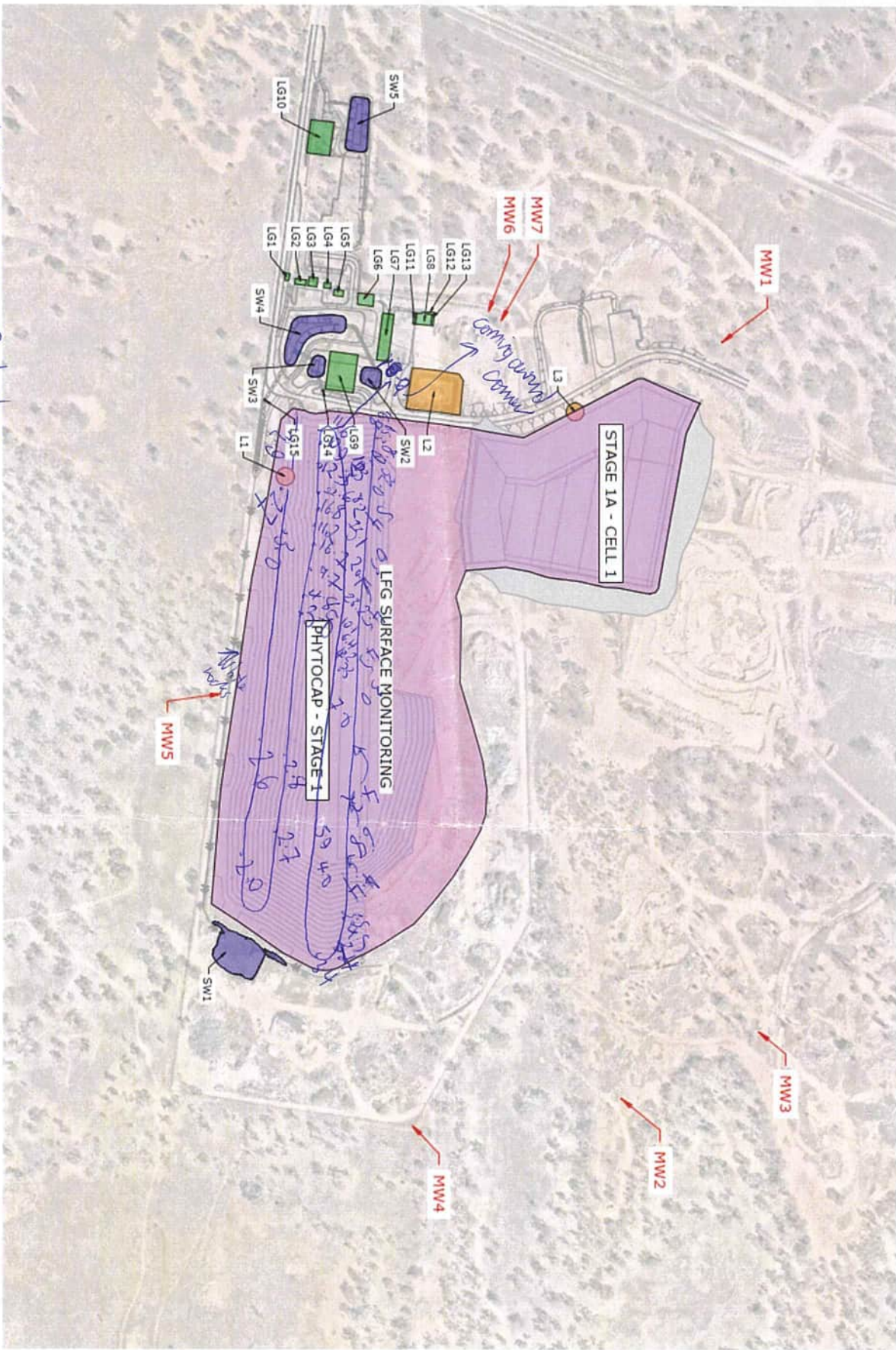
Document Control

Revision	Description	Author	Reviewed	Approved	Date
0	Issued to Client	Loren Cockshell Environmental Scientist	Dean Noske Discipline Principal, Environmental Sciences	Dean Noske Discipline Principal, Environmental Sciences	16/07/2025



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Client:	Northwest Shire		Ambient Temp:	13.0C	Date sampled:	30/5/25	Sampler:	Lowert Lockwell	Equipment:	GA5000 + Huberg Laser	Location:	Burunga Landfill
PM:	ASS		Ambient Air Pressure:	mbar							Job No:	240929
Bore/Well	No	Time	CH ₄ (ppm)	CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Bal (%)	H ₂ S (ppm)	CO (ppm)	Comments		
LG12	max	12.38	2.4	0.2	0.2	18.6	81.0	1	0			
LG13	max	12.40	2.3	0.2	0.2	18.6	81.0	1	0			
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LEGEND

- LEACHATE MONITORING LOCATION
- STORMWATER MONITORING LOCAT
- ENCLOSED STRUCTURE LANDFILL GAS MONITORING LOCATION (BENTONITE AND SERVICES)
- SURFACE EMISSIONS LANDFILL GAS MONITORING LOCATION (CAPPED LANDFILL)
- GROUNDWATER MONITORING LOCATION
- MW1

NOTES:

- SITE MONITORING TO BE UNDERTAKEN IN THE LANDFILL ENVIRONMENTAL MANAGEMENT PLAN.
- LANDFILL GAS SURFACE MONITORING TO BE UNDERTAKEN WHERE 300mm OR GREATER COVER SOIL IS PLACED OVER WASTE.

- L1: CELL 1 LEACHATE SUMP
- L2: LEACHATE POND
- L3: STA CELL 1 LEACHATE SUMP
- LG1: WEIGHBRIDGE
- LG2: OFFICE 1
- LG3: OFFICE 2
- LG4: TOILET
- LG5: FUEL TANK
- LG6: FUEL TANK SHED
- LG7: RESOURCE RECOVERY SHED
- LG8: WORKSHOP
- LG9: RESIDENTIAL SHED
- LG10: RESIDENTIAL SHED
- LG11: SHIPPING CONTAINER SOUTH
- LG12: SHIPPING CONTAINER WEST
- LG13: SHIPPING CONTAINER NORTH
- LG14: DRAINAGE PIT SOUTH

Cap Walkover 30/5/25
 8:50AM - 10:20AM
 CH4 2.6
 CH4% 0.1
 CO2 0.2
 O2 19.3
 CO 0
 H2S 0
 Bal 80.4
 Wind m/s 1.0

(A95)

Job No: 2100929	Location: Buraqa Landfill	Client: Northwater Shire Council	Date: 29/5/25
Water Observations			
Colour: clear	Odour: organic/biotic	Hydrocarbon sheen: nil	
Comments: Surface water pond, rubbish stream, around banks/in pond. Bugs in pond, low water level in pond. Bees & birds around. Weather - nil rain, 13°C, cloud cover ~50%			
Field Measurements			
(when pH readings are within 0.1 units; conductivity, salinity and dissolved oxygen within 10% and temperature within 0.5 °C, the well can be considered to be stable)			
Time	Temp (°C)	Cond (µS/cm)	pH
3:45 PM 15.1	34.30	8.61	30.00
Field Parameters			
Dissolved Oxygen (mg/L)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
-	-	-	-
Comments			
Sampling Information			
Sampling Method: Watera			
Tubing Material: HDPE			
Preservation Details			
Sample No	QA/QC	Time Taken	Analysis
SW01	See COC	See COC	See COC
SW02	See COC	See COC	See COC
SW03	See COC	See COC	See COC
SW04	See COC	See COC	See COC
SW05	See COC	See COC	See COC
SW06	See COC	See COC	See COC
SW07	See COC	See COC	See COC
SW08	See COC	See COC	See COC
SW09	See COC	See COC	See COC
SW10	See COC	See COC	See COC
SW11	See COC	See COC	See COC
SW12	See COC	See COC	See COC
SW13	See COC	See COC	See COC
SW14	See COC	See COC	See COC
SW15	See COC	See COC	See COC
SW16	See COC	See COC	See COC
SW17	See COC	See COC	See COC
SW18	See COC	See COC	See COC
SW19	See COC	See COC	See COC
SW20	See COC	See COC	See COC
SW21	See COC	See COC	See COC
SW22	See COC	See COC	See COC
SW23	See COC	See COC	See COC
SW24	See COC	See COC	See COC
SW25	See COC	See COC	See COC
SW26	See COC	See COC	See COC
SW27	See COC	See COC	See COC
SW28	See COC	See COC	See COC
SW29	See COC	See COC	See COC
SW30	See COC	See COC	See COC
SW31	See COC	See COC	See COC
SW32	See COC	See COC	See COC
SW33	See COC	See COC	See COC
SW34	See COC	See COC	See COC
SW35	See COC	See COC	See COC
SW36	See COC	See COC	See COC
SW37	See COC	See COC	See COC
SW38	See COC	See COC	See COC
SW39	See COC	See COC	See COC
SW40	See COC	See COC	See COC
SW41	See COC	See COC	See COC
SW42	See COC	See COC	See COC
SW43	See COC	See COC	See COC
SW44	See COC	See COC	See COC
SW45	See COC	See COC	See COC
SW46	See COC	See COC	See COC
SW47	See COC	See COC	See COC
SW48	See COC	See COC	See COC
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SW50	See COC	See COC	See COC
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SW67	See COC	See COC	See COC
SW68	See COC	See COC	See COC
SW69	See COC	See COC	See COC
SW70	See COC	See COC	See COC
SW71	See COC	See COC	See COC
SW72	See COC	See COC	See COC
SW73	See COC	See COC	See COC
SW74	See COC	See COC	See COC
SW75	See COC	See COC	See COC
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SW80	See COC	See COC	See COC
SW81	See COC	See COC	See COC
SW82	See COC	See COC	See COC
SW83	See COC	See COC	See COC
SW84	See COC	See COC	See COC
SW85	See COC	See COC	See COC
SW86	See COC	See COC	See COC
SW87	See COC	See COC	See COC
SW88	See COC	See COC	See COC
SW89	See COC	See COC	See COC
SW90	See COC	See COC	See COC
SW91	See COC	See COC	See COC
SW92	See COC	See COC	See COC
SW93	See COC	See COC	See COC
SW94	See COC	See COC	See COC
SW95	See COC	See COC	See COC
SW96	See COC	See COC	See COC
SW97	See COC	See COC	See COC
SW98	See COC	See COC	See COC
SW99	See COC	See COC	See COC
SW100	See COC	See COC	See COC

[illegible]

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SF15: Groundwater Sampling Log

Job No: 2140929	Location: Blythburgh Landfill	Client: Wentworth Shire Council	Sampling Date: 29/5/25
Well No: MW02	Well Finish: Standpipe	Well Depth (m TOC): 8.054	Screen Interval (m):
Casing Diameter (mm): 50	Well Finish Damaged? N	Depth to Free Product (m TOC):	Product Thickness (mm):
Depth to Groundwater (m TOC): 7.204	Depth to be Purged (m) (Well Depth - Depth to Groundwater): N/A	Purging Information (wells should be purged of four to six well volumes or until field parameters are considered to be stable)	
Casing Volume: $V = \pi r^2 h = 1.96 \times h$ (r = 0.025m) OR 1 purge volume = 2 L/m for 50mm Internal Diameter casing and 8 L/m for 100mm Internal Diameter			
Purging Method: N/A	Start Time: 8:45am	Finish Time: 10:35am	Tubing Material: N/A
Pump Depth (m):	Well purged dry?	Total Volume Purged (L):	Water Quality Meter Calibrated? Y
Groundwater Observations:	Odour: N/A	Hydrocarbon Sheen: N/A	Weather: High
Colour: Pale Brown	Turbidity:	Rain: N/A	Temperature: 13°C
Cloud Cover: 100%	Comments: N/A		
Vegetation on bottom of hydrasteeve & plastic bailer. Attempted hydrasteeve but not applicable due to low volume of groundwater in well.			
Field Measurements: [when at least three parameters differ by the acceptable range (pH readings are within 0.1 units, electrical conductivity within 5% and temperature within 0.2°C, DO 10%, redox +/- 10 mv) for three consecutive readings at each bore volumes on volume-based method (or intervals of 5 minutes or more for low flow micro-purge sampling), the well can be considered to be stable]. Please place the pump within the screen interval for low flow micro-purge sampling. Please measure the SWL to determine drawdown for micro purge/low flow sampling. A maximum drawdown of 10 cm is allowed, and water level should stabilise for micro purge sampling. Please note that stabilisation criteria may be dictated by Auditor for Audited sites. Pump should be placed above the screen if SWL is located above the screen for high flow purging and if SWL is within the screen then pump should be placed at least 1 m above the bottom of the well.			
Time	Temp (°C)	EC (µS/cm) or (ms/cm)	pH
DO (mg/L)	ORP (mv)	SWL (mTOC)	Volume Purged (L)
Purging Notes			
10:35am 17.8 47935 5.90 27.38 52.2 7.204 N/A			
Sampling Information:			
Sampling Method: N/A			
Tubing Material: N/A			
Preservation Details			
Analysis			
Sample No	QA/QC	Time Taken	
MW02	-	10:35am	
Purged by:	Signature:		
Sampled by:	Signature: J. Stokschell		

SF15: Groundwater Sampling Log

Job No:	240029		
Location:	Bungua Landfill		
Client:	Northwest Shire Council		
Sampling Date:	29/5/25		
Well Information:			
Well Finish:	Standpipe	Gatic	Well Finish Damaged?
Well Depth (m TOC):	10.414	Screen Interval (m):	
Depth to Free Product (m TOC):		Product Thickness (mm):	
Depth to Groundwater (m TOC):	8.946	Depth to be Purged (m) (Well Depth - Depth to Groundwater):	N/A
Purging Information (wells should be purged of four to six well volumes or until field parameters are considered to be stable)			
Casing Volume:	$V = \pi r^2 h = 1.96 \times h$ (r = 0.025m) OR 1 purge volume = 2 L/m for 50mm Internal Diameter casing and 8 L/m for 100mm Internal Diameter		
Purging Method:	N/A	Finish Time:	11:30AM
Pump Depth (m):		Well purged dry?	
Groundwater Observations			
Colour:	8 Pale brown		
Turbidity:	moderate		
Weather			
Rain:	N/A		
Comments:	Temperature: 13°C Cloud Cover: 100%		
Field Measurements: [when at least three parameters differ by the acceptable range (pH readings are within 0.1 units, electrical conductivity within 5% and temperature within 0.2°C, DO 10%, redox +/- 10 mV) for three consecutive readings at each bore volumes on volume-based method (or intervals of 5 minutes or more for low flow micro-purge sampling), the well can be considered to be stable]. Please place the pump within the screen interval for low flow micro-purge sampling. Please measure the SWL to determine drawdown for micro purge/low flow sampling. A maximum drawdown of 10 cm is allowed, and water level should stabilise for micro purge sampling. Please note that stabilisation criteria may be dictated by Auditor for Audited sites. Pump should be placed above the screen if SWL is located above the screen for high flow purging and if SWL is within the screen then pump should be placed at least 1 m above the bottom of the well.			
Time	Temp (°C)	EC (µS/cm) or (ms/cm)	pH
DO (mg/L)	ORP (mV)	SWL (mTOC)	Volume Purged (L)
Purging Notes			
11:30AM	18.1	47964	5.38
			9.95
			169.2
			8.950
			N/A
Sampling Information:			
Sampling Method:	Hydrastave (volatiles & semi-volatiles) and plastic bailer (remainder)		
Tubing Material:	N/A		
Sample No	QA/QC	Time Taken	
MW03		11:30AM	
Purged by:			
Signature:			
Sampled by:	Loren Godshell		
Signature:			
Analysis	Preservation Details		

SF15: Groundwater Sampling Log

Job No: 240929	Location: Bungia Landfill	Client: Westworth Shire Council	Sampling Date: 29/5/25
Well No: MW05			
Well Information:			
Well Finish: Standpipe	Well Finish Damaged? N	Casing Diameter (mm): 50	Screen Interval (m):
Well Depth (m TOC): 8.270	Product Thickness (mm):	Depth to Free Product (m TOC):	Depth to Groundwater (m TOC): 7.070
Purging Information (wells should be purged of four to six well volumes or until field parameters are considered to be stable)			
Casing Volume: $V = \pi r^2 h = 1.96 \times h$ (r = 0.025m) OR 1 purge volume = 2 L/m for 50mm Internal Diameter casing and 8 L/m for 100mm Internal Diameter			
Purging Method: N/A			
Start Time: 12:30pm	Finish Time: 12:50pm	Total Volume Purged (L):	Water Quality Meter Calibrated? Y
Pump Depth (m): N/A	Well purged dry? —	Odour: N/A	Hydrocarbon Sheen: N/A
Colour: Pale brown	Turbidity: Moderate	Weather: Rain: N/A	Comments: 100% Cloud Cover: 100%
Vegetation			
Field Measurements: [When at least three parameters differ by the acceptable range (pH readings are within 0.1 units, electrical conductivity within 5% and temperature within 0.2°C, DO 10%, redox +/- 10 mv) for three consecutive readings at each bore volumes on volume-based method (or intervals of 5 minutes or more for low flow micro-purge sampling), the well can be considered to be stable]. Please place the pump within the screen interval for low flow micro-purge sampling. Please measure the SWL to determine drawdown for micro purge/low flow sampling. A maximum drawdown of 10 cm is allowed, and water level should stabilise for micro purge sampling. Please note that stabilisation criteria may be dictated by Auditor for Audited sites. Pump should be placed above the screen if SWL is located above the screen for high flow purging and if SWL is within the screen then pump should be placed at least 1 m above the bottom of the well.			
Time	Temp (°C)	EC (µS/cm) or (mS/cm)	pH
DO (mg/L)	ORP (mV)	SWL (mTOC)	Volume Purged (L)
Purging Notes			
Time	Temp (°C)	EC (µS/cm) or (mS/cm)	pH
DO (mg/L)	ORP (mV)	SWL (mTOC)	Volume Purged (L)
Purging Notes			
Sampling Information:			
Sampling Method: N/A			
Tubing Material: N/A			
Sample No	QA/QC	Time Taken	
MW05	—	12:50pm	1:30pm
Purged by:			
Sampled by: Karen Cockshell			
Signature:			
Signature:			

SF15: Groundwater Sampling Log

Job No: 2140929	Location: Buronga Landfill	Client: Wentworth Shire Council	Sampling Date: 20/5/25
Well Information:			
Well Finish: Standpipe	Well Finish Damaged? N	Casing Diameter (mm): 50	Screen Interval (m):
Well Depth (m TOC): 11.126	Screen Interval (m):	Case Interval (m):	
Depth to Free Product (m TOC):	Product Thickness (mm):		
Depth to Groundwater (m TOC): 8.984	Depth to be Purged (m) (Well Depth - Depth to Groundwater): N/A		
Purging Information (wells should be purged of four to six well volumes or until field parameters are considered to be stable)			
Casing Volume: $V = \pi r^2 h$ (r = 1.96 x h (r = 0.025m) OR 1 purge volume = 2 L/m for 50mm Internal Diameter casing and 8 L/m for 100mm Internal Diameter			
Purging Method: N/A			
Start Time: 2 PM	Finish Time: 4.30 PM	Water Quality Meter Calibrated? y	
Pump Depth (m):	Well purged dry?	Total Volume Purged (L):	Water Quality Meter Calibrated? y
Groundwater Observations			
Colour: Pale brown	Odour: N/A	Hydrocarbon Sheen: N/A	
Turbidity: low-moderate			
Weather: N/A	Temperature: 13°C	Cloud Cover: 100%	
Comments:			
Field Measurements: [when at least three parameters differ by the acceptable range (pH readings are within 0.1 units, electrical conductivity within 5% and temperature within 0.2°C, DO 10%, redox +/- 10 mV) for three consecutive readings at each bore volumes on volume-based method (or intervals of 5 minutes or more for low flow micro-purge sampling), the well can be considered to be stable]. Please place the pump within the screen interval for low flow micro-purge sampling. Please measure the SWL to determine drawdown for micro purge/low flow sampling. A maximum drawdown of 10 cm is allowed, and water level should stabilise for micro purge sampling. Please note that stabilisation criteria may be dictated by Auditor for Audited sites. Pump should be placed above the screen if SWL is located above the screen for high flow purging and if SWL is within the screen then pump should be placed at least 1 m above the bottom of the well.			
Time	Temp (°C)	EC (µS/cm) or (mS/cm)	pH
		DO (mg/L)	ORP (mV)
		SWL (mTOC)	Volume Purged (L)
			Purging Notes
4.30 PM	17.6	456	8.98
5.35 PM	19.18	211.3	N/A
Sampling Information:			
Sampling Method: Hydrazine for all analytes			
Tubing Material: N/A			
Sample No	QA/QC	Time Taken	
MW04	DUP1	4.30 PM	
	DUP2		
Preservation Details			
Analysis			
Signature: —	Signature: Loren Cockshell		
Purged by:	Sampled by:		

SF15: Groundwater Sampling Log

Job No:	240928
Location:	Burunga Landfill Wentworth Shire Council
Client:	Wentworth Shire Council
Sampling Date:	30/5/25
Well Information:	
Well Finish:	Standpipe
Gatic	
Well Finish Damaged?	N
Casing Diameter (mm):	
Screen Interval (m):	
Case Interval (mm):	
Purging Information (wells should be purged of four to six well volumes or until field parameters are considered to be stable)	
Casing Volume:	$V = \pi r^2 h = 1.96 \times h$ ($r = 0.025\text{m}$) OR 1 purge volume = 2 L/m for 50mm Internal Diameter casing and 8 L/m for 100mm Internal Diameter
Purging Method:	N/A
Start Time:	7:30am
Pump Depth (m):	
Groundwater Observations	
Colour:	pale brown
Turbidity:	Moderate
Weather	
Rain:	N/A
Comments:	
Field Measurements: [when at least three parameters differ by the acceptable range (pH readings are within 0.1 units, electrical conductivity within 5% and temperature within 0.2°C, DO 10%, redox +/- 10 mV) for three consecutive readings at each bore volumes on volume-based method (or intervals of 5 minutes or more for low flow micro-purge sampling), the well can be considered to be stable]. Please place the pump within the screen interval for low flow micro-purge sampling. Please measure the SWL to determine drawdown for micro purge/low flow sampling. A maximum drawdown of 10 cm is allowed, and water level should stabilise for micro purge sampling. Please note that stabilisation criteria may be dictated by Auditor for Audited sites. Pump should be placed above the screen if SWL is located above the screen for high flow purging and if SWL is within the screen then pump should be placed at least 1 m above the bottom of the well.	
Time	8am 10:08
Temp (°C)	13.600
EC (µS/cm) or (ms/cm)	N/A
pH	3.470
DO (mg/L)	5.3405
ORP (mV)	
SWL (mTOC)	
Volume Purged (L)	N/A
Purging Notes	
Sampling Information:	
Sampling Method: Hydro sleeve bar metals & inorganics (plastic bailer)	
Tubing Material: N/A	
Sample No	
QA/QC	
Time Taken	
Preservation Details	
Analysis	
Signature:	
Signature:	Loren Cockshell
Purged by:	
Sampled by:	

Job No: 240929	Location: Buxton Landfill	Client: North Shore Council	Sampling Date: 24/09/24
Well Information:			
Well Finish: Standpipe	Gatic	Well Finish Damaged? 5 - PVC pipe monkey	Casing Diameter (mm): 50
Well Depth (m TOC): 17.814	Screen Interval (m):	Case Interval (m):	
Depth to Free Product (m TOC):	Product Thickness (mm):	Depth to be Purged (m) (Well Depth - Depth to Groundwater): N/A	
Purging Information (wells should be purged of four to six well volumes or until field parameters are considered to be stable)			
Casing Volume: $V = \pi r^2 h = 1.96 \times h$ (r = 0.025m) OR 1 purge volume = 2 L/m for 50mm Internal Diameter casing and 8 L/m for 100mm Internal Diameter			
Purging Method: N/A	Tubing Material: N/A	Finish Time: 10:40 AM	Pump Depth (m):
Start Time: 10:40 AM	Well purged dry? —	Total Volume Purged (L):	Water Quality Meter Calibrated? 4
Colour:	Odour:	Hydrocarbon Sheen:	Weather:
Turbidity:			Rain: NIL
Comments:	Temperature: 13.8°C	Cloud Cover: 0%	
Field Measurements: [when at least three parameters differ by the acceptable range (pH readings are within 0.1 units, electrical conductivity within 5% and temperature within 0.2°C, DO 10%, redox +/- 10 mv) for three consecutive readings at each bore volumes on volume-based method (or intervals of 5 minutes or more for low flow micro-purge sampling), the well can be considered to be stable]. Please place the pump within the screen interval for low flow micro-purge sampling. Please measure the SWL to determine drawdown for micro purge/low flow sampling. A maximum drawdown of 10 cm is allowed, and water level should stabilise for micro purge sampling. Please note that stabilisation criteria may be dictated by Auditor for Audited sites. Pump should be placed above the screen if SWL is located above the screen for high flow purging and if SWL is within the screen then pump should be placed at least 1 m above the bottom of the well.			
Time	Temp (°C)	EC (µS/cm) or (mS/cm)	pH
			DO (mg/L)
			ORP (mV)
			SWL (mTOC)
			Volume Purged (L)
			Purging Notes
Sampling Information:			
Sampling Method:	N/A Hydrostatic (insufficient water for hydrazine), plastic bailer unable to deploy down PVC pipe - apparent bend/monkey		
Tubing Material:	N/A		
Sample No	QA/QC	Time Taken	
N/A			
Purged by:			
Sampled by:			
Signature: <i>Karen Cockshell</i>		Signature: <i>Karen Cockshell</i>	

SF15: Groundwater Sampling Log

Job No:	240929
Location:	Buena Vista Landfill
Client:	Northwest Shire Council
Sampling Date:	N/A - Dry
Well Information:	
Well Finish:	Standpipe
Well Depth (m TOC):	9.560
Screen Interval (m):	Y
Casing Diameter (mm):	
Purging Method:	
Start Time:	
Pump Depth (m):	
Well purged dry?	
Total Volume Purged (L):	
Water Quality Meter Calibrated?	
Groundwater Observations	
Colour:	
Turbidity:	
Weather	
Rain:	
Comments:	
Field Measurements:	
Time	
Temp (°C)	
EC (µS/cm) or	
pH	
DO (mg/L)	
ORP (mV)	
SWL (mTOC)	
Volume Purged (L)	
Purging Notes	
Sampling Information:	
Sampling Method:	
Tubing Material:	
Sample No	
QA/QC	
Time Taken	
Preservation Details	
Analysis	
Purged by:	
Signature:	
Sampled by:	
Signature:	

SF11: CHAIN OF CUSTODY

REF: 240929

Page 1 of 1



Job No: 240929.0000											Laboratory Name: Eurofins					
Details: Buronga Landfill											Laboratory Address: 6 Monterey Road, Dandenong South VIC 3175					
Date Sampled: 29/05/2025											Laboratory Contact: Karl Bulow phone: (03) 8564 5000					
Consultant: Tonkin											Quotation No: Pricebook 2023 email: karl.bulow@eurofinsanz.com					
Contact: Loren Cockshell											Delivery by:					
Email: Loren.Cockshell@tonkin.com.au											Consignment Note:					
Email: Dean.Noske@tonkin.com.au											Email: environmental@tonkin.com.au					

Lab Sample Identification	Sample Identification	Matrix Container / Preservation	Total dissolved solids	B11C Cations (Na, K, Ca, Mg)	B11F Anions (Cl, SO4(as SO4), Alkalinity), F	Metals (Al, As, Ba, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, Zn)	Ammonia (NH3)	Oxidised Nitrogen (NOX)(as N)	Total organic carbon	B14 (OCP, OPP)	B4A (TRH, BTEXN, PAH, Phenols)	Total suspended solids	BTEX					Notes / Deviations from Standard Protocols
	MW01	Water	1	1	1	1	1	1	1	1	1							Please email results to our LabSync Email at ESdat_AU+TonkinConsulting@ESdatLabSync.net
	MW02	Water	1	1	1	1	1	1	1	1	1							
	MW03	Water	1	1	1	1	1	1	1	1	1							
	MW04	Water	1	1	1	1	1	1	1	1	1							
	MW05	Water	1	1	1	1	1	1	1	1	1							
	SW01	Water		1	1	1	1	1	1	1	1	1						
	DUP1A	Water																
	DUP2A	Water	1	1	1	1	1	1	1	1	1							
	RINS1	Water				1												
	RINS2	Water				1												
	RINS3	Water				1												
	RINS4	Water				1												
	TB01	Water											1					
	TB02	Water											1					
Number of Samples:																		

Relinquished by: Loren Cockshell			Relinquished by:			Relinquished by:		
Date and time:			Date and time:			Date and time:		
Company: Tonkin			Company:			Company:		
Signature			Signature			Signature		
Received in good condition by: Michaela Young			Received in good condition by:			Received in good condition by:		
Date and Time: 2/6/25 3PM			Date and Time:			Date and Time:		
Company: Eurofins			Company:			Company:		
Signature			Signature			Signature		

Sample Preservation:

Samples must be transported and stored in a chilled or cold condition at all times

COC must remain with samples

ANALYSING LABORATORY:

Please email sample receipt to the environmental@tonkin.com.au email IMMEDIATELY on receipt of samples and return original COC with final results

#1227787
3/6/25

En IB
13.7
0.0
13.78

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise Mount Wellington Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road Gate Pa Tauranga 3112 +64 9 525 0568 IANZ# 1402

Sample Receipt Advice

Company name: Tonkin Consulting
Contact name: Loren Cockshell
Project name: Buronga Landfill
Project ID: 240929.0000
Turnaround time: 5 Day
Date/Time received: Jun 2, 2025 3:00 PM
Eurofins reference: 1227787

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

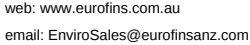
Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Karl Bulow on phone : +61 3 8564 5000 or by email: Karl.Bulow@eurofinsanz.com

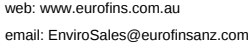
Results will be delivered electronically via email to Loren Cockshell - loren.cockshell@tonkin.com.au.

Note: A copy of these results will also be delivered to the general Tonkin Consulting email address.



Company Name: Tonkin Consulting Address: Level 2, 170 Frome Street Adelaide SA 5000	Order No.: Report #: 1227787 Phone: Fax:	Received: Jun 2, 2025 3:00 PM Due: Jun 10, 2025 Priority: 5 Day Contact Name: Loren Cockshell
Project Name: Buronga Landfill Project ID: 240929.0000	Eurofins Analytical Services Manager : Karl Bulow	

[illegible]



ABN: 50 005 085 521

ABN: 91 05 0159 898

NZBN: 9429046024954

Received: Jun 2, 2025 3:00 PM
Due: Jun 10, 2025
Priority: 5 Day
Contact Name: Loren Cockshell

Sample Detail	Total Dissolved Solids Dried at 180 °C ± 2 °C	X	6
	Eurofins Suite B11C: Na/K/Ca/Mg	X	7
	Eurofins Suite B11F: Cl/SO4/Alkalinity/Total	X	7
	Eurofins Suite B4A	X	7
	Suite B14: OCP/OPP	X	7
	BTEX	X	2
	Zinc (filtered)	X	7
	Zinc	X	4
	Total Suspended Solids Dried at 103°C to	X	1
	Total Organic Carbon	X	7
	Nitrate & Nitrite (as N)	X	7
	Nickel (filtered)	X	7
	Nickel	X	4
	Mercury (filtered)	X	7
	Mercury	X	4
	Manganese (filtered)	X	7
	Manganese	X	4
	Lead (filtered)	X	7
	Lead	X	4
	HOLD*	X	1
Copper (filtered)	X	7	
Copper	X	4	
Cobalt (filtered)	X	7	
Cobalt	X	4	
Chromium (filtered)	X	7	
Chromium	X	4	
Cadmium (filtered)	X	7	
Cadmium	X	4	
Barium (filtered)	X	7	
Barium	X	4	
Arsenic (filtered)	X	7	
Arsenic	X	4	
Ammonia (as N)	X	7	
Aluminium (filtered)	X	7	
Aluminium	X	4	
Melbourne Laboratory - NATA # 1261 Site # 1254			
Test Counts			

Tonkin Consulting
Level 2, 170 Frome Street
Adelaide
SA 5000



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Loren Cockshell**

Report **1227787-W**
Project name **Buronga Landfill**
Project ID **240929.0000**
Received Date **Jun 02, 2025**

Client Sample ID			MW01	MW02	MW03	MW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25- Jn0006842	M25- Jn0006843	M25- Jn0006844	M25- Jn0006845
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 29, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.10
TRH C15-C28	0.1	mg/L	0.1	< 0.1	0.5	< 0.1
TRH C29-C36	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	0.3	< 0.1	0.5	0.1
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	0.42	0.06
TRH >C10-C16 less Naphthalene (F2) ^{*N01}	0.05	mg/L	< 0.05	< 0.05	0.42	0.06
TRH >C16-C34	0.1	mg/L	0.2	< 0.1	0.1	< 0.1
TRH >C34-C40	0.1	mg/L	0.3	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	0.5	< 0.1	0.52	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	133	130	128	123
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	MW01 Water M25- Jn0006842 May 29, 2025	MW02 Water M25- Jn0006843 May 29, 2025	MW03 Water M25- Jn0006844 May 29, 2025	MW04 Water M25- Jn0006845 May 29, 2025
Polycyclic Aromatic Hydrocarbons						
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	103	103	103	103
p-Terphenyl-d14 (surr.)	1	%	107	107	107	107
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
4,4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
4,4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
α-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
β-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
δ-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
γ-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dibutylchlorendate (surr.)	1	%	107	107	110	110
Tetrachloro-m-xylene (surr.)	1	%	103	103	107	107
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002

Client Sample ID			MW01	MW02	MW03	MW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25- Jn0006842	M25- Jn0006843	M25- Jn0006844	M25- Jn0006845
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 29, 2025
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	107	107	110	107
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2,4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2,4,5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2,4,6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2,6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
2-Methyl-4,6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2,4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	107	107	103	100
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	MW01 Water M25- Jn0006842 May 29, 2025	MW02 Water M25- Jn0006843 May 29, 2025	MW03 Water M25- Jn0006844 May 29, 2025	MW04 Water M25- Jn0006845 May 29, 2025
Ammonia (as N)	0.01	mg/L	0.80	0.22	0.12	0.29
Chloride	1	mg/L	18000	20000	21000	24000
Fluoride	0.5	mg/L	G01< 5	G01< 5	G01< 5	< 0.5
Nitrate & Nitrite (as N)	0.05	mg/L	< 0.05	< 0.05	< 0.05	0.11
Sulphate (as SO4)	5	mg/L	3700	3500	3200	3800
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	53000	52000	52000	72000
Total Organic Carbon	5	mg/L	7.5	G01< 125	< 5	< 5
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	94	44	42	53
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10	< 10
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	< 20	< 20	< 20
Total Alkalinity (as CaCO3)	20	mg/L	94	44	42	53
Heavy Metals						
Aluminium (filtered)	0.05	mg/L	88	< 0.05	< 0.05	< 0.05
Arsenic (filtered)	0.001	mg/L	0.002	0.004	< 0.001	0.001
Barium (filtered)	0.02	mg/L	0.03	0.07	0.04	0.04
Cadmium (filtered)	0.0002	mg/L	< 0.0002	0.0004	0.0006	< 0.0002
Chromium (filtered)	0.001	mg/L	0.024	< 0.001	< 0.001	0.004
Cobalt (filtered)	0.001	mg/L	0.041	0.028	0.010	0.002
Copper (filtered)	0.001	mg/L	0.011	0.002	0.003	0.003
Lead (filtered)	0.001	mg/L	0.018	0.003	0.003	0.005
Manganese (filtered)	0.005	mg/L	1.2	3.5	0.46	0.49
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.056	0.029	0.033	0.018
Zinc (filtered)	0.005	mg/L	0.074	0.037	0.028	0.058
Alkali Metals						
Calcium	0.5	mg/L	200	350	260	350
Magnesium	0.5	mg/L	1400	1600	1400	1700
Potassium	0.5	mg/L	140	170	180	170
Sodium	0.5	mg/L	11000	11000	11000	12000

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	MW05 Water M25- Jn0006846 May 29, 2025	SW01 Water M25- Jn0006847 May 29, 2025	DUP2A Water M25- Jn0006848 May 29, 2025	RINS1 Water M25- Jn0006849 May 29, 2025
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2) ^{*N01}	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-

Client Sample ID			MW05	SW01	DUP2A	RINS1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25- Jn0006846	M25- Jn0006847	M25- Jn0006848	M25- Jn0006849
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 29, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	128	132	122	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
2-Fluorobiphenyl (surr.)	1	%	101	101	103	-
p-Terphenyl-d14 (surr.)	1	%	106	102	114	-
Organochlorine Pesticides						
Chlordanes - Total	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
4,4'-DDD	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
4,4'-DDE	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
4,4'-DDT	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
a-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Aldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
b-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
d-HCH	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Dieldrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Endosulfan I	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Endosulfan II	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Endosulfan sulphate	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Endrin	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Endrin aldehyde	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Endrin ketone	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-

Client Sample ID			MW05	SW01	DUP2A	RINS1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25- Jn0006846	M25- Jn0006847	M25- Jn0006848	M25- Jn0006849
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 29, 2025
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Heptachlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Heptachlor epoxide	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Hexachlorobenzene	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Methoxychlor	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Toxaphene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Aldrin and Dieldrin (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
DDT + DDE + DDD (Total)*	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Dibutylchlorendate (surr.)	1	%	108	102	110	-
Tetrachloro-m-xylene (surr.)	1	%	105	102	110	-
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Chlorfenvinphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
Chlorpyrifos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
Demeton-S	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Omethoate	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
Triphenylphosphate (surr.)	1	%	107	103	114	-

Client Sample ID			MW05	SW01	DUP2A	RINS1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			M25- Jn0006846	M25- Jn0006847	M25- Jn0006848	M25- Jn0006849
Date Sampled			May 29, 2025	May 29, 2025	May 29, 2025	May 29, 2025
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2,4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2,4,5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2,4,6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2,6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Tetrachlorophenols - Total	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Total Halogenated Phenol*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
2-Methyl-4,6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2,4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2,4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	-
Total cresols*	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
Dinoseb	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
Phenol-d6 (surr.)	1	%	104	102	103	-
Total Non-Halogenated Phenol*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Ammonia (as N)	0.01	mg/L	0.52	0.05	0.39	-
Chloride	1	mg/L	20000	460	24000	-
Fluoride	0.5	mg/L	< 0.5	2.3	< 0.5	-
Nitrate & Nitrite (as N)	0.05	mg/L	< 0.05	< 0.05	0.10	-
Sulphate (as SO4)	5	mg/L	3200	360	3800	-
Total Dissolved Solids Dried at 180 °C ± 2 °C	10	mg/L	50000	-	60000	-
Total Organic Carbon	5	mg/L	< 5	32	< 5	-
Total Suspended Solids Dried at 103°C to 105°C	5	mg/L	-	26	-	-
Alkalinity (speciated)						
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	45	< 20	51	-
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	150	< 10	-
Hydroxide Alkalinity (as CaCO3)	20	mg/L	< 20	500	< 20	-
Total Alkalinity (as CaCO3)	20	mg/L	45	650	51	-
Heavy Metals						
Aluminium	0.05	mg/L	-	-	-	< 0.05
Aluminium (filtered)	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Arsenic	0.001	mg/L	-	-	-	< 0.001
Arsenic (filtered)	0.001	mg/L	0.006	0.008	< 0.001	-
Barium	0.02	mg/L	-	-	-	< 0.02
Barium (filtered)	0.02	mg/L	0.04	0.06	0.04	-
Cadmium	0.0002	mg/L	-	-	-	< 0.0002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Chromium	0.001	mg/L	-	-	-	< 0.001
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	0.004	-

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	MW05 Water M25- Jn0006846 May 29, 2025	SW01 Water M25- Jn0006847 May 29, 2025	DUP2A Water M25- Jn0006848 May 29, 2025	RINS1 Water M25- Jn0006849 May 29, 2025
Heavy Metals						
Cobalt	0.001	mg/L	-	-	-	< 0.001
Cobalt (filtered)	0.001	mg/L	0.020	0.002	0.002	-
Copper	0.001	mg/L	-	-	-	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	0.012	0.003	-
Lead	0.001	mg/L	-	-	-	< 0.001
Lead (filtered)	0.001	mg/L	0.002	< 0.001	0.002	-
Manganese	0.005	mg/L	-	-	-	< 0.005
Manganese (filtered)	0.005	mg/L	3.0	< 0.005	0.48	-
Mercury	0.0001	mg/L	-	-	-	< 0.0001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	-
Nickel	0.001	mg/L	-	-	-	< 0.001
Nickel (filtered)	0.001	mg/L	0.012	0.012	0.018	-
Zinc	0.005	mg/L	-	-	-	< 0.005
Zinc (filtered)	0.005	mg/L	0.042	< 0.005	0.058	-
Alkali Metals						
Calcium	0.5	mg/L	350	25	370	-
Magnesium	0.5	mg/L	1400	32	1700	-
Potassium	0.5	mg/L	140	17	180	-
Sodium	0.5	mg/L	11000	680	13000	-

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	RINS2 Water M25- Jn0006850 May 29, 2025	RINS3 Water M25- Jn0006851 May 29, 2025	RINS4 Water M25- Jn0006852 May 29, 2025	TB01 Water M25- Jn0006853 May 29, 2025
BTEX						
Benzene	0.001	mg/L	-	-	-	< 0.001
Toluene	0.001	mg/L	-	-	-	< 0.001
Ethylbenzene	0.001	mg/L	-	-	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	-	-	< 0.002
o-Xylene	0.001	mg/L	-	-	-	< 0.001
Xylenes - Total*	0.003	mg/L	-	-	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	-	-	128
Heavy Metals						
Aluminium	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Arsenic	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Barium	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
Cadmium	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	-
Chromium	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Cobalt	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Copper	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Lead	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Manganese	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Mercury	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	-
Nickel	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Zinc	0.005	mg/L	< 0.005	< 0.005	< 0.005	-

Client Sample ID			TB02
Sample Matrix			Water
Eurofins Sample No.			M25-Jn0006854
Date Sampled			May 29, 2025
Test/Reference	LOR	Unit	
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	136

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Eurofins Suite B4A			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Polycyclic Aromatic Hydrocarbons	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (Halogenated)	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Suite B14: OCP/OPP			
Organochlorine Pesticides	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8270)			
Ammonia (as N)	Melbourne	Jun 04, 2025	28 Days
- Method: APHA 4500-NH3 Ammonia Nitrogen by FIA			
Nitrate & Nitrite (as N)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-INO-4450 Nitrogens by Discrete Analyser			
Total Organic Carbon	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			
Total Suspended Solids Dried at 103°C to 105°C	Melbourne	Jun 04, 2025	7 Days
- Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry			
Heavy Metals	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Melbourne	Jun 04, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Mobil Metals : Metals M15	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11C: Na/K/Ca/Mg	Melbourne	Jun 04, 2025	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B11F: Cl/SO4/Alkalinity/Total F			
Chloride	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-INO-4090 Chloride by Discrete Analyser			
Fluoride	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-INO-4270 Anions by Ion Chromatography			
Sulphate (as SO4)	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-INO-4110 Sulfate by Discrete Analyser			
Alkalinity (speciated)	Melbourne	Jun 04, 2025	14 Days
- Method: LTM-INO-4250 Alkalinity by Electrometric Titration			
Total Dissolved Solids Dried at 180 °C ± 2 °C	Melbourne	Jun 04, 2025	28 Days
- Method: LTM-INO-4170 Total Dissolved Solids in Water			



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SA 5000

Project Name: Buronga Landfill
Project ID: 240929.0000

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Report #: 1227787
Phone:
Fax:

Received: Jun 2, 2025 3:00 PM
Due: Jun 10, 2025
Priority: 5 Day
Contact Name: Loren Cockshell

Eurofins Analytical Services Manager : Karl Bulow

Sample Detail						Total Dissolved Solids Dried at 180 °C ± 2 °C																															
						Eurofins Suite B11C: Na/K/Ca/Mg	Eurofins Suite B11F: Cl/SO4/Alkalinity/Total	Eurofins Suite B4A	Suite B14: OCP/OPP	BTEX	Zinc (filtered)	Zinc	Total Suspended Solids Dried at 103°C to	Total Organic Carbon	Nitrate & Nitrite (as N)	Nickel (filtered)	Nickel	Mercury (filtered)	Mercury	Manganese (filtered)	Manganese	Lead (filtered)	Lead	HOLD*	Copper (filtered)	Copper	Cobalt (filtered)	Cobalt	Chromium (filtered)	Chromium	Cadmium (filtered)	Cadmium	Barium (filtered)	Barium	Arsenic (filtered)	Arsenic	Ammonia (as N)
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
External Laboratory																																					
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																																
1	MW01	May 29, 2025		Water	M25-Jn0006842		X	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
2	MW02	May 29, 2025		Water	M25-Jn0006843		X	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
3	MW03	May 29, 2025		Water	M25-Jn0006844		X	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
4	MW04	May 29, 2025		Water	M25-Jn0006845		X	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
5	MW05	May 29, 2025		Water	M25-Jn0006846		X	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
6	SW01	May 29, 2025		Water	M25-Jn0006847		X	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
7	DUP2A	May 29, 2025		Water	M25-Jn0006848		X	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
8	RINS1	May 29, 2025		Water	M25-Jn0006849	X			X		X		X		X		X		X				X		X		X										
9	RINS2	May 29, 2025		Water	M25-Jn0006850	X			X		X		X		X		X		X				X		X		X										
10	RINS3	May 29, 2025		Water	M25-Jn0006851	X			X		X		X		X		X		X				X		X		X										
11	RINS4	May 29, 2025		Water	M25-Jn0006852	X			X		X		X		X		X		X				X		X		X										
12	TB01	May 29, 2025		Water	M25-Jn0006853																																
13	TB02	May 29, 2025		Water	M25-Jn0006854																																
14	DUP1A	May 29, 2025		Water	M25-Jn0006855															X																	



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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Company Name:

Address:

Project Name:

Project ID:

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Buronga Landfill

240929.0000

Order No.:

Report #:

Phone:

Fax:

1227787

Received:

Due:

Priority:

Contact Name:

Jun 2, 2025 3:00 PM

Jun 10, 2025

5 Day

Loren Cockshell

Eurofins Analytical Services Manager : Karl Bulow

Sample Detail	Aluminium	Aluminium (filtered)	Ammonia (as N)	Arsenic	Arsenic (filtered)	Barium	Barium (filtered)	Cadmium	Cadmium (filtered)	Chromium	Chromium (filtered)	Cobalt	Cobalt (filtered)	Copper	Copper (filtered)	HOLD*	Lead	Lead (filtered)	Manganese	Manganese (filtered)	Mercury	Mercury (filtered)	Nickel	Nickel (filtered)	Nitrate & Nitrite (as N)	Total Organic Carbon	Total Suspended Solids Dried at 103°C to	Zinc	Zinc (filtered)	BTEX	Suite B14: OCP/OPP	Eurofins Suite B4A	Eurofins Suite B11F: Cl/SO4/Alkalinity/Total	Eurofins Suite B11C: Na/K/Ca/Mg	Total Dissolved Solids Dried at 180 °C ± 2 °C
Melbourne Laboratory - NATA # 1261 Site # 1254	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Test Counts	4	7	7	4	7	4	7	4	7	4	7	4	7	4	7	1	4	7	4	7	4	7	4	7	7	7	1	4	7	2	7	7	7	7	6

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
2. Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
3. Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
4. For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
5. Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
6. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
7. SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
8. Samples were analysed on an 'as received' basis.
9. Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
10. This report replaces any interim results previously issued.

Holding Times

Please refer to the 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours before sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and despite any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the sampling date; therefore, compliance with these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether, the holding time is seven days; however, for all other VOCs, such as BTEX or C6-10 TRH, the holding time is 14 days.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples, these are performed on laboratory-certified clean sands and in the case of water samples, these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is ≤30%; however, the following acceptance guidelines are equally applicable:

Results <10 times the LOR:	No Limit
Results between 10-20 times the LOR:	RPD must lie between 0-50%
Results >20 times the LOR:	RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

1. Where a result is reported as less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown are not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data; thus, it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g,h,i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
Dibenz(a,h)anthracene	mg/L	< 0.001			0.001	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
Indeno(1,2,3-cd)pyrene	mg/L	< 0.001			0.001	Pass	
Naphthalene	mg/L	< 0.001			0.001	Pass	
Phenanthrene	mg/L	< 0.001			0.001	Pass	
Pyrene	mg/L	< 0.001			0.001	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4,4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4,4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4,4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	
Demeton-S	mg/L	< 0.002			0.002	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.02			0.02	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2,4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2,4,5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2,4,6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2,6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Tetrachlorophenols - Total	mg/L	< 0.03			0.03	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	mg/L	< 0.1			0.1	Pass	
2-Methyl-4,6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2,4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2,4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
Dinoseb	mg/L	< 0.1			0.1	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenol	mg/L	< 0.003			0.003	Pass	
Method Blank							
Ammonia (as N)	mg/L	< 0.01			0.01	Pass	
Nitrate & Nitrite (as N)	mg/L	< 0.05			0.05	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	mg/L	< 10			10	Pass	
Total Organic Carbon	mg/L	< 5			5	Pass	
Method Blank							
Heavy Metals							
Aluminium (filtered)	mg/L	< 0.05			0.05	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Barium (filtered)	mg/L	< 0.02			0.02	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Cobalt (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/L	< 0.5			0.5	Pass	
Magnesium	mg/L	< 0.5			0.5	Pass	
Potassium	mg/L	< 0.5			0.5	Pass	
Sodium	mg/L	< 0.5			0.5	Pass	
Method Blank							
Sulphate (as SO ₄)	mg/L	< 5			5	Pass	
Method Blank							
Fluoride	mg/L	< 0.5			0.5	Pass	
Method Blank							
Total Suspended Solids Dried at 103°C to 105°C	mg/L	< 5			5	Pass	
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Sulphate (as SO ₄)	mg/L	< 5			5	Pass	
Method Blank							
Heavy Metals							
Aluminium	mg/L	< 0.05			0.05	Pass	
Arsenic	mg/L	< 0.001			0.001	Pass	
Barium	mg/L	< 0.02			0.02	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Cobalt	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Manganese	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	101			70-130	Pass	
TRH C10-C14	%	76			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
TRH >C10-C16	%	76			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	103			70-130	Pass	
Toluene	%	107			70-130	Pass	
Ethylbenzene	%	109			70-130	Pass	
m&p-Xylenes	%	114			70-130	Pass	
Xylenes - Total*	%	115			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	95			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	76			70-130	Pass	
Acenaphthylene	%	80			70-130	Pass	
Anthracene	%	75			70-130	Pass	
Benz(a)anthracene	%	95			70-130	Pass	
Benzo(a)pyrene	%	95			70-130	Pass	
Benzo(b&j)fluoranthene	%	122			70-130	Pass	
Benzo(g,h,i)perylene	%	109			70-130	Pass	
Benzo(k)fluoranthene	%	122			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a,h)anthracene	%	109			70-130	Pass	
Fluoranthene	%	95			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	109			70-130	Pass	
Naphthalene	%	75			70-130	Pass	
Phenanthrene	%	114			70-130	Pass	
Pyrene	%	109			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	95			70-130	Pass	
4,4'-DDD	%	105			70-130	Pass	
4,4'-DDE	%	95			70-130	Pass	
4,4'-DDT	%	76			70-130	Pass	
a-HCH	%	86			70-130	Pass	
Aldrin	%	86			70-130	Pass	
b-HCH	%	114			70-130	Pass	
d-HCH	%	124			70-130	Pass	
Dieldrin	%	86			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	%	105			70-130	Pass	
Endosulfan II	%	105			70-130	Pass	
Endosulfan sulphate	%	86			70-130	Pass	
Endrin	%	95			70-130	Pass	
Endrin aldehyde	%	76			70-130	Pass	
Endrin ketone	%	93			70-130	Pass	
g-HCH (Lindane)	%	95			70-130	Pass	
Heptachlor	%	105			70-130	Pass	
Heptachlor epoxide	%	95			70-130	Pass	
Hexachlorobenzene	%	76			70-130	Pass	
Methoxychlor	%	95			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	122			70-130	Pass	
Dimethoate	%	95			70-130	Pass	
Ethion	%	122			70-130	Pass	
Fenitrothion	%	114			70-130	Pass	
Methyl parathion	%	118			70-130	Pass	
Mevinphos	%	122			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	97			25-140	Pass	
2,4-Dichlorophenol	%	109			25-140	Pass	
2,4,5-Trichlorophenol	%	129			25-140	Pass	
2,4,6-Trichlorophenol	%	122			25-140	Pass	
2,6-Dichlorophenol	%	122			25-140	Pass	
4-Chloro-3-methylphenol	%	129			25-140	Pass	
Pentachlorophenol	%	107			25-140	Pass	
Tetrachlorophenols - Total	%	102			25-140	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4,6-dinitrophenol	%	95			25-140	Pass	
2-Methyl-4,6-dinitrophenol	%	108			25-140	Pass	
2-Nitrophenol	%	105			25-140	Pass	
2,4-Dimethylphenol	%	32			25-140	Pass	
2,4-Dinitrophenol	%	86			25-140	Pass	
2-Methylphenol (o-Cresol)	%	114			25-140	Pass	
3&4-Methylphenol (m&p-Cresol)	%	95			25-140	Pass	
4-Nitrophenol	%	100			25-140	Pass	
Dinoseb	%	121			25-140	Pass	
Phenol	%	109			25-140	Pass	
LCS - % Recovery							
Ammonia (as N)	%	77			70-130	Pass	
Chloride	%	107			70-130	Pass	
Nitrate & Nitrite (as N)	%	108			70-130	Pass	
Total Dissolved Solids Dried at 180 °C ± 2 °C	%	95			70-130	Pass	
Total Organic Carbon	%	110			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Aluminium (filtered)	%	102			80-120	Pass	
Arsenic (filtered)	%	102			80-120	Pass	
Cadmium (filtered)	%	102			80-120	Pass	
Chromium (filtered)	%	101			80-120	Pass	
Cobalt (filtered)	%	102			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Copper (filtered)			%	101			80-120	Pass	
Lead (filtered)			%	99			80-120	Pass	
Manganese (filtered)			%	105			80-120	Pass	
Mercury (filtered)			%	93			80-120	Pass	
Nickel (filtered)			%	101			80-120	Pass	
Zinc (filtered)			%	101			80-120	Pass	
LCS - % Recovery									
Alkali Metals									
Calcium			%	95			80-120	Pass	
Magnesium			%	101			80-120	Pass	
Potassium			%	89			80-120	Pass	
Sodium			%	101			80-120	Pass	
LCS - % Recovery									
Sulphate (as SO4)			%	93			70-130	Pass	
LCS - % Recovery									
Alkalinity (speciated)									
Carbonate Alkalinity (as CaCO3)			%	94			70-130	Pass	
Total Alkalinity (as CaCO3)			%	101			70-130	Pass	
LCS - % Recovery									
Chloride			%	104			70-130	Pass	
Fluoride			%	113			70-130	Pass	
LCS - % Recovery									
Total Suspended Solids Dried at 103°C to 105°C			%	98			70-130	Pass	
LCS - % Recovery									
Chloride			%	104			70-130	Pass	
Sulphate (as SO4)			%	93			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Aluminium			%	114			80-120	Pass	
Arsenic			%	114			80-120	Pass	
Barium			%	114			80-120	Pass	
Cadmium			%	109			80-120	Pass	
Chromium			%	115			80-120	Pass	
Cobalt			%	114			80-120	Pass	
Copper			%	112			80-120	Pass	
Lead			%	118			80-120	Pass	
Manganese			%	115			80-120	Pass	
Mercury			%	116			80-120	Pass	
Nickel			%	112			80-120	Pass	
Zinc			%	111			80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M25-Jn0016245	NCP	%	78			70-130	Pass	
TRH >C10-C16	M25-Jn0016245	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M25-Jn0002945	NCP	%	84			70-130	Pass	
Acenaphthylene	M25-Jn0002945	NCP	%	78			70-130	Pass	
Anthracene	M25-Jn0002945	NCP	%	102			70-130	Pass	
Benz(a)anthracene	M25-Jn0002945	NCP	%	76			70-130	Pass	
Benzo(a)pyrene	M25-Jn0002945	NCP	%	74			70-130	Pass	
Benzo(b&j)fluoranthene	M25-Jn0002945	NCP	%	84			70-130	Pass	
Benzo(g,h,i)perylene	M25-Jn0002945	NCP	%	112			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(k)fluoranthene	M25-Jn0002945	NCP	%	84			70-130	Pass	
Chrysene	M25-Jn0002945	NCP	%	86			70-130	Pass	
Dibenz(a,h)anthracene	M25-Jn0002945	NCP	%	98			70-130	Pass	
Fluoranthene	M25-Jn0002945	NCP	%	92			70-130	Pass	
Fluorene	M25-Jn0002945	NCP	%	78			70-130	Pass	
Indeno(1,2,3-cd)pyrene	M25-Jn0002945	NCP	%	100			70-130	Pass	
Naphthalene	M25-Jn0002945	NCP	%	82			70-130	Pass	
Phenanthrene	M25-Jn0002945	NCP	%	78			70-130	Pass	
Pyrene	M25-Jn0002945	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M25-Jn0002945	NCP	%	92			70-130	Pass	
4,4'-DDD	M25-Jn0002945	NCP	%	112			70-130	Pass	
4,4'-DDE	M25-Jn0002945	NCP	%	96			70-130	Pass	
4,4'-DDT	M25-Jn0002945	NCP	%	97			70-130	Pass	
a-HCH	M25-Jn0002945	NCP	%	74			70-130	Pass	
Aldrin	M25-Jn0002945	NCP	%	88			70-130	Pass	
b-HCH	M25-Jn0002945	NCP	%	92			70-130	Pass	
d-HCH	M25-Jn0002945	NCP	%	98			70-130	Pass	
Dieldrin	M25-Jn0002945	NCP	%	88			70-130	Pass	
Endosulfan I	M25-Jn0002945	NCP	%	72			70-130	Pass	
Endosulfan II	M25-Jn0002945	NCP	%	92			70-130	Pass	
Endosulfan sulphate	M25-Jn0002945	NCP	%	104			70-130	Pass	
Endrin	M25-Jn0002945	NCP	%	113			70-130	Pass	
Endrin aldehyde	M25-Jn0002945	NCP	%	70			70-130	Pass	
Endrin ketone	M25-Jn0002945	NCP	%	80			70-130	Pass	
g-HCH (Lindane)	M25-Jn0002945	NCP	%	80			70-130	Pass	
Heptachlor	M25-Jn0002945	NCP	%	112			70-130	Pass	
Heptachlor epoxide	M25-Jn0002945	NCP	%	92			70-130	Pass	
Hexachlorobenzene	M25-Jn0002945	NCP	%	82			70-130	Pass	
Methoxychlor	M25-Jn0002945	NCP	%	121			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	M25-Jn0002945	NCP	%	90			70-130	Pass	
Dimethoate	M25-Jn0002945	NCP	%	72			70-130	Pass	
Ethion	M25-Jn0002945	NCP	%	86			70-130	Pass	
Fenitrothion	M25-Jn0002945	NCP	%	88			70-130	Pass	
Mevinphos	M25-Jn0002945	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M25-Jn0002945	NCP	%	80			30-130	Pass	
2,4-Dichlorophenol	M25-Jn0002945	NCP	%	76			30-130	Pass	
2,4,5-Trichlorophenol	M25-Jn0002945	NCP	%	65			30-130	Pass	
2,4,6-Trichlorophenol	M25-Jn0002945	NCP	%	48			30-130	Pass	
2,6-Dichlorophenol	M25-Jn0002945	NCP	%	84			30-130	Pass	
4-Chloro-3-methylphenol	M25-Jn0002945	NCP	%	56			30-130	Pass	
Pentachlorophenol	M25-Jn0002945	NCP	%	48			30-130	Pass	
Tetrachlorophenols - Total	M25-Jn0002945	NCP	%	54			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4,6-dinitrophenol	M25-Jn0002945	NCP	%	59			30-130	Pass	
2-Methyl-4,6-dinitrophenol	M25-Jn0002945	NCP	%	50			30-130	Pass	
2-Nitrophenol	M25-Jn0002945	NCP	%	69			30-130	Pass	
2,4-Dimethylphenol	B25-Jn0011723	NCP	%	80			30-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2,4-Dinitrophenol	M25-Jn0002945	NCP	%	52			30-130	Pass	
2-Methylphenol (o-Cresol)	M25-Jn0002945	NCP	%	50			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M25-Jn0002945	NCP	%	51			30-130	Pass	
4-Nitrophenol	M25-Jn0007267	NCP	%	97			30-130	Pass	
Dinoseb	M25-Jn0002945	NCP	%	51			30-130	Pass	
Phenol	M25-Jn0002945	NCP	%	36			30-130	Pass	
Spike - % Recovery									
				Result 1					
Nitrate & Nitrite (as N)	B25-Jn0006438	NCP	%	85			70-130	Pass	
Sulphate (as SO4)	M25-Jn0016196	NCP	%	83			70-130	Pass	
Total Organic Carbon	M25-Jn0002944	NCP	%	87			70-130	Pass	
Spike - % Recovery									
				Result 1					
Heavy Metals									
Aluminium (filtered)	M25-My0079588	NCP	%	105			75-125	Pass	
Arsenic (filtered)	M25-Jn0006842	CP	%	108			75-125	Pass	
Barium (filtered)	M25-Jn0006842	CP	%	90			75-125	Pass	
Cadmium (filtered)	M25-Jn0006842	CP	%	93			75-125	Pass	
Chromium (filtered)	M25-Jn0006842	CP	%	102			75-125	Pass	
Cobalt (filtered)	M25-Jn0006842	CP	%	96			75-125	Pass	
Copper (filtered)	M25-Jn0006842	CP	%	92			75-125	Pass	
Lead (filtered)	M25-Jn0006842	CP	%	77			75-125	Pass	
Manganese (filtered)	M25-Jn0010914	NCP	%	105			75-125	Pass	
Mercury (filtered)	M25-Jn0006842	CP	%	103			75-125	Pass	
Nickel (filtered)	M25-Jn0006842	CP	%	89			75-125	Pass	
Zinc (filtered)	M25-Jn0006842	CP	%	85			75-125	Pass	
Spike - % Recovery									
				Result 1					
Alkali Metals									
Calcium	M25-Jn0011830	NCP	%	106			75-125	Pass	
Magnesium	M25-Jn0011830	NCP	%	112			75-125	Pass	
Potassium	M25-Jn0011830	NCP	%	98			75-125	Pass	
Sodium	M25-Jn0011830	NCP	%	113			75-125	Pass	
Spike - % Recovery									
				Result 1					
Chloride	M25-Jn0016196	NCP	%	109			70-130	Pass	
Spike - % Recovery									
				Result 1					
Fluoride	M25-Jn0006848	CP	%	121			70-130	Pass	
Spike - % Recovery									
				Result 1					
Heavy Metals									
Aluminium	M25-Jn0002466	NCP	%	103			75-125	Pass	
Arsenic	M25-Jn0002466	NCP	%	101			75-125	Pass	
Barium	M25-Jn0002466	NCP	%	101			75-125	Pass	
Cadmium	M25-Jn0002466	NCP	%	97			75-125	Pass	
Chromium	M25-Jn0002466	NCP	%	103			75-125	Pass	
Cobalt	M25-Jn0002466	NCP	%	102			75-125	Pass	
Copper	M25-Jn0002466	NCP	%	100			75-125	Pass	
Lead	M25-Jn0002466	NCP	%	96			75-125	Pass	
Manganese	M25-Jn0002466	NCP	%	103			75-125	Pass	
Mercury	M25-Jn0002466	NCP	%	96			75-125	Pass	
Nickel	M25-Jn0002466	NCP	%	99			75-125	Pass	
Zinc	M25-Jn0002466	NCP	%	100			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M25-Jn0007125	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M25-Jn0011831	NCP	mg/L	1.1	1.1	5.0	30%	Pass	
TRH C15-C28	M25-Jn0011831	NCP	mg/L	< 0.1	< 0.1	10	30%	Pass	Q15
TRH C29-C36	M25-Jn0011831	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	M25-Jn0007125	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M25-Jn0011831	NCP	mg/L	0.89	0.93	5.0	30%	Pass	Q15
TRH >C16-C34	M25-Jn0011831	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	Q15
TRH >C34-C40	M25-Jn0011831	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	Q15
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M25-Jn0007125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M25-Jn0007125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M25-Jn0007125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M25-Jn0007125	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M25-Jn0007125	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	M25-Jn0007125	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M25-Jn0007125	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g,h,i)perylene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a,h)anthracene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M25-Jn0006842	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
4,4'-DDD	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4,4'-DDE	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
4,4'-DDT	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
a-HCH	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Aldrin	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
b-HCH	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
d-HCH	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Dieldrin	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan I	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan II	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endosulfan sulphate	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Endrin	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Endrin aldehyde	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endrin ketone	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
g-HCH (Lindane)	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Heptachlor	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Heptachlor epoxide	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Hexachlorobenzene	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Methoxychlor	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Toxaphene	M25-Jn0006842	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
Organophosphorus Pesticides				Result 1	Result 2	RPD		
Azinphos-methyl	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Bolstar	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Chlorfenvinphos	M25-Jn0006842	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Chlorpyrifos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Chlorpyrifos-methyl	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Coumaphos	M25-Jn0006842	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Demeton-S	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Demeton-O	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Diazinon	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Dichlorvos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Dimethoate	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Disulfoton	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
EPN	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethoprop	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ethyl parathion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fenitrothion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fensulfthion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Fenthion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Malathion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Merphos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Methyl parathion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Mevinphos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Monocrotophos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Naled	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Omethoate	M25-Jn0006842	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Phorate	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Pirimiphos-methyl	M25-Jn0006842	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Pyrazophos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Ronnel	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Terbufos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Tetrachlorvinphos	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Tokuthion	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Trichloronate	M25-Jn0006842	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
Duplicate								
Phenols (Halogenated)				Result 1	Result 2	RPD		
2-Chlorophenol	M25-Jn0006842	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2,4-Dichlorophenol	M25-Jn0006842	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2,4,5-Trichlorophenol	M25-Jn0006842	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
2,4,6-Trichlorophenol	M25-Jn0006842	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
2,6-Dichlorophenol	M25-Jn0006842	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
4-Chloro-3-methylphenol	M25-Jn0006842	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Pentachlorophenol	M25-Jn0006842	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Tetrachlorophenols - Total	M25-Jn0006842	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass

Duplicate								
Phenols (non-Halogenated)				Result 1	Result 2	RPD		
2-Cyclohexyl-4,6-dinitrophenol	M25-Jn0006842	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
2-Methyl-4,6-dinitrophenol	M25-Jn0006842	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass
2-Nitrophenol	M25-Jn0006842	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
2,4-Dimethylphenol	M25-Jn0006842	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2,4-Dinitrophenol	M25-Jn0006842	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass
2-Methylphenol (o-Cresol)	M25-Jn0006842	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	M25-Jn0006842	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass
4-Nitrophenol	M25-Jn0006842	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass
Dinoseb	M25-Jn0006842	CP	mg/L	< 0.1	< 0.1	<1	30%	Pass
Phenol	M25-Jn0006842	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Ammonia (as N)	M25-Jn0001923	NCP	mg/L	0.01	0.01	26	30%	Pass
Fluoride	M25-Jn0007273	NCP	mg/L	< 0.5	< 0.5	<1	30%	Pass
Nitrate & Nitrite (as N)	M25-Jn0006842	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass
Total Dissolved Solids Dried at 180 °C ± 2 °C	M25-Jn0007146	NCP	mg/L	5600	5500	<1	30%	Pass
Total Organic Carbon	M25-Jn0007127	NCP	mg/L	7.1	6.7	5.0	30%	Pass
Duplicate								
Alkalinity (speciated)				Result 1	Result 2	RPD		
Bicarbonate Alkalinity (as CaCO3)	M25-Jn0005259	NCP	mg/L	250	230	7.0	30%	Pass
Carbonate Alkalinity (as CaCO3)	M25-Jn0005259	NCP	mg/L	< 10	< 10	<1	30%	Pass
Hydroxide Alkalinity (as CaCO3)	M25-Jn0005259	NCP	mg/L	< 20	< 20	<1	30%	Pass
Total Alkalinity (as CaCO3)	M25-Jn0005259	NCP	mg/L	250	230	7.0	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Aluminium (filtered)	M25-Jn0006842	CP	mg/L	88	86	3.0	30%	Pass
Arsenic (filtered)	M25-Jn0006842	CP	mg/L	0.002	0.001	24	30%	Pass
Barium (filtered)	M25-Jn0006842	CP	mg/L	0.03	0.03	4.0	30%	Pass
Cadmium (filtered)	M25-Jn0006842	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium (filtered)	M25-Jn0006842	CP	mg/L	0.024	0.024	3.0	30%	Pass
Cobalt (filtered)	M25-Jn0006842	CP	mg/L	0.041	0.041	1.0	30%	Pass
Copper (filtered)	M25-Jn0006842	CP	mg/L	0.011	0.011	1.0	30%	Pass
Lead (filtered)	M25-Jn0006842	CP	mg/L	0.018	0.018	1.0	30%	Pass
Manganese (filtered)	M25-Jn0006842	CP	mg/L	1.2	1.2	1.0	30%	Pass
Mercury (filtered)	M25-Jn0006842	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	M25-Jn0006842	CP	mg/L	0.056	0.056	1.0	30%	Pass
Zinc (filtered)	M25-Jn0006842	CP	mg/L	0.074	0.077	3.0	30%	Pass
Duplicate								
Alkali Metals				Result 1	Result 2	RPD		
Calcium	M25-Jn0011830	NCP	mg/L	58	57	2.0	30%	Pass
Magnesium	M25-Jn0011830	NCP	mg/L	33	32	1.0	30%	Pass
Potassium	M25-Jn0011830	NCP	mg/L	12	11	7.0	30%	Pass
Sodium	M25-Jn0011830	NCP	mg/L	150	150	2.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Chloride	M25-Jn0006843	CP	mg/L	20000	20000	2.0	30%	Pass
Sulphate (as SO4)	M25-Jn0006843	CP	mg/L	3500	3400	2.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Total Suspended Solids Dried at 103°C to 105°C	M25-Jn0002947	NCP	mg/L	1300	1500	18	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Aluminium	M25-Jn0002466	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass
Arsenic	M25-Jn0002466	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Barium	M25-Jn0002466	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Cadmium	M25-Jn0002466	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium	M25-Jn0002466	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Cobalt	M25-Jn0002466	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper	M25-Jn0002466	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Lead	M25-Jn0002466	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Manganese	M25-Jn0002466	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Mercury	M25-Jn0002466	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	M25-Jn0002466	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	M25-Jn0002466	NCP	mg/L	< 0.005	0.016	23	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Catherine Wilson	Analytical Services Manager
Caitlin Breeze	Senior Analyst-Metal
Edward Lee	Senior Analyst-Organic
Emily Rosenberg	Senior Analyst-Metal
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile
Luke Holt	Senior Analyst-Inorganic
Mary Makarios	Senior Analyst-Inorganic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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CERTIFICATE OF ANALYSIS

Work Order : EM2509730
Client : TONKIN CONSULTING
Contact : LOREN COCKSHELL
Address : LEVEL 2, 170 FROME STREET
ADELAIDE SA, AUSTRALIA 5000
Telephone : ----
Project : 240929.0000
Order number : 240929.0000
C-O-C number : 240929
Sampler : LOREN COCKSHELL
Site : ----
Quote number : EN/222
No. of samples received : 2
No. of samples analysed : 1

Page : 1 of 9
Laboratory : Environmental Division Melbourne
Contact : Customer Services EM
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +61-3-8549 9600
Date Samples Received : 03-Jun-2025 16:00
Date Analysis Commenced : 04-Jun-2025
Issue Date : 12-Jun-2025 09:27



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
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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.
- EP068: Where reported, Total Chlordane (sum) is the sum of the reported concentrations of cis-Chlordane and trans-Chlordane at or above the LOR.
- 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.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DUP2B	----	----	----	----
Sampling date / time					29-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2509730-001	-----	-----	-----	-----
					Result	----	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L		1880	----	----	----	----
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	----	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		59	----	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		591	----	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L		650	----	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		396	----	----	----	----
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		447	----	----	----	----
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		20	----	----	----	----
Magnesium	7439-95-4	1	mg/L		29	----	----	----	----
Sodium	7440-23-5	1	mg/L		657	----	----	----	----
Potassium	7440-09-7	1	mg/L		17	----	----	----	----
EG020F: Dissolved Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		0.02	----	----	----	----
Arsenic	7440-38-2	0.001	mg/L		0.007	----	----	----	----
Barium	7440-39-3	0.001	mg/L		0.060	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		<0.001	----	----	----	----
Cobalt	7440-48-4	0.001	mg/L		0.002	----	----	----	----
Copper	7440-50-8	0.001	mg/L		0.010	----	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L		0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		0.011	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		<0.005	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DUP2B	----	----	----	----
Sampling date / time					29-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2509730-001	-----	-----	-----	-----
					Result	----	----	----	----
EG035F: Dissolved Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	----	----	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		3.7	----	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		0.30	----	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		0.06	----	----	----	----
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		33.8	----	----	----	----
ø Total Cations	----	0.01	meq/L		32.4	----	----	----	----
ø Ionic Balance	----	0.01	%		2.18	----	----	----	----
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L		50	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC - (Lindane)	58-89-9	0.5	µg/L		<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4,4'-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Sample ID

				DUP2B	----	----	----	----
Sampling date / time				29-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2509730-001	-----	-----	-----	-----
				Result	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
Endrin	72-20-8	0.5	µg/L	<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	----	----	----	----
4,4'-DDT	50-29-3	2.0	µg/L	<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	----	----	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L	<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L	<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L	<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L	<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DUP2B	----	----	----	----
Sampling date / time					29-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2509730-001	-----	-----	-----	-----
					Result	----	----	----	----
EP068B: Organophosphorus Pesticides (OP) - Continued									
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	----	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	----	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	----	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	----	----	----	----
2,4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	----	----	----	----
2,4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	----	----	----	----
2,6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	----	----	----	----
2,4,6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	----	----	----	----
2,4,5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	----	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DUP2B	----	----	----	----
Sampling date / time					29-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2509730-001	-----	-----	-----	-----
					Result	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	DUP2B	----	----	----	----
Sampling date / time					29-May-2025 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2509730-001	-----	-----	-----	-----
					Result	----	----	----	----
EP080: BTEXN - Continued									
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ Total Xylenes	-----	2	µg/L		<2	----	----	----	----
^ Sum of BTEX	-----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		56.6	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		115	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		19.0	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		43.4	----	----	----	----
2,4,6-Tribromophenol	118-79-6	1.0	%		34.8	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		46.6	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		46.1	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		45.4	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%		98.3	----	----	----	----
Toluene-D8	2037-26-5	2	%		111	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		104	----	----	----	----



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	117
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	51	127
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



QUALITY CONTROL REPORT

Work Order	: EM2509730	Page	: 1 of 10
Client	: TONKIN CONSULTING	Laboratory	: Environmental Division Melbourne
Contact	: LOREN COCKSHELL	Contact	: Customer Services EM
Address	: LEVEL 2, 170 FROME STREET ADELAIDE SA, AUSTRALIA 5000	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61-3-8549 9600
Project	: 240929.0000	Date Samples Received	: 03-Jun-2025
Order number	: 240929.0000	Date Analysis Commenced	: 04-Jun-2025
C-O-C number	: 240929	Issue Date	: 12-Jun-2025
Sampler	: LOREN COCKSHELL		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 2		
No. of samples analysed	: 1		



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 Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

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
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Eric Chau	Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC



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.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 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
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QC Lot: 6625726)									
EM2509698-005	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	175	197	11.7	0% - 50%
EM2509307-001	Anonymous	EA015H: Total Dissolved Solids @180°C	----	10	mg/L	1840	1790	2.5	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 6627314)									
EM2509756-003	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	146	144	0.8	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	146	144	0.8	0% - 20%
EM2509790-003	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	278	279	0.5	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	278	279	0.5	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 6630352)									
EM2509730-001	DUP2B	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	396	396	0.0	0% - 20%
ED045G: Chloride by Discrete Analyser (QC Lot: 6630351)									
EM2509797-006	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	79200	79300	0.1	0% - 20%
EM2509730-001	DUP2B	ED045G: Chloride	16887-00-6	1	mg/L	447	446	0.4	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 6636536)									
EM2509644-010	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	2	2	0.0	No Limit
		ED093F: Magnesium	7439-95-4	1	mg/L	8	8	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	45	45	0.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	7	7	0.0	No Limit
EM2509644-001	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	23	23	0.0	0% - 20%

Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
ED093F: Dissolved Major Cations (QC Lot: 6636536) - continued									
EM2509644-001	Anonymous	ED093F: Magnesium	7439-95-4	1	mg/L	30	30	0.0	0% - 20%
		ED093F: Sodium	7440-23-5	1	mg/L	93	93	0.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	3	3	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 6636540)									
EM2509730-001	DUP2B	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.007	0.007	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.060	0.057	4.7	0% - 20%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.010	0.010	0.0	0% - 50%
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.011	0.011	0.0	0% - 50%
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.02	0.03	0.0	No Limit
EM2509793-002	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Barium	7440-39-3	0.001	mg/L	0.012	0.011	0.0	0% - 50%
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	0.003	0.003	0.0	No Limit
		EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.024	0.024	0.0	0% - 20%
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.585	0.575	1.6	0% - 20%
		EG020A-F: Aluminium	7429-90-5	0.01	mg/L	0.01	0.02	0.0	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 6636537)									
EM2509702-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EM2509644-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK040P: Fluoride by PC Titrator (QC Lot: 6627312)									
EM2509701-001	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 6633249)									
EM2509079-019	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.04	0.06	33.9	No Limit
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 6633250)									
EM2509616-002	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.60	0.60	0.0	0% - 20%
EM2509079-019	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	3.00	3.21	6.9	0% - 20%
EP005: Total Organic Carbon (TOC) (QC Lot: 6627219)									



Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP005: Total Organic Carbon (TOC) (QC Lot: 6627219) - continued									
EM2509722-001	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	91	94	3.5	0% - 20%
EM2509745-005	Anonymous	EP005: Total Organic Carbon	----	1	mg/L	10	9	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6628065)									
EM2509702-004	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EM2509702-001	Anonymous	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6636180)									
EM2509626-090	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6628065)									
EM2509702-004	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EM2509702-001	Anonymous	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6636180)									
EM2509626-090	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 6636180)									
EM2509626-090	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EA015: Total Dissolved Solids dried at 180 ± 5 °C (QCLot: 6625726)								
EA015H: Total Dissolved Solids @180°C	----	10	mg/L	<10	2000 mg/L	95.4	91.0	110
				<10	2330 mg/L	109	80.7	119
ED037P: Alkalinity by PC Titrator (QCLot: 6627314)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	98.2	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6630352)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	103	90.0	110
				<1	25 mg/L	103	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 6630351)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	102	90.0	110
				<1	10 mg/L	107	90.0	110
ED093F: Dissolved Major Cations (QCLot: 6636536)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	102	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	104	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	102	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	101	80.0	120
EG020F: Dissolved Metals by ICP-MS (QCLot: 6636540)								
EG020A-F: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	109	90.4	111
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	100	89.0	111
EG020A-F: Barium	7440-39-3	0.001	mg/L	<0.001	0.1 mg/L	98.6	83.6	113
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	88.0	83.5	111
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	99.6	83.2	109
EG020A-F: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	97.4	84.3	110
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.5	83.1	107
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	98.9	84.6	108
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	96.7	84.8	110
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	100	84.3	110
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	96.0	86.3	112
EG035F: Dissolved Mercury by FIMS (QCLot: 6636537)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	98.5	71.6	116
EK040P: Fluoride by PC Titrator (QCLot: 6627312)								



Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			Low	High
EK040P: Fluoride by PC Titrator (QCLot: 6627312) - continued								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	101	80.8	118
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6633249)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	97.1	90.0	110
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 6633250)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	102	90.0	110
EP005: Total Organic Carbon (TOC) (QCLot: 6627219)								
EP005: Total Organic Carbon	----	1	mg/L	<1	100 mg/L	96.6	81.2	110
EP068A: Organochlorine Pesticides (OC) (QCLot: 6628067)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	2.5 µg/L	76.5	50.6	119
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	2.5 µg/L	84.3	44.2	117
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	2.5 µg/L	78.8	53.7	119
EP068: gamma-BHC - (Lindane)	58-89-9	0.5	µg/L	<0.5	2.5 µg/L	80.3	47.7	117
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	2.5 µg/L	85.2	52.5	117
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	2.5 µg/L	89.6	46.9	118
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	2.5 µg/L	82.2	48.0	115
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	2.5 µg/L	85.5	51.1	119
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	2.5 µg/L	85.5	48.4	120
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	2.5 µg/L	88.4	50.1	122
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	2.5 µg/L	90.0	51.0	118
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	2.5 µg/L	88.9	48.4	116
EP068: 4,4'-DDE	72-55-9	0.5	µg/L	<0.5	2.5 µg/L	86.7	49.3	116
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	2.5 µg/L	114	47.1	130
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	2.5 µg/L	107	51.6	118
EP068: 4,4'-DDD	72-54-8	0.5	µg/L	<0.5	2.5 µg/L	95.3	48.6	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	2.5 µg/L	75.4	49.4	128
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	2.5 µg/L	89.5	49.1	123
EP068: 4,4'-DDT	50-29-3	2	µg/L	<2.0	2.5 µg/L	63.1	45.6	126
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	2.5 µg/L	70.6	52.8	117
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	2.5 µg/L	65.4	47.1	126
EP068B: Organophosphorus Pesticides (OP) (QCLot: 6628067)								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	2.5 µg/L	84.5	47.4	133
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	2.5 µg/L	77.7	46.4	129
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	2.5 µg/L	19.4	10.0	42.9
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	2.5 µg/L	67.8	41.7	131



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP068B: Organophosphorus Pesticides (OP) (QCLot: 6628067) - continued								
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	2.5 µg/L	73.7	50.5	122
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	2.5 µg/L	81.4	52.4	123
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	2.5 µg/L	90.4	52.0	132
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	2.5 µg/L	73.2	51.8	133
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	2.5 µg/L	87.2	52.3	123
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	2.5 µg/L	86.8	48.7	122
EP068: Parathion	56-38-2	2	µg/L	<2.0	2.5 µg/L	92.0	49.5	136
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	2.5 µg/L	81.3	50.4	123
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	2.5 µg/L	78.0	50.9	131
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	2.5 µg/L	83.3	47.5	126
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	2.5 µg/L	103	46.5	138
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	2.5 µg/L	94.2	49.2	119
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	2.5 µg/L	82.4	50.0	126
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	2.5 µg/L	81.6	50.0	131
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	2.5 µg/L	91.4	41.7	147
EP075(SIM)A: Phenolic Compounds (QCLot: 6628068)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	30.3	17.8	51.1
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	73.4	43.2	107
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	65.6	39.2	98.7
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	59.3	35.5	91.3
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	85.0	34.4	124
EP075(SIM): 2,4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	79.8	44.4	112
EP075(SIM): 2,4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	84.1	45.3	115
EP075(SIM): 2,6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	81.7	44.3	116
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	82.7	46.6	117
EP075(SIM): 2,4,6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	86.4	38.2	122
EP075(SIM): 2,4,5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	88.8	43.2	123
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	55.9	48.1	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6628068)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	81.7	42.8	114
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	89.3	48.6	119
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	86.3	47.0	117
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	89.6	49.5	119
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	94.6	49.4	121



Sub-Matrix: **WATER**

Sub-Matrix: WATER				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Acceptable Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 6628068) - continued								
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	95.4	48.4	122
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	98.0	50.3	124
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	103	50.0	126
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	102	49.4	127
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	102	48.7	126
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	1	µg/L	<1.0	5 µg/L	105	54.5	134
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	102	56.1	134
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	102	55.6	135
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	97.0	54.4	126
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	103	54.5	126
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	97.9	54.4	126
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6628065)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4421 µg/L	86.6	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15219 µg/L	102	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	7904 µg/L	99.8	50.4	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6636180)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	110	66.2	134
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6628065)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6085 µg/L	98.0	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	20300 µg/L	99.6	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1456 µg/L	101	47.2	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6636180)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	109	66.2	132
EP080: BTEXN (QCLot: 6636180)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	108	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	111	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	114	71.7	130
EP080: meta- & para-Xylene	108-38-3	2	µg/L	<2	40 µg/L	110	72.3	136
	106-42-3							
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	114	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	106	68.3	131

Matrix Spike (MS) Report



The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6630352)							
EM2509797-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	# Not Determined	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 6630351)							
EM2509797-001	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	# Not Determined	70.0	142
EG020F: Dissolved Metals by ICP-MS (QCLot: 6636540)							
EM2509730-001	DUP2B	EG020A-F: Arsenic	7440-38-2	0.2 mg/L	109	76.6	124
		EG020A-F: Barium	7440-39-3	0.2 mg/L	107	75.0	127
		EG020A-F: Cadmium	7440-43-9	0.05 mg/L	94.2	74.6	118
		EG020A-F: Chromium	7440-47-3	0.2 mg/L	102	71.0	135
		EG020A-F: Cobalt	7440-48-4	0.2 mg/L	104	78.0	132
		EG020A-F: Copper	7440-50-8	0.2 mg/L	101	76.0	130
		EG020A-F: Lead	7439-92-1	0.2 mg/L	100	75.0	133
		EG020A-F: Manganese	7439-96-5	0.2 mg/L	101	64.0	134
		EG020A-F: Nickel	7440-02-0	0.2 mg/L	104	73.0	131
		EG020A-F: Zinc	7440-66-6	0.2 mg/L	106	75.0	131
EG035F: Dissolved Mercury by FIMS (QCLot: 6636537)							
EM2509644-003	Anonymous	EG035F: Mercury	7439-97-6	0.01 mg/L	83.6	70.0	120
EK040P: Fluoride by PC Titrator (QCLot: 6627312)							
EM2509701-002	Anonymous	EK040P: Fluoride	16984-48-8	5 mg/L	101	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6633249)							
EM2509079-020	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	89.6	70.0	130
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 6633250)							
EM2509079-020	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	99.2	70.0	130
EP005: Total Organic Carbon (TOC) (QCLot: 6627219)							
EM2509722-002	Anonymous	EP005: Total Organic Carbon	----	100 mg/L	89.2	76.6	125
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6628065)							
EM2509702-002	Anonymous	EP071: C10 - C14 Fraction	----	4421 µg/L	103	48.0	126
		EP071: C15 - C28 Fraction	----	15219 µg/L	120	51.7	132
		EP071: C29 - C36 Fraction	----	7904 µg/L	118	50.5	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6636180)							
EM2509730-001	DUP2B	EP080: C6 - C9 Fraction	----	280 µg/L	86.1	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6628065)							
EM2509702-002	Anonymous	EP071: >C10 - C16 Fraction	----	6085 µg/L	115	48.0	128



Sub-Matrix: WATER				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6628065) - continued							
EM2509702-002	Anonymous	EP071: >C16 - C34 Fraction	----	20300 µg/L	117	50.4	130
		EP071: >C34 - C40 Fraction	----	1456 µg/L	120	47.4	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6636180)							
EM2509730-001	DUP2B	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	84.0	34.0	122
EP080: BTEXN (QCLot: 6636180)							
EM2509730-001	DUP2B	EP080: Benzene	71-43-2	20 µg/L	96.8	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	100	60.4	132



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EM2509730	Page	: 1 of 8
Client	: TONKIN CONSULTING	Laboratory	: Environmental Division Melbourne
Contact	: LOREN COCKSHELL	Telephone	: +61-3-8549 9600
Project	: 240929.0000	Date Samples Received	: 03-Jun-2025
Site	: ----	Issue Date	: 12-Jun-2025
Sampler	: LOREN COCKSHELL	No. of samples received	: 2
Order number	: 240929.0000	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- Matrix Spike outliers exist - please see following pages for full details.
- For all regular sample matrices, where applicable to the methodology, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
ED041G: Sulfate (Turbidimetric) as SO ₄ 2- by DA	EM2509797--001	Anonymous	Sulfate as SO ₄ - Turbidimetric	14808-79-8	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.
ED045G: Chloride by Discrete Analyser	EM2509797--001	Anonymous	Chloride	16887-00-6	Not Determined	----	MS recovery not determined, background level greater than or equal to 4x spike level.

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)						
Ammonia as N by Discrete analyser	EK055G	1	19	5.26	10.00	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	13	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	13	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA015: Total Dissolved Solids dried at 180 ± 5 °C							
Clear Plastic Bottle - Natural (EA015H) DUP2B	29-May-2025	----	----	----	04-Jun-2025	05-Jun-2025	✔
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P) DUP2B	29-May-2025	----	----	----	06-Jun-2025	12-Jun-2025	✔
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G) DUP2B	29-May-2025	----	----	----	06-Jun-2025	26-Jun-2025	✔



Matrix: **WATER**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G) DUP2B	29-May-2025	----	----	----	06-Jun-2025	26-Jun-2025	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Nitric Acid; Filtered (ED093F) DUP2B	29-May-2025	----	----	----	10-Jun-2025	26-Jun-2025	✓
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F) DUP2B	29-May-2025	----	----	----	10-Jun-2025	25-Nov-2025	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F) DUP2B	29-May-2025	----	----	----	10-Jun-2025	26-Jun-2025	✓
EK040P: Fluoride by PC Titrator							
Clear Plastic Bottle - Natural (EK040P) DUP2B	29-May-2025	----	----	----	06-Jun-2025	26-Jun-2025	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G) DUP2B	29-May-2025	----	----	----	11-Jun-2025	26-Jun-2025	✓
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G) DUP2B	29-May-2025	----	----	----	11-Jun-2025	26-Jun-2025	✓
EP005: Total Organic Carbon (TOC)							
Amber TOC Vial - Sulfuric Acid (EP005) DUP2B	29-May-2025	----	----	----	05-Jun-2025	26-Jun-2025	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068) DUP2B	29-May-2025	05-Jun-2025	05-Jun-2025	✓	10-Jun-2025	15-Jul-2025	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068) DUP2B	29-May-2025	05-Jun-2025	05-Jun-2025	✓	10-Jun-2025	15-Jul-2025	✓
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM)) DUP2B	29-May-2025	05-Jun-2025	05-Jun-2025	✓	11-Jun-2025	15-Jul-2025	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM)) DUP2B	29-May-2025	05-Jun-2025	05-Jun-2025	✓	11-Jun-2025	15-Jul-2025	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071) DUP2B	29-May-2025	05-Jun-2025	05-Jun-2025	✓	10-Jun-2025	15-Jul-2025	✓
Amber VOC Vial - Sulfuric Acid (EP080) DUP2B	29-May-2025	10-Jun-2025	12-Jun-2025	✓	10-Jun-2025	12-Jun-2025	✓



Matrix: WATER

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071) DUP2B	29-May-2025	05-Jun-2025	05-Jun-2025	✔	10-Jun-2025	15-Jul-2025	✔
Amber VOC Vial - Sulfuric Acid (EP080) DUP2B	29-May-2025	10-Jun-2025	12-Jun-2025	✔	10-Jun-2025	12-Jun-2025	✔
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080) DUP2B	29-May-2025	10-Jun-2025	12-Jun-2025	✔	10-Jun-2025	12-Jun-2025	✔



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	19	5.26	10.00	✗	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	10	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by Auto Titrator	EK040P	1	7	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	13	0.00	10.00	✗	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	0.00	10.00	✗	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	19	10.53	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Organic Carbon	EP005	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	18	11.11	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	10	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by Auto Titrator	EK040P	1	7	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	8	25.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	2	19	10.53	7.50	✓	NEPM 2013 B3 & ALS QC Standard
Total Organic Carbon	EP005	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	19	5.26	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	5.56	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification .

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Method Blanks (MB) - Continued							
Fluoride by Auto Titrator	EK040P	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	13	7.69	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	2	50.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Dissolved Solids (High Level)	EA015H	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Organic Carbon	EP005	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	19	5.26	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	10	10.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Mercury by FIMS	EG035F	1	20	5.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Fluoride by Auto Titrator	EK040P	1	7	14.29	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	13	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	2	0.00	5.00	✖	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	8	12.50	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Organic Carbon	EP005	1	17	5.88	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	18	5.56	5.00	✔	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	3	33.33	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Total Dissolved Solids (High Level)	EA015H	WATER	In house: Referenced to APHA 2540C. A gravimetric procedure that determines the amount of 'filterable' residue in an aqueous sample. A well-mixed sample is filtered through a glass fibre filter (1.2um). The filtrate is evaporated to dryness and dried to constant weight at 180+/-5C. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO ₄ 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO ₄ . Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO ₄ suspension is measured by a photometer and the SO ₄ -2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G. The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocyanate forms highly-coloured ferric thiocyanate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl ₂)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Fluoride by Auto Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH ₃ G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrite and Nitrate as N (NO _x) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 4500-NO ₃ - F. Combined oxidised Nitrogen (NO ₂ +NO ₃) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)



<i>Analytical Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030E. This method is compliant with NEPM Schedule B(3)
Total Organic Carbon	EP005	WATER	In house: Referenced to APHA 5310 B, The automated TOC analyzer determines Total and Inorganic Carbon by IR cell. TOC is calculated as the difference. This method is compliant with NEPM Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270 Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)
<i>Preparation Methods</i>	<i>Method</i>	<i>Matrix</i>	<i>Method Descriptions</i>
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.



SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **EM2509730**

Client	: TONKIN CONSULTING	Laboratory	: Environmental Division Melbourne
Contact	: LOREN COCKSHELL	Contact	: Customer Services EM
Address	: LEVEL 2, 170 FROME STREET ADELAIDE SA, AUSTRALIA 5000	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: loren.cockshell@tonkin.com.au	E-mail	: ALSEnviro.Melbourne@alsglobal.com
Telephone	: ----	Telephone	: +61-3-8549 9600
Facsimile	: ----	Facsimile	: +61-3-8549 9626
Project	: 240929.0000	Page	: 1 of 3
Order number	: 240929.0000	Quote number	: EM2023TONCON0002 (EN/222)
C-O-C number	: 240929	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: LOREN COCKSHELL		

Dates

Date Samples Received	: 03-Jun-2025 16:00	Issue Date	: 04-Jun-2025
Client Requested Due Date	: 12-Jun-2025	Scheduled Reporting Date	: 12-Jun-2025

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 1	Temperature	: 15.8°C - Ice present
Receipt Detail	: Received by ALS Springvale 04/06/2025 at 12:56 PM (4.9°C)	No. of samples received / analysed	: 2 / 1

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Proactive Holding Time Report
 - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exists.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - EA015H Total Dissolved Solids - Standard Level	WATER - EG020F Dissolved Metals by ICP/MS	WATER - EG035F Dissolved Mercury	WATER - EK055G Ammonia as N By Discrete Analyser	WATER - EK059G Nitrite plus Nitrate as N (NOx) by Discrete	WATER - EP005 Total Organic Carbon (TOC)	WATER - W-12 OC/OP Pesticides
EM2509730-001	29-May-2025 00:00	DUP2B	✓	✓	✓	✓	✓	✓	✓

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	(On Hold) WATER No analysis requested	WATER - NT-01 & 02A Ca, Mg, Na, K, Cl, SO4, Alkalinity & Fluoride	WATER - W-24 TRH/BTEXN/PAH/Phenols
EM2509730-001	29-May-2025 00:00	DUP2B		✓	✓
EM2509730-002	29-May-2025 00:00	DUP1B	✓		

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.



Requested Deliverables

ALL INVOICES

- A4 - AU Tax Invoice (INV)

Email accounts@tonkin.com.au

Dean Noske

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ESDAT (ESDAT)

Email dean.noske@tonkin.com.au
Email dean.noske@tonkin.com.au
Email dean.noske@tonkin.com.au
Email dean.noske@tonkin.com.au
Email dean.noske@tonkin.com.au
Email dean.noske@tonkin.com.au

ENVIRONMENTAL EMAIL

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ESDAT (ESDAT)

Email environmental@tonkin.com.au
Email environmental@tonkin.com.au
Email environmental@tonkin.com.au
Email environmental@tonkin.com.au
Email environmental@tonkin.com.au
Email environmental@tonkin.com.au

ESDAT REPORTS

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental (WRG) (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ESDAT (ESDAT)

Email ESdat_AU+TonkinConsulting@ESd
atLabSync.net
Email ESdat_AU+TonkinConsulting@ESd
atLabSync.net
Email ESdat_AU+TonkinConsulting@ESd
atLabSync.net
Email ESdat_AU+TonkinConsulting@ESd
atLabSync.net
Email ESdat_AU+TonkinConsulting@ESd
atLabSync.net
Email ESdat_AU+TonkinConsulting@ESd
atLabSync.net

LOREN COCKSHELL

- *AU Certificate of Analysis - NATA (COA)
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)
- Chain of Custody (CoC) (COC)
- EDI Format - ESDAT (ESDAT)

Email loren.cockshell@tonkin.com.au
Email loren.cockshell@tonkin.com.au
Email loren.cockshell@tonkin.com.au
Email loren.cockshell@tonkin.com.au
Email loren.cockshell@tonkin.com.au
Email loren.cockshell@tonkin.com.au

Oil / Water Interface Meter

7.0 2652025A



Air-Met Scientific Pty Ltd
1800 000 744

Instrument **Solinst Interface Meter (100m)**
Serial No. **549460**

Item	Test	Pass	Comments
Battery	Compartment	✓	
	Capacity	✓	
Probe	Cleaned/Decon.	✓	
	Operation	✓	
Connectors	Condition	✓	
		✓	
Tape Check	Cleaned	✓	
	Checked for cuts	✓	
Instrument Test	At surface level	✓	

Certificate of Calibration

This is to certify that the above instrument has been cleaned and tested.

Calibrated by: Desheng Li

Calibration date: **26/05/2025**

Next calibration due: **22/11/2025**

Gas Calibration Certificate

72.0 2652025A



Instrument **GA5000**
 Serial No. **G506379**
 Sensors **O2 CO H2S CH4 CO2**

Air-Met Scientific Pty Ltd
 1800 000 744

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
Pump	Operation	✓	
	Filter	✓	
	Flow	✓	
	Valves, Diaphragm	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	O2	✓	
	CO	✓	
	H2S	✓	
	CH4	✓	
	CO2	✓	
Alarms	Beeper	✓	
	Settings	✓	
Software	Version		
Datalogger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Diffusion mode		Aspirated mode			
Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No	Instrument Reading
O2		20.9% O2		Fresh Air	20.9% O2
CO		100ppm CO	NIST	SA048	100ppm CO
H2S		25ppm H2S	NIST	SA048	25ppm H2S
CH4		60% CH4	NIST	SA047	60% CH4
CO2		40% CO2	NIST	SA047	40% CO2

Calibrated by: Desheng Li

Calibration date: 23/05/2025

Next calibration due: 19/11/2025



Air-Met Scientific Pty Ltd
1800 000 744

Instrument **YSI Pro Plus**
Serial No. **18J104313**

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
Switch/keypad	Operation	✓	
	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. mV	✓	
	3. EC	✓	
	4. D.O	✓	
	5. Temp	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. D.O		0%		391223	0%
2. Conductivity		2760 μ S		401089	2760 μ S
3. pH7		pH 7		399304	pH 7
4. pH4		pH 4		399527	pH 4
5. Temp °C		17.5°C		MultTherm	17.5°C
6. ORP mV		239.5mV		MultTherm	239.5mV

Calibrated by: Desheng Li

Calibration date: 25-May-25

Next calibration due: 21-Nov-25

CERTIFICATION OF CALIBRATION



Issued by: QED Environmental Systems Inc.

Calibration certificate number **24RA-65779**

Instrument

Laser One

Serial Number

16712

Description of the calibration procedure:

The calibration is verified with certified gas bottle. The maximum error of the instrument as specified in the datasheet.

Gas verification from 0-1000ppm CH₄

Full scale (ppm)	Gas concentration (ppm)	Response 1 (ppm)	Response 2 (ppm)	Response 3 (ppm)	Average response (ppm)	Maximum error (ppm)	Maximum error (% F.s.)	Maximum error %
1000	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
1000	2.9	2.8	2.8	2.8	2.80	0.10	0.01	0.01
1000	10.1	9.9	9.9	9.9	9.90	0.20	0.02	0.02
1000	102.0	101.0	101.0	101.0	101.00	1.00	0.10	0.10
1000	1006.0	1000.0	1000.0	1000.0	1000.00	6.00	0.60	0.60

Uncertainty	0.60	%
Max % error	0.60	% FS

Gas verification from 0-100% vol CH₄

Full scale (%vol)	Gas concentration (%vol)	Response 1 (%vol)	Response 2 (%vol)	Response 3 (%vol)	Average response (%vol)	Maximum error (%vol)	Maximum error (% F.s.)	Maximum error %
100.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00
100.00	2.19	2.2	2.2	2.2	2.20	0.01	0.01	0.01
100.00	5.00	5.0	5.0	5.0	5.00	0.00	0.00	0.00
100.00	15.00	15.0	15.0	15.0	15.00	0.00	0.00	0.00
100.00	50.00	50.1	50.1	50.1	50.10	0.10	0.10	0.10
100.00	100.00	100.0	100.0	100.0	100.00	0.00	0.00	0.00

Uncertainty	0.10	%
Max % error	0.10	% FS

Gas verification from 0-100% CH₄ LEL (0-4.4% VOL)

Full scale (%vol)	Gas concentration (LEL%)	Response 1 (LEL%)	Response 2 (LEL%)	Response 3 (LEL%)	Average response (%vol)	Maximum error (LEL%)	Maximum error (% F.s.)	Maximum error %
100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	2.10	2.10	2.10	2.10	2.10	0.00	0.00	0.00
100.00	50.00	50.00	50.00	50.00	50.00	0.00	0.00	0.00

Uncertainty	0.00	%
Max % error	0.00	% FS

www.qedenv.com (800) 624-2026 info@qedenv.com

QED Environmental Systems Inc. 2355 Bishop Circle West, Dexter, MI 48130

CERTIFICATION OF CALIBRATION



Issued by: QED Environmental Systems Inc.

Environmental conditions during calibration

Temp.	21.2	C
Pressure	989.0	mBar

Gas bottles used for calibration

Gas	Cylinder number	Expiry date	Gas
Synthetic Air	3004959Y	5/10/2029	Synthetic Air
3 ppm	CC187397	12/19/2032	CH4
10 ppm	DT0054648	10/18/2031	CH4
100ppm	DT0055243	10/18/2028	CH4
1000 ppm	CC64714	9/27/2028	CH4
1.0% Vol	DT0008070	5/24/2029	CH4
2.2% vol	CC499453	6/4/2029	CH4
5.0% vol	4830367Y	5/31/2029	CH4
15% vol	3349204Y	6/12/2029	CH4
50% vol	CC708175	1/22/2029	CH4
100% vol	HP-T-105403	8/22/2028	CH4

Calibration results: Pass

Calibration date: 24/01/2025

DD/MM/YYYY

Next scheduled calibration:

24/01/2026

DD/MM/YYYY

Issued by: Christopher Fleenor

A handwritten signature in black ink, appearing to read 'Chris Fleenor', is written over the printed name.

www.qedenv.com (800) 624-2026 info@qedenv.com

QED Environmental Systems Inc. 2355 Bishop Circle West, Dexter, MI 48130



	Metals															TPH		
	Aluminium (filtered)	Arsenic (filtered)	Barium (filtered)	Cadmium (filtered)	Calcium	Chromium (III+VI) (filtered)	Cobalt (filtered)	Copper (filtered)	Lead (filtered)	Magnesium	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Potassium	Zinc (filtered)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L	µg/L
EQL	0.05	0.001	0.02	0.0002	0.5	0.001	0.001	0.001	0.001	0.5	0.005	0.0001	0.001	0.5	0.005	20	50	100
ANZECC 2000 FW 95%	0.055			0.0002				0.0014	0.0034		1.9	0.0006	0.011		0.008			
ANZECC 2000 Livestock DW Low Risk	5	0.5		0.01	1,000	1	1	0.4	0.1			0.002	1		20			
NEPM 2013 Table 1C GILs, Drinking Water		0.01	2	0.002				2	0.01		0.5	0.001	0.02					
NEPM 2013 Table 1C GILs, Fresh Waters	0.055 0.055			0.0002				0.0014	0.0034		1.9	0.00006	0.011		0.008			

Date	Field ID	Sample Type	Lab Report Number																		
29 May 2025	MW01	Normal	1227787	88	0.002	0.03	<0.0002	200	0.024	0.041	0.011	0.018	1,400	1.2	<0.0001	0.056	140	0.074	<20	<50	100
29 May 2025	MW02	Normal	1227787	<0.05	0.004	0.07	0.0004	350	<0.001	0.028	0.002	0.003	1,600	3.5	<0.0001	0.029	170	0.037	<20	<50	<100
29 May 2025	MW03	Normal	1227787	<0.05	<0.001	0.04	0.0006	260	<0.001	0.010	0.003	0.003	1,400	0.46	<0.0001	0.033	180	0.028	<20	<50	500
29 May 2025	MW04	Normal	1227787	<0.05	0.001	0.04	<0.0002	350	0.004	0.002	0.003	0.005	1,700	0.49	<0.0001	0.018	170	0.058	<20	100	<100
29 May 2025	MW05	Normal	1227787	<0.05	0.006	0.04	<0.0002	350	<0.001	0.020	<0.001	0.002	1,400	3.0	<0.0001	0.012	140	0.042	<20	<50	<100

Environmental Standards

DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters



			TRH							BTEX								
	C29-C36 Fraction	C10-C36 Fraction (Sum)	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Acenaphthene	Acenaphthylene
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	100	100	20	20	50	50	100	100	100	0.01	1	1	1	2	1	3	1	1
ANZECC 2000 FW 95%										0.016	950				350			
ANZECC 2000 Livestock DW Low Risk																		
NEPM 2013 Table 1C GILs, Drinking Water											1	800	300			600		
NEPM 2013 Table 1C GILs, Fresh Waters										0.016	950				350	550		

Date	Field ID	Sample Type	Lab Report Number																		
29 May 2025	MW01	Normal	1227787	200	300	<20	<20	<50	<50	200	300	500	<0.01	<1	<1	<1	<2	<1	<3	<1	<1
29 May 2025	MW02	Normal	1227787	<100	<100	<20	<20	<50	<50	<100	<100	<100	<0.01	<1	<1	<1	<2	<1	<3	<1	<1
29 May 2025	MW03	Normal	1227787	<100	500	<20	<20	420	420	100	<100	520	<0.01	<1	<1	<1	<2	<1	<3	<1	<1
29 May 2025	MW04	Normal	1227787	<100	100	<20	<20	60	60	<100	<100	<100	<0.01	<1	<1	<1	<2	<1	<3	<1	<1
29 May 2025	MW05	Normal	1227787	<100	<100	<20	<20	<50	<50	<100	<100	<100	<0.01	<1	<1	<1	<2	<1	<3	<1	<1

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters

	PAH																	
	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol
	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	1	0.001	1	1	1	1	1	1	1	1	1	1	1	6	10	10
ANZECC 2000 FW 95%												16						20
ANZECC 2000 Livestock DW Low Risk																		
NEPM 2013 Table 1C GILs, Drinking Water			0.01															20
NEPM 2013 Table 1C GILs, Fresh Waters												16						3

Date	Field ID	Sample Type	Lab Report Number																		
29 May 2025	MW01	Normal	1227787	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6	<10	<10
29 May 2025	MW02	Normal	1227787	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6	<10	<10
29 May 2025	MW03	Normal	1227787	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6	<10	<10
29 May 2025	MW04	Normal	1227787	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6	<10	<10
29 May 2025	MW05	Normal	1227787	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6	<10	<10

Environmental Standards

DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters



	Phenols																	Organochlorine pesticides EPAVic
	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-Nitrophenol	Cresol Total	Pentachlorophenol	Tetrachlorophenols	Phenol	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	
	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L
EQL	3	3	0.03	3	3	3	10	30	100	10	30	0.01	10	30	3	0.01	0.1	2
ANZECC 2000 FW 95%	160		0.045		490								10		320			
ANZECC 2000 Livestock DW Low Risk																		
NEPM 2013 Table 1C GILs, Drinking Water	200				300								10					
NEPM 2013 Table 1C GILs, Fresh Waters	120		0.045		340								3.6		320			

Date	Field ID	Sample Type	Lab Report Number																		
29 May 2025	MW01	Normal	1227787	<3	<3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<2
29 May 2025	MW02	Normal	1227787	<3	<3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<2
29 May 2025	MW03	Normal	1227787	<3	<3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<2
29 May 2025	MW04	Normal	1227787	<3	<3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<2
29 May 2025	MW05	Normal	1227787	<3	<3	<0.03	<3	<3	<3	<10	<30	<100	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<2

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters



				Organochlorine Pesticides																	
				Other organochlorine pesticides EPAVic	4,4-DDE	a-BHC	Aldrin	Aldrin + Dieldrin	b-BHC	Chlordane	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL				2	0.2	0.2	0.2	0.2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
ANZECC 2000 FW 95%									0.08			0.01						0.02			
ANZECC 2000 Livestock DW Low Risk																					
NEPM 2013 Table 1C GILs, Drinking Water						0.3		2				9									
NEPM 2013 Table 1C GILs, Fresh Waters								0.03				0.006						0.01			

Date	Field ID	Sample Type	Lab Report Number																		
29 May 2025	MW01	Normal	1227787	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
29 May 2025	MW02	Normal	1227787	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
29 May 2025	MW03	Normal	1227787	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
29 May 2025	MW04	Normal	1227787	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
29 May 2025	MW05	Normal	1227787	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters



						Halogenated Benzenes	Inorganics												Herbicides
	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Hexachlorobenzene	Nitrite + Nitrate as N	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Ammonia as N	Chloride	Fluoride	Sodium	Sulphate	Total Dissolved Solids (Lab)	Dinoseb	
	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	
EQL	0.2	0.2	0.2	0.2	0.005	0.2	0.05	20	10	20	20	0.01	1	0.5	0.5	5	10	100	
ANZECC 2000 FW 95%	0.2	0.09			0.0002							0.9							
ANZECC 2000 Livestock DW Low Risk														2		1,000	2,000		
NEPM 2013 Table 1C GILs, Drinking Water	10		0.3											1.5		500			
NEPM 2013 Table 1C GILs, Fresh Waters	0.2	0.01			0.0001														

Date	Field ID	Sample Type	Lab Report Number																		
29 May 2025	MW01	Normal	1227787	<0.2	<0.2	<0.2	<0.2	<0.005	<0.2	<0.05	94	<10	<20	94	0.80	18,000	<5	11,000	3,700	53,000	<100
29 May 2025	MW02	Normal	1227787	<0.2	<0.2	<0.2	<0.2	<0.005	<0.2	<0.05	44	<10	<20	44	0.22	20,000	<5	11,000	3,500	52,000	<100
29 May 2025	MW03	Normal	1227787	<0.2	<0.2	<0.2	<0.2	<0.005	<0.2	<0.05	42	<10	<20	42	0.12	21,000	<5	11,000	3,200	52,000	<100
29 May 2025	MW04	Normal	1227787	<0.2	<0.2	<0.2	<0.2	<0.005	<0.2	0.11	53	<10	<20	53	0.29	24,000	<0.5	12,000	3,800	72,000	<100
29 May 2025	MW05	Normal	1227787	<0.2	<0.2	<0.2	<0.2	<0.005	<0.2	<0.05	45	<10	<20	45	0.52	20,000	<0.5	11,000	3,200	50,000	<100

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters



	Organic																	
	Total Organic Carbon	Organophosphorous Pesticid																
		Tokuthion	Azinophos methyl	Bolstar (sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion
	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	5	0.002	2	2	20	2	0.002	20	2	2	2	2	2	2	2	2	2	2
ANZECC 2000 FW 95%			0.02			0.01					0.01		0.15				0.2	
ANZECC 2000 Livestock DW Low Risk																		
NEPM 2013 Table 1C GILs, Drinking Water			30	10	2	10					4	5	7	4	4	1	7	
NEPM 2013 Table 1C GILs, Fresh Waters						0.01					0.01		0.15				0.2	

Date	Field ID	Sample Type	Lab Report Number																	
29 May 2025	MW01	Normal	1227787	7.5	<0.002	<2	<2	<20	<2	<0.002	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
29 May 2025	MW02	Normal	1227787	<125	<0.002	<2	<2	<20	<2	<0.002	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
29 May 2025	MW03	Normal	1227787	<5	<0.002	<2	<2	<20	<2	<0.002	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
29 May 2025	MW04	Normal	1227787	<5	<0.002	<2	<2	<20	<2	<0.002	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
29 May 2025	MW05	Normal	1227787	<5	<0.002	<2	<2	<20	<2	<0.002	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters

	es															Pesticides	
	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Phorate	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Parathion	Pirimiphos-methyl
	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L
EQL	2	2	2	0.002	2	2	2	2	20	2	2	2	2	2	0.002	2	0.02
ANZECC 2000 FW 95%			0.05													0.004	
ANZECC 2000 Livestock DW Low Risk																	
NEPM 2013 Table 1C GILs, Drinking Water	7		70		0.7	6			1		20		0.9			20	0.09
NEPM 2013 Table 1C GILs, Fresh Waters			0.05													0.004	

Date	Field ID	Sample Type	Lab Report Number																	
29 May 2025	MW01	Normal	1227787	<2	<2	<2	<0.002	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	<0.002	<2	<0.02
29 May 2025	MW02	Normal	1227787	<2	<2	<2	<0.002	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	<0.002	<2	<0.02
29 May 2025	MW03	Normal	1227787	<2	<2	<2	<0.002	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	<0.002	<2	<0.02
29 May 2025	MW04	Normal	1227787	<2	<2	<2	<0.002	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	<0.002	<2	<0.02
29 May 2025	MW05	Normal	1227787	<2	<2	<2	<0.002	<2	<2	<2	<2	<20	<2	<2	<2	<2	<2	<0.002	<2	<0.02

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%
DoE, 2000, ANZECC 2000 Livestock DW Low Risk
2013, NEPM 2013 Table 1C GILs, Drinking Water
2013, NEPM 2013 Table 1C GILs, Fresh Waters



				Metals															
				Aluminium (filtered)	Arsenic (filtered)	Barium (filtered)	Cadmium (filtered)	Calcium	Calcium (filtered)	Chromium (III+VI) (filtered)	Cobalt (filtered)	Copper (filtered)	Lead (filtered)	Magnesium	Magnesium (filtered)	Manganese (filtered)	Mercury (filtered)	Nickel (filtered)	Potassium
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.01	0.001	0.001	0.0001	0.5	0.5	0.001	0.001	0.001	0.001	0.5	0.5	0.001	0.0001	0.001	0.5
ANZECC 2000 FW 95%				0.055			0.0002					0.0014	0.0034			1.9	0.0006	0.011	
Date	Field ID	Sample Type	Lab Report Number																
29 May 2025	DUP2A	Field_D	1227787	<0.05	<0.001	0.04	<0.0002	370		0.004	0.002	0.003	0.002	1,700		0.48	<0.0001	0.018	180
29 May 2025	DUP2B	Interlab_D	EM2509730	0.02	0.007	0.060	<0.0001		20	<0.001	0.002	0.010	<0.001		29	0.001	<0.0001	0.011	17
29 May 2025	SW01	Normal	1227787	<0.05	0.008	0.06	<0.0002	25		<0.001	0.002	0.012	<0.001	32		<0.005	<0.0001	0.012	17

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



		TPH					TRH							BT			
	Zinc (filtered)	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene
	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L
EQL	0.005	20	50	100	50	50	20	20	50	50	100	100	100	0.005	1	1	1
ANZECC 2000 FW 95%	0.008													0.016	950		

Date	Field ID	Sample Type	Lab Report Number															
29 May 2025	DUP2A	Field_D	1227787	0.058	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<0.01	<1
29 May 2025	DUP2B	Interlab_D	EM2509730	<0.005	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<0.005	<1
29 May 2025	SW01	Normal	1227787	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<0.01	<1

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



	EX				PAH													
	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(b+i)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	
EQL	2	1	2	1	1	1	1	1	0.5	0.001	1	1	1	1	1	1	1	
ANZECC 2000 FW 95%		350																

Date	Field ID	Sample Type	Lab Report Number																
29 May 2025	DUP2A	Field_D	1227787	<2	<1	<3		<1	<1	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1
29 May 2025	DUP2B	Interlab_D	EM2509730	<2	<2	<2	<1	<1.0	<1.0	<1.0	<1.0	<0.5	<0.0010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
29 May 2025	SW01	Normal	1227787	<2	<1	<3		<1	<1	<1	<1	<1	<0.001	<1	<1	<1	<1	<1	<1

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



					Phenols												
	Naphthalene	Phenanthrene	Pyrene	Benzo(a)pyrene TEQ calc (Zero)	PAHs (Sum of total)	3&4-Methylphenol (m&p-cresol)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol
	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	1	1	0.0005	0.5	2	1	1	1	1	0.03	1	1	1	1	30	100
ANZECC 2000 FW 95%	16							20	160		0.045		490				

Date	Field ID	Sample Type	Lab Report Number															
29 May 2025	DUP2A	Field_D	1227787	<1	<1	<1		<1	<6	<10	<10	<3	<3	<0.03	<3	<3	<3	<10
29 May 2025	DUP2B	Interlab_D	EM2509730	<1.0	<1.0	<1.0	<0.0005	<0.5	<2.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0	<30
29 May 2025	SW01	Normal	1227787	<1	<1	<1		<1	<6	<10	<10	<3	<3	<0.03	<3	<3	<3	<100

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



	4-chloro-3-methylphenol	4-Nitrophenol	Cresol Total	Pentachlorophenol	Tetrachlorophenols	Phenol	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	4,4-DDE	α-BHC	Aldrin	Aldrin + Dieldrin	β-BHC	Chlordane	Chlordane (cis)
	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
EQL	1	30	0.01	2	30	1	0.01	0.1	2	2	0.2	0.2	0.2	0.2	0.2	0.5	0.5
ANZECC 2000 FW 95%				10		320										0.08	

Date	Field ID	Sample Type	Lab Report Number																
29 May 2025	DUP2A	Field_D	1227787	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<2
29 May 2025	DUP2B	Interlab_D	EM2509730	<1.0			<2.0		<1.0					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
29 May 2025	SW01	Normal	1227787	<10	<30	<0.01	<10	<30	<3	<0.01	<0.1	<2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<2

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



Organochlorine Pesticides																		
Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene		
µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L		
EQL	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.005		
ANZECC 2000 FW 95%				0.01					0.02			0.2	0.09			0.0002		

Date	Field ID	Sample Type	Lab Report Number																
29 May 2025	DUP2A	Field_D	1227787		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.005
29 May 2025	DUP2B	Interlab_D	EM2509730	<0.5	<0.5	<0.5	<2.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.0	
29 May 2025	SW01	Normal	1227787		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.005

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



	Halogenated Benzenes	Inorganics														
	Hexachlorobenzene	Sulfate as SO4 - Turbidimetric (filtered)	Nitrite + Nitrate as N	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Alkalinity (Hydroxide) as CaCO3	Alkalinity (total) as CaCO3	Ammonia as N	Anions Total	Cations Total	Chloride	Fluoride	Ionic Balance	Sodium	Sodium (filtered)	Sulphate
	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
EQL	0.2	1	0.01	1	1	1	1	0.01	0.01	0.01	1	0.1	0.01	0.5	0.5	5
ANZECC 2000 FW 95%								0.9								

Date	Field ID	Sample Type	Lab Report Number														
29 May 2025	DUP2A	Field_D	1227787	<0.2		0.10	51	<10	<20	51	0.39			24,000	<0.5	13,000	3,800
29 May 2025	DUP2B	Interlab_D	EM2509730	<0.5	396	0.06	591	59	<1	650	0.30	33.8	32.4	447	3.7	2.18	657
29 May 2025	SW01	Normal	1227787	<0.2		<0.05	<20	150	500	650	0.05			460	2.3	680	360

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



			Herbicides	Organic													
	Total Dissolved Solids (Lab)	Total Suspended Solids (Lab)	Dinoseb	Total Organic Carbon	Tokuthion	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos
	mg/L	mg/L			µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
EQL	10	5	100	1	0.002	0.5	2	0.5	0.5	0.5	0.5	0.0005	20	2	2	0.5	0.5
ANZECC 2000 FW 95%						0.02					0.01					0.01	

Date	Field ID	Sample Type	Lab Report Number																
29 May 2025	DUP2A	Field_D	1227787	60,000		<100	<5	<0.002	<2	<2			<20	<2	<0.002	<20	<2	<2	<2
29 May 2025	DUP2B	Interlab_D	EM2509730	1,880			50		<0.5		<0.5	<0.5	<0.5	<0.5	<0.0005			<0.5	<0.5
29 May 2025	SW01	Normal	1227787		26	<100	32	<0.002	<2	<2			<20	<2	<0.002	<20	<2	<2	<2

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



Organophosphorous Pesticides																			
	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Phorate	Prothiofos		
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L		
EQL	0.5	2	0.5	2	2	2	0.5	2	0.5	0.002	2	2	2	2	20	2	0.5		
ANZECC 2000 FW 95%	0.15				0.2				0.05										

Date	Field ID	Sample Type	Lab Report Number																
29 May 2025	DUP2A	Field_D	1227787	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<20	<2
29 May 2025	DUP2B	Interlab_D	EM2509730	<0.5		<0.5			<0.5		<0.5		<2.0		<2.0				<0.5
29 May 2025	SW01	Normal	1227787	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<20	<2

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%



						Pesticides				
	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Demeton-S-methyl	Fenamiphos	Parathion	Pirimiphos-methyl	Pirimiphos-ethyl
	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L
EQL	2	2	2	2	0.002	0.5	0.5	2	0.02	0.5
ANZECC 2000 FW 95%								0.004		

Date	Field ID	Sample Type	Lab Report Number									
29 May 2025	DUP2A	Field_D	1227787	<2	<2	<2	<2	<0.002			<2	<0.02
29 May 2025	DUP2B	Interlab_D	EM2509730						<0.5	<0.5	<2.0	<0.5
29 May 2025	SW01	Normal	1227787	<2	<2	<2	<2	<0.002			<2	<0.02

Environmental Standards
DoE, 2000, ANZECC 2000 FW 95%

Lab Report Number			Date	29 May 2025		RPD	29 May 2025		RPD
			Field ID	SW01	DUP2A		SW01	DUP2B	
			Matrix Type	Water	Water		Water	Water	
			1227787	1227787	1227787		EM2509730		
	Unit	EQL							
Metals									
Aluminium (filtered)	mg/L	0.01	<0.05	<0.05	0	<0.05	0.02	0	
Arsenic (filtered)	mg/L	0.001	0.008	<0.001	156	0.008	0.007	13	
Barium (filtered)	mg/L	0.001	0.06	0.04	40	0.06	0.060	0	
Cadmium (filtered)	mg/L	0.0001	<0.0002	<0.0002	0	<0.0002	<0.0001	0	
Calcium	mg/L	0.5	25	370	175	25			
Calcium (filtered)	mg/L	0.5					20		
Chromium (III+VI) (filtered)	mg/L	0.001	<0.001	0.004	120	<0.001	<0.001	0	
Cobalt (filtered)	mg/L	0.001	0.002	0.002	0	0.002	0.002	0	
Copper (filtered)	mg/L	0.001	0.012	0.003	120	0.012	0.010	18	
Lead (filtered)	mg/L	0.001	<0.001	0.002	67	<0.001	<0.001	0	
Magnesium	mg/L	0.5	32	1,700	193	32			
Magnesium (filtered)	mg/L	0.5					29		
Manganese (filtered)	mg/L	0.001	<0.005	0.48	196	<0.005	0.001	0	
Mercury (filtered)	mg/L	0.0001	<0.0001	<0.0001	0	<0.0001	<0.0001	0	
Nickel (filtered)	mg/L	0.001	0.012	0.018	40	0.012	0.011	9	
Potassium	mg/L	0.5	17	180	165	17			
Potassium (filtered)	mg/L	0.5					17		
Zinc (filtered)	mg/L	0.005	<0.005	0.058	168	<0.005	<0.005	0	
TPH									
C6-C9 Fraction	µg/L	20	<20	<20	0	<20	<20	0	
C10-C14 Fraction	µg/L	50	<50	<50	0	<50	<50	0	
C15-C28 Fraction	µg/L	100	<100	<100	0	<100	<100	0	
C29-C36 Fraction	µg/L	50	<100	<100	0	<100	<50	0	
C10-C36 Fraction (Sum)	µg/L	50	<100	<100	0	<100	<50	0	
TRH									
C6-C10 Fraction (F1)	µg/L	20	<20	<20	0	<20	<20	0	
C6-C10 (F1 minus BTEX)	µg/L	20	<20	<20	0	<20	<20	0	
>C10-C16 Fraction (F2)	µg/L	50	<50	<50	0	<50	<100	0	
>C10-C16 Fraction (F2 minus Naphthalene)	µg/L	50	<50	<50	0	<50	<100	0	
>C16-C34 Fraction (F3)	µg/L	100	<100	<100	0	<100	<100	0	
>C34-C40 Fraction (F4)	µg/L	100	<100	<100	0	<100	<100	0	
>C10-C40 Fraction (Sum)	µg/L	100	<100	<100	0	<100	<100	0	
BTEX									
Naphthalene (VOC)	mg/L	0.005	<0.01	<0.01	0	<0.01	<0.005	0	
Benzene	µg/L	1	<1	<1	0	<1	<1	0	
Toluene	µg/L	1	<1	<1	0	<1	<2	0	
Ethylbenzene	µg/L	1	<1	<1	0	<1	<2	0	
Xylene (m & p)	µg/L	2	<2	<2	0	<2	<2	0	
Xylene (o)	µg/L	1	<1	<1	0	<1	<2	0	
Xylene Total	µg/L	2	<3	<3	0	<3	<2	0	
Total BTEX	µg/L	1					<1		
PAH									
Acenaphthene	µg/L	1	<1	<1	0	<1	<1.0	0	
Acenaphthylene	µg/L	1	<1	<1	0	<1	<1.0	0	
Anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	
Benzo(a)anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	
Benzo(a) pyrene	µg/L	0.5	<1	<1	0	<1	<0.5	0	
Benzo(b+j)fluoranthene	mg/L	0.001	<0.001	<0.001	0	<0.001	<0.0010	0	
Benzo(g,h,i)perylene	µg/L	1	<1	<1	0	<1	<1.0	0	
Benzo(k)fluoranthene	µg/L	1	<1	<1	0	<1	<1.0	0	
Chrysene	µg/L	1	<1	<1	0	<1	<1.0	0	
Dibenz(a,h)anthracene	µg/L	1	<1	<1	0	<1	<1.0	0	
Fluoranthene	µg/L	1	<1	<1	0	<1	<1.0	0	
Fluorene	µg/L	1	<1	<1	0	<1	<1.0	0	
Indeno(1,2,3-c,d)pyrene	µg/L	1	<1	<1	0	<1	<1.0	0	
Naphthalene	µg/L	1	<1	<1	0	<1	<1.0	0	
Phenanthrene	µg/L	1	<1	<1	0	<1	<1.0	0	
Pyrene	µg/L	1	<1	<1	0	<1	<1.0	0	
Benzo(a)pyrene TEQ calc (Zero)	mg/L	0.0005					<0.0005		
PAHs (Sum of total)	µg/L	0.5	<1	<1	0	<1	<0.5	0	
Phenols									
3&4-Methylphenol (m&p-cresol)	µg/L	2	<6	<6	0	<6	<2.0	0	
2,4,5-Trichlorophenol	µg/L	1	<10	<10	0	<10	<1.0	0	
2,4,6-Trichlorophenol	µg/L	1	<10	<10	0	<10	<1.0	0	
2,4-Dichlorophenol	µg/L	1	<3	<3	0	<3	<1.0	0	
2,4-Dimethylphenol	µg/L	1	<3	<3	0	<3	<1.0	0	
2,4-Dinitrophenol	mg/L	0.03	<0.03	<0.03	0	<0.03			
2,6-Dichlorophenol	µg/L	1	<3	<3	0	<3	<1.0	0	
2-Chlorophenol	µg/L	1	<3	<3	0	<3	<1.0	0	
2-Methylphenol	µg/L	1	<3	<3	0	<3	<1.0	0	
2-Nitrophenol	µg/L	1	<10	<10	0	<10	<1.0	0	
4,6-Dinitro-2-methylphenol	µg/L	30	<30	<30	0	<30			
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100	<100	<100	0	<100			
4-chloro-3-methylphenol	µg/L	1	<10	<10	0	<10	<1.0	0	
4-Nitrophenol	µg/L	30	<30	<30	0	<30			
Cresol Total	mg/L	0.01	<0.01	<0.01	0	<0.01			
Pentachlorophenol	µg/L	2	<10	<10	0	<10	<2.0	0	
Tetrachlorophenols	µg/L	30	<30	<30	0	<30			
Phenol	µg/L	1	<3	<3	0	<3	<1.0	0	
Phenols (Total Halogenated)	mg/L	0.01	<0.01	<0.01	0	<0.01			
Phenols (Total Non Halogenated)	mg/L	0.1	<0.1	<0.1	0	<0.1			
Organochlorine Pesticides									
Organochlorine pesticides EPAVic	µg/L	2	<2	<2	0	<2			
Other organochlorine pesticides									
EPAVic	µg/L	2	<2	<2	0	<2			
4,4-DDE	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	
a-BHC	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	
Aldrin	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	
Aldrin + Dieldrin	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	
b-BHC	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	
Chlordane	µg/L	0.5	<2	<2	0	<2	<0.5	0	
Chlordane (cis)	µg/L	0.5					<0.5		
Chlordane (trans)	µg/L	0.5					<0.5		
d-BHC	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	
DDD	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	
DDT	µg/L	0.2	<0.2	<0.2	0	<0.2	<2.0	0	
DDT+DDE+DDD	µg/L	0.2	<0.2	<0.2	0	<0.2	<0.5	0	

Lab Report Number	Unit	EQL	Date	29 May 2025	29 May 2025	RPD	29 May 2025	29 May 2025	RPD
			Field ID	SW01	DUP2A		SW01	DUP2B	
			Matrix Type	Water	Water		Water	Water	
				1227787	1227787		1227787	EM2509730	
Dieldrin	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Endosulfan I	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Endosulfan II	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Endosulfan sulphate	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Endrin	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Endrin aldehyde	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Endrin ketone	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
g-BHC (Lindane)	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Heptachlor	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Heptachlor epoxide	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Methoxychlor	µg/L	0.2		<0.2	<0.2	0	<0.2	<2.0	0
Toxaphene	mg/L	0.005		<0.005	<0.005	0	<0.005		
Halogenated Benzenes									
Hexachlorobenzene	µg/L	0.2		<0.2	<0.2	0	<0.2	<0.5	0
Inorganics									
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1						396	
Nitrite + Nitrate as N	mg/L	0.01		<0.05	0.10	67	<0.05	0.06	18
Alkalinity (Bicarbonate as CaCO3)	mg/L	1		<20	51	87	<20	591	187
Alkalinity (Carbonate as CaCO3)	mg/L	1		150	<10	175	150	59	87
Alkalinity (Hydroxide) as CaCO3	mg/L	1		500	<20	185	500	<1	199
Alkalinity (total) as CaCO3	mg/L	1		650	51	171	650	650	0
Ammonia as N	mg/L	0.01		0.05	0.39	155	0.05	0.30	143
Anions Total	meq/L	0.01						33.8	
Cations Total	meq/L	0.01						32.4	
Chloride	mg/L	1		460	24,000	192	460	447	3
Fluoride	mg/L	0.1		2.3	<0.5	129	2.3	3.7	47
Ionic Balance	%	0.01						2.18	
Sodium	mg/L	0.5		680	13,000	180	680		
Sodium (filtered)	mg/L	0.5						657	
Sulphate	mg/L	5		360	3,800	165	360		
Total Dissolved Solids (Lab)	mg/L	10			60,000			1,880	
Total Suspended Solids (Lab)	mg/L	5		26			26		
Herbicides									
Dinoseb	µg/L	100		<100	<100	0	<100		
Organic									
Total Organic Carbon	mg/L	1		32	<5	146	32	50	44
Organophosphorous Pesticides									
Tokuthion	mg/L	0.002		<0.002	<0.002	0	<0.002		
Azinophos methyl	µg/L	0.5		<2	<2	0	<2	<0.5	0
Bolstar (Sulprofos)	µg/L	2		<2	<2	0	<2		
Bromophos-ethyl	µg/L	0.5						<0.5	
Carbophenothion	µg/L	0.5						<0.5	
Chlorfenvinphos	µg/L	0.5		<20	<20	0	<20	<0.5	0
Chlorpyrifos	µg/L	0.5		<2	<2	0	<2	<0.5	0
Chlorpyrifos-methyl	mg/L	0.0005		<0.002	<0.002	0	<0.002	<0.0005	0
Coumaphos	µg/L	20		<20	<20	0	<20		
Demeton-O	µg/L	2		<2	<2	0	<2		
Demeton-S	µg/L	2		<2	<2	0	<2		
Diazinon	µg/L	0.5		<2	<2	0	<2	<0.5	0
Dichlorvos	µg/L	0.5		<2	<2	0	<2	<0.5	0
Dimethoate	µg/L	0.5		<2	<2	0	<2	<0.5	0
Disulfoton	µg/L	2		<2	<2	0	<2		
Ethion	µg/L	0.5		<2	<2	0	<2	<0.5	0
Ethoprop	µg/L	2		<2	<2	0	<2		
Fenitrothion	µg/L	2		<2	<2	0	<2		
Fensulfothion	µg/L	2		<2	<2	0	<2		
Fenthion	µg/L	0.5		<2	<2	0	<2	<0.5	0
EPN	µg/L	2		<2	<2	0	<2		
Malathion	µg/L	0.5		<2	<2	0	<2	<0.5	0
Merphos	mg/L	0.002		<0.002	<0.002	0	<0.002		
Methyl parathion	µg/L	2		<2	<2	0	<2	<2.0	0
Mevinphos (Phosdrin)	µg/L	2		<2	<2	0	<2		
Monocrotophos	µg/L	2		<2	<2	0	<2	<2.0	0
Naled (Dibrom)	µg/L	2		<2	<2	0	<2		
Omethoate	µg/L	20		<20	<20	0	<20		
Phorate	µg/L	2		<2	<2	0	<2		
Prothiofos	µg/L	0.5						<0.5	
Pyrazophos	µg/L	2		<2	<2	0	<2		
Ronnel	µg/L	2		<2	<2	0	<2		
Terbufos	µg/L	2		<2	<2	0	<2		
Trichloronate	µg/L	2		<2	<2	0	<2		
Tetrachlorvinphos	mg/L	0.002		<0.002	<0.002	0	<0.002		
Pesticides									
Demeton-S-methyl	µg/L	0.5						<0.5	
Fenamiphos	µg/L	0.5						<0.5	
Parathion	µg/L	2		<2	<2	0	<2	<2.0	0
Pirimiphos-methyl	mg/L	0.02		<0.02	<0.02	0	<0.02		
Pirimphos-ethyl	µg/L	0.5						<0.5	

*RPDs have only been considered where a concentration is greater than 1 times the EQL.

**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs for each EQL multiplier range are: 50 (1 - 10 x EQL); 50 (10 - 20 x EQL); 20 (> 20 x EQL))

***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

		Date
		Field ID
		Matrix Type
		Lab Report Number
	Unit	EQL
Metals		
Aluminium (filtered)	mg/L	0.01
Arsenic (filtered)	mg/L	0.001
Barium (filtered)	mg/L	0.001
Cadmium (filtered)	mg/L	0.0001
Calcium	mg/L	0.5
Calcium (filtered)	mg/L	0.5
Chromium (III+VI) (filtered)	mg/L	0.001
Cobalt (filtered)	mg/L	0.001
Copper (filtered)	mg/L	0.001
Lead (filtered)	mg/L	0.001
Magnesium	mg/L	0.5
Magnesium (filtered)	mg/L	0.5
Manganese (filtered)	mg/L	0.001
Mercury (filtered)	mg/L	0.0001
Nickel (filtered)	mg/L	0.001
Potassium	mg/L	0.5
Potassium (filtered)	mg/L	0.5
Zinc (filtered)	mg/L	0.005
TPH		
C6-C9 Fraction	µg/L	20
C10-C14 Fraction	µg/L	50
C15-C28 Fraction	µg/L	100
C29-C36 Fraction	µg/L	50
C10-C36 Fraction (Sum)	µg/L	50
TRH		
C6-C10 Fraction (F1)	µg/L	20
C6-C10 (F1 minus BTEX)	µg/L	20
>C10-C16 Fraction (F2)	µg/L	50
>C10-C16 Fraction (F2 minus Naphthalene)	µg/L	50
>C16-C34 Fraction (F3)	µg/L	100
>C34-C40 Fraction (F4)	µg/L	100
>C10-C40 Fraction (Sum)	µg/L	100
BTEX		
Naphthalene (VOC)	mg/L	0.005
Benzene	µg/L	1
Toluene	µg/L	1
Ethylbenzene	µg/L	1
Xylene (m & p)	µg/L	2
Xylene (o)	µg/L	1
Xylene Total	µg/L	2
Total BTEX	µg/L	1
PAH		
Acenaphthene	µg/L	1
Acenaphthylene	µg/L	1
Anthracene	µg/L	1
Benzo(a)anthracene	µg/L	1
Benzo(a) pyrene	µg/L	0.5
Benzo(b+j)fluoranthene	mg/L	0.001
Benzo(g,h,i)perylene	µg/L	1
Benzo(k)fluoranthene	µg/L	1
Chrysene	µg/L	1
Dibenz(a,h)anthracene	µg/L	1
Fluoranthene	µg/L	1
Fluorene	µg/L	1
Indeno(1,2,3-c,d)pyrene	µg/L	1
Naphthalene	µg/L	1
Phenanthrene	µg/L	1
Pyrene	µg/L	1
Benzo(a)pyrene TEQ calc (Zero)	mg/L	0.0005
PAHs (Sum of total)	µg/L	0.5
Phenols		
3&4-Methylphenol (m&p-cresol)	µg/L	2
2,4,5-Trichlorophenol	µg/L	1
2,4,6-Trichlorophenol	µg/L	1
2,4-Dichlorophenol	µg/L	1
2,4-Dimethylphenol	µg/L	1
2,4-Dinitrophenol	mg/L	0.03
2,6-Dichlorophenol	µg/L	1
2-Chlorophenol	µg/L	1
2-Methylphenol	µg/L	1
2-Nitrophenol	µg/L	1
4,6-Dinitro-2-methylphenol	µg/L	30
4,6-Dinitro-o-cyclohexyl phenol	µg/L	100
4-chloro-3-methylphenol	µg/L	1
4-Nitrophenol	µg/L	30
Cresol Total	mg/L	0.01
Pentachlorophenol	µg/L	2
Tetrachlorophenols	µg/L	30
Phenol	µg/L	1
Phenols (Total Halogenated)	mg/L	0.01
Phenols (Total Non Halogenated)	mg/L	0.1
Organochlorine Pesticides		
Organochlorine pesticides EPAVic	µg/L	2
Other organochlorine pesticides		
EPAVic	µg/L	2
4,4-DDE	µg/L	0.2
a-BHC	µg/L	0.2
Aldrin	µg/L	0.2
Aldrin + Dieldrin	µg/L	0.2
b-BHC	µg/L	0.2
Chlordane	µg/L	0.5
Chlordane (cis)	µg/L	0.5
Chlordane (trans)	µg/L	0.5
d-BHC	µg/L	0.2
DDD	µg/L	0.2
DDT	µg/L	0.2
DDT+DDE+DDD	µg/L	0.2



		Date
		Field ID
		Matrix Type
		Lab Report Number
	Unit	EQL
Dieldrin	µg/L	0.2
Endosulfan I	µg/L	0.2
Endosulfan II	µg/L	0.2
Endosulfan sulphate	µg/L	0.2
Endrin	µg/L	0.2
Endrin aldehyde	µg/L	0.2
Endrin ketone	µg/L	0.2
g-BHC (Lindane)	µg/L	0.2
Heptachlor	µg/L	0.2
Heptachlor epoxide	µg/L	0.2
Methoxychlor	µg/L	0.2
Toxaphene	mg/L	0.005
Halogenated Benzenes		
Hexachlorobenzene	µg/L	0.2
Inorganics		
Sulfate as SO4 - Turbidimetric (filtered)	mg/L	1
Nitrite + Nitrate as N	mg/L	0.01
Alkalinity (Bicarbonate as CaCO3)	mg/L	1
Alkalinity (Carbonate as CaCO3)	mg/L	1
Alkalinity (Hydroxide) as CaCO3	mg/L	1
Alkalinity (total) as CaCO3	mg/L	1
Ammonia as N	mg/L	0.01
Anions Total	meq/L	0.01
Cations Total	meq/L	0.01
Chloride	mg/L	1
Fluoride	mg/L	0.1
Ionic Balance	%	0.01
Sodium	mg/L	0.5
Sodium (filtered)	mg/L	0.5
Sulphate	mg/L	5
Total Dissolved Solids (Lab)	mg/L	10
Total Suspended Solids (Lab)	mg/L	5
Herbicides		
Dinoseb	µg/L	100
Organic		
Total Organic Carbon	mg/L	1
Organophosphorous Pesticides		
Tokuthion	mg/L	0.002
Azinophos methyl	µg/L	0.5
Bolstar (Sulprofos)	µg/L	2
Bromophos-ethyl	µg/L	0.5
Carbophenothion	µg/L	0.5
Chlorfenvinphos	µg/L	0.5
Chlorpyrifos	µg/L	0.5
Chlorpyrifos-methyl	mg/L	0.0005
Coumaphos	µg/L	20
Demeton-O	µg/L	2
Demeton-S	µg/L	2
Diazinon	µg/L	0.5
Dichlorvos	µg/L	0.5
Dimethoate	µg/L	0.5
Disulfoton	µg/L	2
Ethion	µg/L	0.5
Ethoprop	µg/L	2
Fenitrothion	µg/L	2
Fensulfothion	µg/L	2
Fenthion	µg/L	0.5
EPN	µg/L	2
Malathion	µg/L	0.5
Merphos	mg/L	0.002
Methyl parathion	µg/L	2
Mevinphos (Phosdrin)	µg/L	2
Monocrotophos	µg/L	2
Naled (Dibrom)	µg/L	2
Omethoate	µg/L	20
Phorate	µg/L	2
Prothiofos	µg/L	0.5
Pyrazophos	µg/L	2
Ronnel	µg/L	2
Terbufos	µg/L	2
Trichloronate	µg/L	2
Tetrachlorvinphos	mg/L	0.002
Pesticides		
Demeton-S-methyl	µg/L	0.5
Fenamiphos	µg/L	0.5
Parathion	µg/L	2
Pirimiphos-methyl	mg/L	0.02
Pirimphos-ethyl	µg/L	0.5

*RPDs have only been considered where a concentration is greater than 1 times t
**Elevated RPDs are highlighted as per QAQC Profile settings (Acceptable RPDs fr
***Interlab Duplicates are matched on a per compound basis as methods vary be



				Metals											
				Aluminium	Arsenic	Barium	Cadmium	Chromium (III+VI)	Cobalt	Copper	Lead	Manganese	Mercury	Nickel	Zinc
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				0.05	0.001	0.02	0.0002	0.001	0.001	0.001	0.001	0.005	0.0001	0.001	0.005
Date	Field ID	Sample Type	Lab Report Number												
29 May 2025	RINS1	Rinsate	1227787	<0.05	<0.001	<0.02	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0001	<0.001	<0.005
30 May 2025	RINS2	Rinsate	1227787	<0.05	<0.001	<0.02	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0001	<0.001	<0.005
29 May 2025	RINS3	Rinsate	1227787	<0.05	<0.001	<0.02	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0001	<0.001	<0.005
30 May 2025	RINS4	Rinsate	1227787	<0.05	<0.001	<0.02	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.005	<0.0001	<0.001	<0.005