Annual Drinking Water Quality Report

2023–24

South East Water

Acknowledgement

South East Water proudly acknowledges the Bunurong, Gunaikurnai and Wurundjeri Woi Wurrung as the Traditional Owners of the land on which we operate, and pay respect to their Elders past, present and emerging.

We acknowledge their songlines, cultural lore and continuing connection to the land and water.

We recognise and respect their continuing connections to climate, culture and Country.

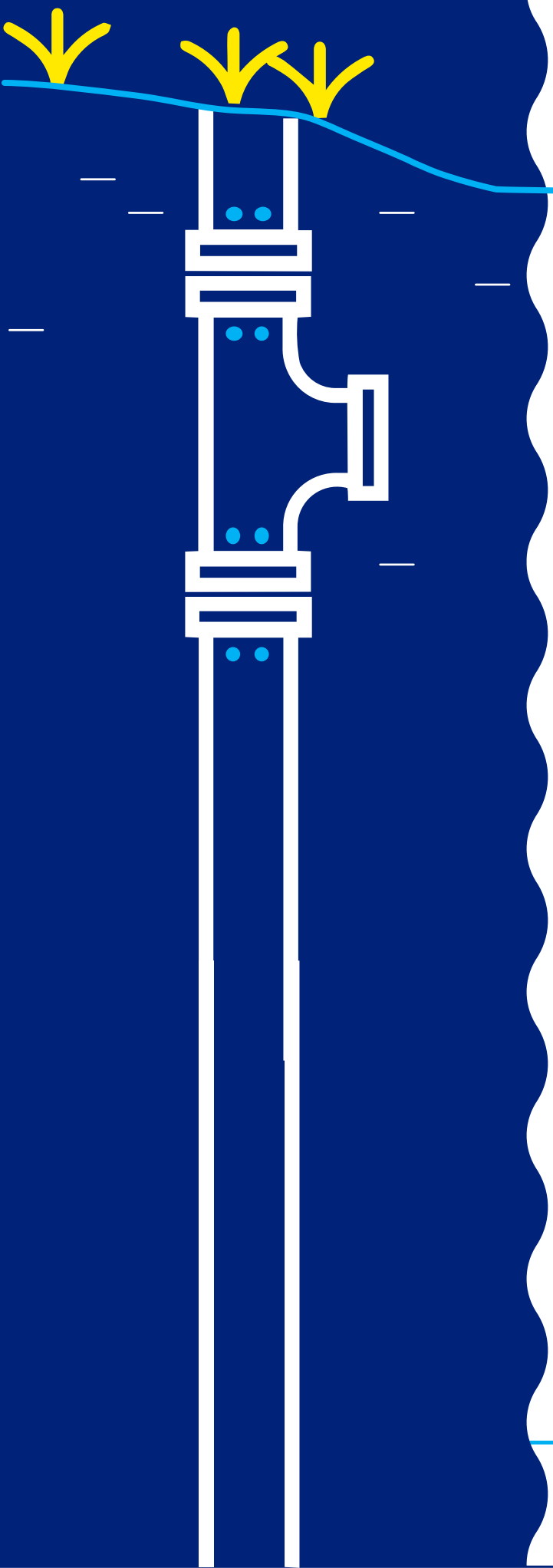


Table of contents

Overview

Ever wondered where your water comes from?

In Victoria, we enjoy some of the best drinking water in the world. So, what's involved in getting water that starts as rain to your taps? There's more to it than you might think.

Here's a snapshot of the journey in supplying our 1.8 million customers across Melbourne's south-east – residential, commercial, and industrial – with safe, high-quality drinking water.

It starts north in the Yarra Ranges

We purchase your drinking water from Melbourne Water, who harvest, store, and apply the primary treatment to the water before it arrives in our system.

A large proportion of your drinking water comes from protected or uninhabited mountain ash forests high in the Yarra Ranges. Here, more than 157,000 hectares have been reserved for the primary purpose of harvesting water. These catchments were set aside more than 100 years ago to supply high-quality water that requires minimal treatment. Melbourne is one of only 5 major cities in the world with protected catchments such as these. They're managed by Melbourne Water and Parks Victoria.

From these uppermost catchments, water flows into the Thomson and Upper Yarra reservoirs, where water may be stored for many years before being used. This is a good thing. Time allows sediment from the forests, washed in by the rain, to settle, providing natural purification – in fact, the upper catchments are so pristine that the water from these protected areas doesn't need filtration.

And moves south to the Dandenong Ranges and Cardinia

From here, the water transfers to the Silvan and Cardinia reservoirs further south. As it leaves these reservoirs, it's disinfected to support public health. Chlorine is used to kill potentially harmful micro-organisms and fluoride is added to improve dental health (as directed by the Department of Health under the Health (Fluoridation) Act 1973). Acidity is adjusted to a pH level of 7 to 7.5 by adding lime to improve the taste and to reduce pipe corrosion.

The water is then transported to our supply system through a secure closed network to various covered or enclosed storages and delivered to our customer taps.

Our customers around our South Melbourne locality are supplied with some water from the Winneke Water Treatment Plant, located at Sugarloaf Reservoir. This water is harvested from both the Yarra River at Yering Gorge, as well as the Maroondah Aqueduct. It's then transferred to the Winneke plant, where it's filtered, then undergoes the same treatment as water from Silvan and Cardinia reservoirs.

Localities from Bunyip to Lang Lang, the Mornington Peninsula and Cranbourne receive water from the Tarago Reservoir and Tarago Water Treatment Plant. Tarago is a Dissolved Air Flotation and Filtration (DAFF) and ultraviolet (UV) disinfection water treatment plant.

Water from the Tarago plant is fed directly into our supply system via the Tarago–Westernport Pipeline.

Much of what we do our customers never see, much like the plumbing in their homes. Our distribution system operates 24 hours a day, so that drinking water is there when you need it.

All about desalinated water

By balancing the volume of water stored in Melbourne's reservoirs, Cardinia Reservoir can receive desalinated water. Desalinated water is drinking water produced from sea water.

Our desalinated water comes from the Victorian Desalination Plant at Wonthaggi, where sea water passes through reverse osmosis membranes and is fully treated through a series of processes (see page 15).

The plant is a public-private partnership between the Victorian Government and AquaSure (a Ventia/Suez joint venture). The Department of Energy, Environment and Climate Action (DEECA) manage it on behalf of the Victorian Government.

Like all drinking water, desalinated water from the Victorian Desalination Plant meets the requirements of the Australian Drinking Water Guidelines 2011, Safe Drinking Water Act 2003, and World Health Organisation guidelines.

The plant's water quality specifications were determined by Melbourne's water industry and included in the contract with AquaSure by DEECA.

So that the desalinated water can join our water supplies, the plant features an 84 km underground 2-way transfer pipeline to Berwick where it connects with our existing network and mixes with our supply from Cardinia Reservoir.

Each year the Victorian Government decides how much water to order from the Victorian Desalination Plant. During 2023–24, no water was ordered, after considering advice from Melbourne Water about the current and projected weather conditions, and the secure state of Melbourne's water supply.

Our water system by numbers (for 2023–24 financial year)

Assets

14,639 km of drinking water mains

(includes service connections).

836,703 customer connections.

13,436 water quality samples.

40 water sampling localities.

82 water pump stations.

68 water storage facilities.

25 secondary disinfection plants.

10 continuous online testing units.

2 portable disinfection trailers.

People

1.8 million people serviced.

Our customer base grew by 1.5% to 836,703.

92.5% of our customers rely on us for their home's water and wastewater services.

7.5% of our customers rely on us for non-residential water usage purposes (businesses, schools, etc.).

Our customers speak more than 200 languages.

Our service area spans across the lands and waters of the Bunurong people, and the Wurundjeri Woi Wurrung people, the Gunaikurnai people and an area in our far north-east around Longwarry that currently has no Registered Aboriginal Party. There are 10,484 people who identify as Aboriginal or Torres Strait Islander in our region.

Our supply system is closely linked with Melbourne Water's transfer system. These arrangements are formalised under a Bulk Water Supply Agreement. This sets out the amount and quality of water we receive from them.

A message from our Managing Director

At South East Water, we know that our customers and community want safe and reliable services – this means clean and high-quality drinking water, and the safe disposal of wastewater.

In 2023–24 we delivered almost 142 billion litres of drinking water across 14,639* kms of drinking water mains (*includes service connections) across our network. We provided this water as an essential service to 1.8 million people across Melbourne's south-east who rely on us every day and night.

We took over 13,000 water samples to test against a range of water quality standards. These are specified in Schedule 2 of the Safe Drinking Water Regulations 2015 and include *Escherichia coli* (*E. coli*), trihalomethanes (a by-product of chlorine disinfection) and turbidity. Other water quality standards include minerals and elements like fluoride, copper, lead, and manganese, to name a few.

Water quality events

Across the year, we submitted one Section 22 report to the Department of Health, regarding an incident at Bittern. A routine water sample taken from our Bittern storage tank returned a positive *E. coli* result, which raised concerns about potential contamination in the drinking water supply. Following a thorough investigation, including additional testing and consultation with the Department of Health, the result was determined to be a false positive, and not representative of the actual water quality.

Optimising our operations

This report details how we performed against the *Safe Drinking Water Act 2003* (the Act), the Safe Drinking Water Regulations 2015 (the Regulations) and the Australian Drinking Water Guidelines 2011 (ADWG) in 2023–24.

We've detailed our results from our Water Quality Monitoring Program and explained how we're working to deliver safe and high-quality water.

As part of our proactive management of our water supply, during the year we adopted ice pigging as an innovative and environmentally friendly way to clean large water mains. It's also a more sustainable approach, requiring significantly less water than traditional flushing techniques and no harsh chemicals.

In addition, by building and deploying portable disinfection units, we increased our ability to respond more quickly to control water quality in the event of an emergency. And by adding 2 extra secondary disinfection sites, we enhanced chlorine residuals in areas where we've historically experienced challenges maintaining levels.

By upgrading the safety showers at our secondary disinfection plants, we're enhancing accident response capabilities, ensuring the safety and wellbeing of our people and meeting our safety obligations.

We also increasingly harnessed digital technologies so we could conduct real-time monitoring to identify and mitigate issues before they impacted our customers.

This report demonstrates our commitment to innovate with purpose and act with care to provide safe and reliable water services, minimise disruptions for our customers

and make sure our people feel safe and supported. It’s through this that we’ll continue to deliver healthy water to our customers, community and the environment, now and into the future.

Lara Olsen

Managing Director

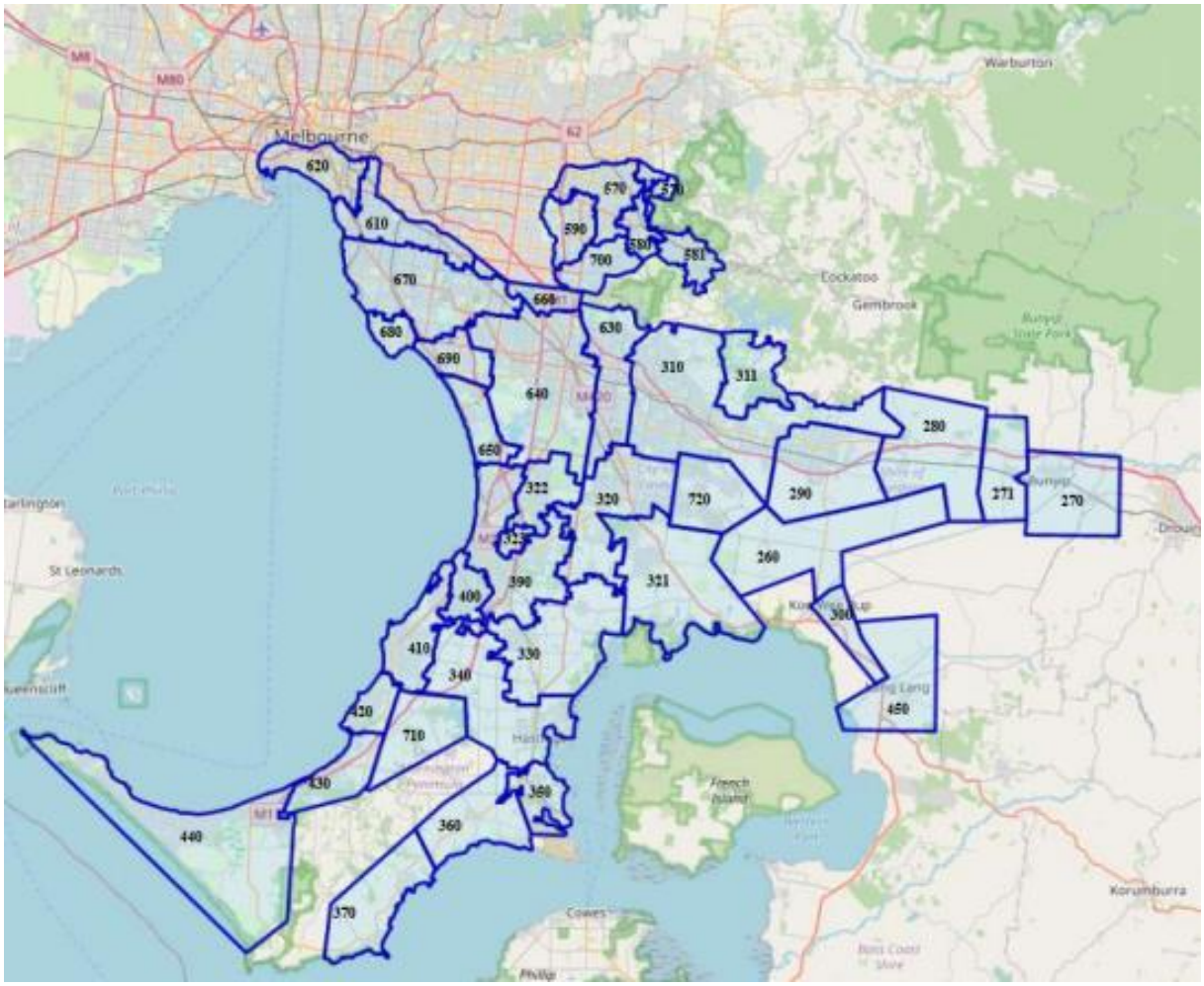
October 2024

Water quality localities and services

We don’t just take water from various water storages to service our customers. We use different water treatments too. This ensures our water is safe, high-quality and complies with required regulations and standards.

You can see where your water is from, and which treatment we use, by looking at the locality table on page 11.

Please note that water quality locality boundaries don’t align exactly with suburbs in our service area.



Water quality and private water services

Private water services, which have a ‘supply by agreement’ with us, are included in relevant water quality localities. This is because the water supplied through your private connection is still guaranteed to meet the requirements of the Safe Drinking Water Regulations 2015 (the Regulations).

If our customers’ private connection is in Cora Lynn (locality no.260) or Moorooduc (locality no. 710), they’re supplied from large transfer pipelines (the Tarago-Westernport Pipeline for Cora Lynn and the Bittern-Dromana Pipeline for Moorooduc). As detailed in their supply agreement, these large pipelines may be shut down for maintenance reasons for extended periods of time – and that means continuous access to water can’t be guaranteed.

Non-drinking water

Some of our customers receive non-drinking water from the Bunyip Main Race and Tarago Main Race. This supply is not classified as Regulated water under the Safe Drinking Water Act 2003 (the Act), as determined in consultation with the Department of Health.

The Bunyip Main Race and Tarago Main Race are open channel aqueduct systems, owned and operated by Melbourne Water. The water isn’t disinfected or treated in any way and customers draw water into their properties for non-drinking usage (e.g. stock and irrigation purposes). To manage risks associated with supplying water that’s not for drinking, all Bunyip Main Race and Tarago Main Race customers have an individual supply agreement with us regarding the quality of the water that they receive.

This agreement specifically states that the water supplied is not fit for human consumption. We also put a note that the water is ‘not fit for drinking’ on our customers’ water bills and on any Section 32 agreement for land transfer.

The water isn’t publicly available and can only be accessed by the customers on an agreement.

Our water localities

We divide our water system into 40 water sampling localities and each one is numbered.

We determine each locality by where the water comes from, how it is delivered and how it's treated. This includes areas where we boost the primary treatment through secondary disinfection. You can see a summary of the treatment processes on page 12

To maintain the safe drinking quality of our customers' water, we have 25 secondary disinfection plants that deliver a balanced level of chlorine to suppress the regrowth of opportunistic pathogens and other microbes. These further improve our ability to deliver safe and reliable drinking water for our customers.

This secondary treatment minimises fluctuations in chlorine levels that occur with changing demand and water temperature. We show the locations of these secondary disinfection plants on the map of our water supply system on page 6.

Water sampling locality name	Towns/suburbs supplied	2023–24 population
Balnarring	Balnarring, Bittern, Merricks, Merricks Beach, Somers	5,700
Bayswater	Bayswater, Boronia, Ferntree Gully, Knoxfield, Upper Ferntree Gully, The Basin, Wantirna, Wantirna South	62,880
Beaumaris	Beaumaris, Black Rock, Cheltenham	27,310
Belgrave	Belgrave, Belgrave Heights, Belgrave South, Selby, Upper Ferntree Gully, Tecoma, Upwey	13,890
Berwick	Beaconsfield, Berwick, Nar Nar Goon, Narre Warren, Narre Warren South, Narre Warren North, Officer, Pakenham	115,940
Bittern	Bittern, Bittern West, Crib Point, HMAS Cerberus	5,390
Brighton-Heatherton	Bentleigh, Bentleigh East, Brighton, Brighton East, Caulfield South, Cheltenham, Clarinda, Clayton South, Hampton, Heatherton, Highett, McKinnon, Mentone, Moorabbin, Oakleigh South, Ormond, Sandringham	227,740
Bunyip	Bunyip, Longwarry	4,450
Carrum Downs	Carrum Downs, Skye, Sandhurst	28,190
Caulfield	Armadale, Carnegie, Caulfield, Caulfield North, Caulfield South, Clayton, Elsternwick, Elwood, Hughesdale, Huntingdale, Murrumbeena, Oakleigh, Oakleigh South, Ormond, Prahran, Ripponlea, South Yarra, Springvale, St Kilda, St Kilda East, Toorak, Windsor	153,030
Chelsea	Aspendale, Aspendale Gardens, Bonbeach, Carrum, Chelsea, Chelsea Heights, Edithvale, Patterson Lakes	47,950
Clyde North	Cardinia, Clyde, Clyde North, Officer, Officer South	33,030
Cora Lynn	Bunyip, Koo Wee Rup, Nar Nar Goon, Tooradin	120
Cranbourne	Cranbourne, Centreville, Cranbourne East, Cranbourne North, Cranbourne West, Cranbourne South, Langwarrin, Pearcedale	72,710

Dandenong	Bangholme, Dandenong, Dandenong South, Dingley Village, Doveton, Keysborough, Noble Park, Springvale South	119,730
Dandenong North	Clayton, Dandenong North, Noble Park North, Springvale	25,030
Devon Meadows	Clyde, Fiveways, Warneet, Cranbourne, Blind Bight, Cannons Creek, Tooradin, Warneet	13,040
Dromana	Dromana, McCrae, Mt Martha, Safety Beach	21,050
Ferntree Gully	Boronia, Ferntree Gully, The Basin, Upper Ferntree Gully	20,710
Frankston	Baxter, Carrum Downs, Cranbourne, Frankston, Frankston North, Langwarrin, Seaford, Pearcedale	85,750
Frankston South	Baxter, Frankston, Frankston South, Mt Eliza	12,730
Garfield	Garfield, Garfield North	1,700
Hallam	Dandenong South, Doveton, Endeavour Hills, Eumemmerring, Hallam, Hampton Park, Lynbrook, Lyndhurst, Narre Warren North	65,600
Hastings	Bittern, Hastings	10,960
Karingal	Frankston	10,130
Koo Wee Rup	Koo Wee Rup	3,050
Lang Lang	Lang Lang	2,490
Moorooduc	Dromana, Moorooduc, Tuerong	120
Mordialloc	Braeside, Dingley Village, Mentone, Mordialloc, Parkdale, Waterways	31,260
Mornington	Mt Eliza, Mornington, Mt Martha, Osborne	43,000
Mt Martha	Mt Martha	9,450
Pakenham	Pakenham	43,300
Rowville	Lysterfield, Rowville	29,840
Rye	Blairgowrie, Cape Schanck, Fingal, McCrae, Portsea, Rosebud, Rosebud South, Capel Sound, Rye, Sorrento, St Andrews Beach, Tootgarook	73,610
Shoreham	Flinders, Point Leo, Shoreham	3,270
Somerville	Pearcedale, Somerville, Tyabb	15,650
South Melbourne	Albert Park, Balaclava, Middle Park, Port Melbourne, Prahran, South Melbourne, South Yarra, Southbank, St Kilda, St Kilda East, St Kilda West, Toorak, Windsor	223,420
Tynong	Nar Nar Goon, Nar Nar Goon North, Tynong	1,500
Upper Beaconsfield	Beaconsfield, Guys Hill, Officer, Upper Beaconsfield	1,910
Wantirna	Knoxfield, Scoresby, Wantirna, Wantirna South	23,370

*The population for each locality is derived by taking the number of property connections and multiplying by the average number of people per property. Population data is based on the growth estimates submitted to the Essential Services Commission as part of the 2023 price review process

Drinking water treatment processes

Water treatment plants

Treatment plant	Source water/catchment	Locality supplied
Cardinia	Cardinia Reservoir, Wonthaggi Desalination Plant, Silvan Reservoir	290, 311, 650, 310, 322, 630, 640, 660, 670, 680, 690, 700, 260, 710, 270, 271, 280, 300, 320, 321, 323, 330, 340, 350, 360, 370, 390, 400, 410, 420, 430, 440, 450, 720, 620, 610
Tarago	Tarago Reservoir, Tarago Catchment	260, 710, 270, 271, 280, 300, 320, 321, 323, 330, 340, 350, 360, 370, 390, 400, 410, 420, 430, 440, 450, 720
Silvan	Silvan Reservoir, Thomson Catchment, Upper Yara Catchment, O'Shannassy Catchment, Armstrong Catchment, Cardinia Reservoir	580, 620, 570, 581, 590, 610
Winneke	Sugarloaf Reservoir, Maroondah Reservoir, Yarra River	620
Wonthaggi Desalination Plant	Bass Strait, Cardinia Reservoir	See Cardinia WTP

[1] Secondary disinfection is applied by South East Water by boosting sodium hypochlorite throughout the network.

[2] South East Water is a water supplier; for a more detailed description of treatment processes refer to Melbourne Water's annual report.

[3] The localities of 260 and 710 are directly supplied without secondary disinfection from the Tarago-Westernport pipeline and the Bittern-Dromana pipeline, respectively. Customers supplied by private water services and supply-by-agreement conditions.

Added substances at each plant

	Cardinia	Tarago	Silvan	Winneke	Wonthaggi Desalination Plant
Sulphuric acid					✓
Sodium Hypochlorite	✓		✓	✓	✓
Sodium hydroxide					✓
Sodium bisulphate					✓
Powdered activated carbon		✓			
Potassium permanganate		✓			
Polymer				✓	✓
PolyDADMAC		✓			✓
Polyacrylamide		✓		✓	
Hydrated Lime	✓	✓	✓	✓	✓
Membrane cleaning chemicals					✓
Fluorosilicic acid (FSA)	✓	✓	✓	✓	✓
Ferric sulphate					✓
Chlorine gas	✓	✓	✓		✓
Carbon Dioxide		✓			✓
Anti-scalant					✓
Aluminium Sulphate				✓	
Aluminium chloralhydrate		✓			

Water treatment processes by plant

	Cardinia	Tarago	Silvan	Winneke	Wonthaggi Desalination Plant
Aeration		✓			✓
Chlorination	✓	✓	✓	✓	✓
Clarification/Filtration		✓		✓	✓
Coagulation/Flocculation		✓		✓	✓
Dissolved air flotation		✓			
Fluoridation	✓	✓	✓	✓	✓
Iron/Magnesium/Algae removal		✓			
Organic removal					
Remineralisation					✓
Reverse osmosis					✓
Membrane Preservation					✓
Sludge handling		✓		✓	✓
UV irradiation		✓		✓	
pH correction	✓	✓	✓	✓	

How we manage risk and protect our customers' water

Risk Management Plan

This robust plan helps us to identify and manage risks to our customers' drinking water quality. It also ensures that we meet the requirements of the Act, the Regulations, and the Australian Drinking Water Guidelines 2011. It draws on our Incident Management Plan and research projects that help us to continually improve the quality of our water.

A key component of how we manage risk is our Hazard Analysis and Critical Control Point (HACCP) Plan. This plan details the specific procedures and corrective measures we use to protect water quality.

We work with Melbourne Water to optimise and integrate our HACCP plans. This ensures water quality risks are considered and managed along the whole water supply journey – from Melbourne Water's catchments to our customers' front taps.

Update on non-compliance from 2023

In 2023, several opportunities for improvement were completed, including enhancing water quality training and policy communication, implementing routine water quality awareness presentations, and introducing industry partner training. Training records were standardised for handheld meter use, and sample tap labels were replaced where needed. The hypochlorite certification process was improved, audit tracking was streamlined, handheld meter calibration solutions were implemented, and outdated documentation was removed from sites to ensure compliance with current standards. All these actions have been successfully completed.

Non-conformances noted in the 2023 audit	Actions taken 2024	Implementation status 2024
Emergency Management Strategic Improvement Plan (EM SIP) (Previously Silvan DWQ Incident Joint Action Plan) ***2023: The Silvan drinking water quality incident joint action plan has not been updated with progress, and due dates need to be reassessed.***	Despite the pending status, good progress has been made on the identified actions for South East Water and the other metropolitan water authorities. Work is underway to finalise and close out the plan while capturing ongoing continuous improvement opportunities. Previous emergency management actions under the Joint Action Plan have now been superseded by works producing the Emergency Management Strategic Improvement Plan (EM SIP).	The Joint Action Plan developed and agreed by the 4 metropolitan water authorities, Department of Health and Department of Energy, Environment and Climate Action (DEECA) remains **pending approval** from the Department of Health Secretary.
Minor Non-Compliance: Unreliability of Water Quality Management System (WQMS) ***2023: The Water Quality Management System is vital for monitoring water quality and alerting to parameter exceedances. The system lacks internal IT support, making it challenging to maintain. The Water Quality team faces limitations in database modifications, necessitating external support. Daily issues and system alterations rely on external consultants.***	We've allocated funding for replacing/upgrading the WQMS and commenced work on this, with a view to deliver an upgraded IT solution. The project has been fully scoped, and a tender has been awarded.	In progress, tender awarded, and project implementation **commenced in September 2024 with system to go live expected in mid-2025**

Proactive management of our water supply

We're always thinking ahead and managing our water supply in a proactive way. Several of our supporting programs and innovative projects are linked to our HACCP Plan. You can read about some of these in this report.

Chlorination strategy

We've developed a comprehensive chlorination strategy to support our target of achieving a minimum free chlorine residual of 0.2 mg/L in our network, significantly limiting the regrowth of harmful microorganisms.

Our strategy employs a multipronged approach, which includes:

1. **Desktop analysis:** Detailed evaluation of chlorine levels throughout the network.
2. **Operational changes:** Adjustments to the reticulation network to improve chlorine retention.
3. **Identification of critical areas:** Locating storages and localities with low chlorine residuals and sections with sub-optimal hydraulic characteristics.
4. **Capital investment:** Providing supplementary disinfection measures including portable secondary disinfection units for seasonal changes and new secondary disinfection plants.

Implementing our strategy

1. **Collaboration with Melbourne Water:** Collaborating with Melbourne Water to improve the monitoring at the boundaries and increase primary chlorination dosing set points at Melbourne Water's storages that supply water to our network.
2. **Operational adjustments:** To enhance water turnover, we implemented operational changes at our tank sites and our reticulation network, improving water retention.
3. **Optimising secondary disinfection plants:** We increased chlorine dosing set points at several existing secondary disinfection units in a controlled and monitored manner, ensuring no taste or odour issues for our customers.
4. **New secondary disinfection plants:** In 2023/24 we established 2 additional secondary disinfection sites to enhance chlorine residuals in areas that have historically experienced challenges with maintaining optimal chlorine levels.

Results and future plans

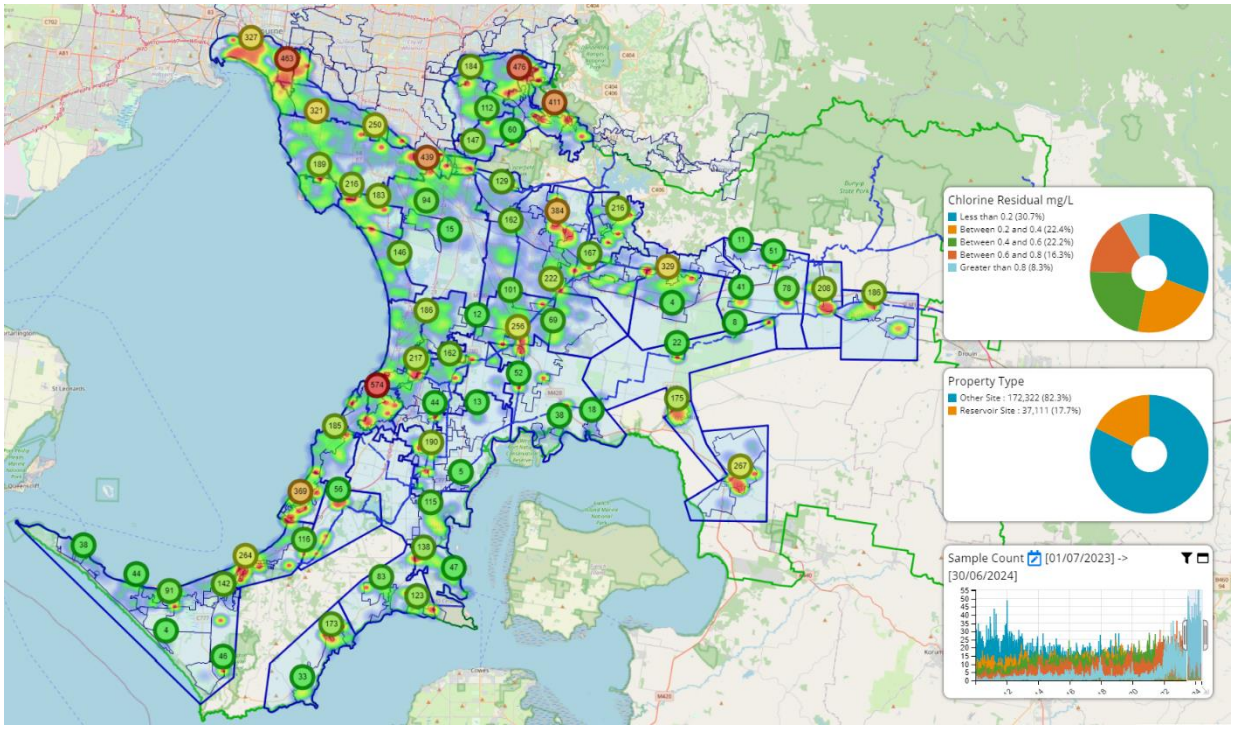
Since implementing the strategy, we've seen a significant improvement in residual chlorine levels across our water storage tanks and reticulation network. **During 2023–2024:**

- **97%** of samples had a residual chlorine level above 0.2 mg/L, compared to **95%** in the previous year.
- All water storage tanks without a chlorinator maintained free chlorine levels above 0.2 mg/L.

We'll continue to enhance our strategy to achieve even higher percentages in the coming year.

Heat mapping tool

To complement the chlorination strategy, we developed a tool which can be used to identify chlorine trends over time visually through a 'heat map' representation. The tool allows for chlorine targets to be set, and time scales to be viewed to differentiate between seasons. The results can be drilled down to sample tap level and individual results, to allow for targeted approaches to achieve the desired results.



Water quality sensor installation

In the past year, we've installed various technologies at all water storage tanks across the network to enable real-time monitoring of specific water quality parameters. Previously, we relied on manual sampling to assess tank integrity and verify water quality, which resulted in delays due to laboratory processing. The new real-time monitoring system enhances our process by allowing us to detect potential issues early, alerting us to any declining chlorine levels and enabling more effective prioritisation of our ongoing water storage maintenance.

Secondary disinfection units upgraded to Programmable Logic Control (PLC)

Our initiative to upgrade the technology providing secondary chlorination dosing throughout the network is advancing well. Its aim is to ensure reliable and efficient disinfection residuals that bolster protection in the drinking water distribution system.

The enhancements from this project offer significant benefits over traditional dosing methods. These upgrades feature improved safeguards against over- and under-dosing, as well as more accurate dosing control, ensuring that high-quality water is delivered to consumers and supporting our chlorination strategy. This method enables targeted dosing in areas with low chlorine residuals, increasing chemical efficiency and reducing aesthetic concerns for customers.

Additionally, the new control system offers remote access, enabling our water quality experts to adjust chemical dosing at any of the sites in real time, responding to potential water quality issues without the delays associated with travelling to site.

Incident management plan

In the event that a water sample fails to conform, or a complaint is received that's deemed to be significant, we're able to declare an incident and this plan is implemented. The plan details the procedures to follow, including who to inform within certain timeframes. It also details escalation protocols and procedures for managing and controlling the incident.

Complex Incident Coordination Plan for the Melbourne Metropolitan Water Industry (CICP MMWI)

In partnership with Melbourne Water, Yarra Valley Water, and Greater Western Water, we have developed the Complex Incident Coordination Plan (CICP) to ensure a coordinated response to incidents affecting multiple corporations. The plan, regularly tested with recent exercises in September and October 2023, builds on our Incident Management Plan, ensuring prompt escalation of incidents from local to major events.

In February 2024, we approved the Joint Emergency Management Strategic Improvement Plan (EM SIP), which outlines priorities and initiatives for enhancing emergency management. This plan supports continuous improvement, collaboration, and focused investment in emergency preparedness across the Melbourne Metropolitan Water Industry.

Significant progress has been made, including the recent update of the MMWI Complex Incident Coordination Plan and ongoing work to improve public information protocols.

Locateus

Supporting the incident management response is our mapping tool, Locateus. This tool collates information from several other systems into a single map-based system, allowing for a quick visualisation of the sample taps, latest results, bursts or works in the area, hydrant usage in the area, zone boundaries, number of properties, and vulnerable or key customers. Having all this information in one system allows us to respond to a water quality incident with confidence that all the information is available immediately. This allows us to undertake a rapid risk assessment determining any public health risk and to report to Department of Health.

Geographic Information System (GIS) enhancements

Our Service Delivery and Incident Management teams use GIS to manage our assets visually. Over the past year we've enhanced our ability to track water flow and maintain an up-to-date list of priority customers and facilities that may need extra support in emergencies. This data aligns with official definitions of vulnerable individuals and is readily available for regulatory compliance. Field technicians can view this data on the map, including overlaying hydraulic zones and water quality areas to provide the necessary support efficiently.

Water main renewal program

Our water main renewal program is a system designed to effectively prioritise main renewal projects. This is done by incorporating weekly updates of the most recent field data, including the locations of burst mains. This enables us to optimise our renewal efforts, minimising customer disruptions and efficiently managing our capital budget. This initiative not only enhances water quality by reducing the occurrence of main bursts that stir up sediment and result in dirty water, but also provides a framework for allocating and prioritising renewal and maintenance tasks. In 2023–24, we renewed approximately 22.2 kilometres of water mains through this program.

Backflow prevention program

We have a dedicated team managing backflow prevention compliance. Each week approximately 400 letters are sent out to remind customers to undertake backflow testing. The team manually reviews and records backflow test reports which are submitted by licenced plumbers to ensure these are correct as per the AS/NZS 2845 standard. The data is recorded in the dedicated backflow management system.

All new properties connecting to our water supply network are required to install an appropriate containment backflow prevention device, relevant to the level of risk that is present from the activities on site, so that contaminants don't enter the water supply network. Backflow hazard ratings are determined in accordance with our Backflow Protection Policy, National Construction Code V3 and AS/NZS 3500.1.

Recently South East Water has commenced a backflow improvement program to uplift compliance in the South East Water service area. An uplift plan is currently being developed to determinedhow this will be accomplished and facilitated.

So far compliance for our top 200 customers (based on water consumption) and local government bodies has been reviewed and managed closely resulting in an uplift in compliance over the last 12 months.

Hydrant permit system

We operate a system where registered users can access our water supply system at designated hydrants. As part of this, a HydroTrak® device is installed on registered users' vehicles, tracking who's drawing water from the network, where they're taking it from and how much they're taking. This helps to provide greater water security for our precious supply.

We also use the system to monitor trends in hydrant use and reduce the number of issues associated with unauthorised hydrant use. When the incorrect hydrant is used, such as on a small diameter main pipe, it can cause sediment in the pipe to resuspend and cause discoloured water for our customers. To help prevent this, registered users can access a web-based application that allows them to identify suitable hydrants to use in their area.

Water quality alert agent

We use a water quality complaints detection system to alert designated employees about water quality issues so they can investigate. The alerts are sent in instances where we receive 3 or more dirty water complaints from customers over 24 hours within 3 km of each other.

It also helps us identify and investigate when we receive 3 or more taste and odour complaints across our service region in a 24-hour period.

The system ensures we can maintain our commitment to respond to each customer complaint individually.

Product quality notification

Continuing from our water quality alert agent, our Water Quality team and other key areas of our organisation are notified of any instance where a water quality parameter is outside the optimal level. The limits for these notifications are based on more rigorous internal limits than those found in the Australian Drinking Water Guidelines 2011. This ensures we strive for excellence in water quality, rather than simply satisfying the guidelines' criteria. The limits are set within the water quality database and are automatically alerted to the team member as data is uploaded.

Alternatively, if the notification is based on customer complaints, an automated water quality alert agent is used (as described above). The product quality notification involves a water quality team member investigating the cause of the alert and noting corrective actions undertaken. The information is then entered into a web-based platform and sent out to nominated employees and management.

Routine monitoring and testing water quality

We have a contract with ALS Group, an independent, National Association of Testing Authorities (NATA) accredited laboratory, to collect and test all our drinking water samples.

During 2023–24 we collected more than 13,000 water quality samples from our customers' properties, our water storages, and our large water mains to ensure we had a clear picture and understanding of water quality across our whole system.

These samples were tested for a range of parameters including *E. coli*, turbidity, pH, chlorine, disinfection by-products, temperature, hardness, fluoride, and metals. More than 50 parameters were measured, consistent with the regulatory requirements and guidance in the Australian Drinking Water Guidelines 2011. The samples were collected across the whole system, covering all areas within the 40 water sampling localities.

This sampling allows us to react quickly and investigate any identification of contaminants in our water. During the same period, we had no undertakings, exemptions, or variations under the Act. There is no regulated water, as defined under the Act, being supplied to customers.

Continuous On-Line Testing units

We've redesigned our standard Continuous On-Line Testing (COLT) unit to incorporate the latest technological best practices, enabling real-time monitoring of water quality parameters fully integrated with our Supervisory Control and Data Acquisition (SCADA) network.

This setup allows for alarm triggers for any water quality anomalies, facilitating immediate investigations with round-the-clock monitoring to ensure optimal water quality for our customers. We're currently implementing a program to replace existing technology and add new installations at key locations throughout our expanding distribution network.

Drone program

Our tank and storage inspection program utilises the integration of a drone program through specialised contractors. The drone program uses aerial and submersible drones to inspect and assist in assessing the condition of tanks in a thorough and safe manner.

Alongside this, we'll continue to utilise our in-house capabilities, particularly in reactive response scenarios. After storm events, our in-house team can swiftly and safely inspect bird proofing and roof integrity to reach areas that may not be safe to undertake manual inspections.

Ice pigging

We adopted the innovative ice pigging method for cleaning mains pipes, enhancing our water quality maintenance processes. Ice pigging involves injecting a thick slurry of ice into the pipes. As this ice slurry travels through the pipeline, it scours and scrapes away accumulated sediments, biofilms and other debris. The unique properties of the ice slurry allow it to adapt to the pipe's shape, navigating bends and irregularities to ensure a thorough clean. After completing the scouring process, the ice and the dislodged materials are flushed out, leaving the pipes clean and clear. This environmentally friendly method requires significantly less water than traditional flushing techniques and eliminates the need for harsh chemicals.

Portable disinfection units

We deployed chlorine dosing trailers to enhance our ability to control seasonal water quality changes by providing flexible and responsive chlorination to our distribution system. These trailers allow for faster responses in emergencies, which results in uninterrupted water quality and safety. Additionally, they assist with routine maintenance jobs, increase chlorine levels in the areas with lower residual and elevate consistency and reliability of water disinfection. These trailers have helped in our ability to maintain optimal water quality.

Sample tap upgrades

We've significantly enhanced the reliability of our sample taps by relocating all sample taps at the water storage tanks into stainless-steel boxes and installing bollard sample taps in densely wooded areas. Our sample tap boxes and bollards play an important role in helping us monitor and maintain water quality across our distribution network. These sample tap boxes and bollards provide an extra layer of protection against environmental contamination and enable weather-protection during sampling. This ensures that our water quality data remains accurate and reliable.

We're always looking for opportunities to install new sample taps to gain a better understanding of chlorination levels and chlorine residuals throughout the system. These efforts help us make better informed decisions so we can manage the network more effectively.

Safety showers

We recently installed new safety showers at our secondary disinfection plants to enhance the safety and well-being of our staff and chemical suppliers. These showers help reduce the severity of injuries by providing immediate relief in case of accidents. They also help us maintain compliance with Safe Work Australia's guidelines for chemical delivery and usage.

Water quality results for 2023–24

It matters to you, it matters to us.

We're serious about making sure our customers' water is safe to drink.

Our monitoring starts when Melbourne Water transfers the water to us. From there, it's sampled every step of the way, right up to our customers' homes or businesses so that they can rely on us for safe and high-quality water.

So, when they turn on a tap, or press start on their dishwasher, they can be sure that everything's as it should be.

The following tables summarise the results of our monitoring program for each water sampling locality.

The data show results of routine samples taken at customer taps, water storage reservoirs, pump stations, pressure-reducing stations and large water mains. It excludes any results from resamples or non-routine samples.

Drinking water quality standards specified in Schedule 2 of the Regulations	Including Escherichia coli (*E. coli*), trihalomethanes and turbidity	Page 30-35
Other water quality standards	Including fluoride, copper, lead, manganese, inorganic compounds, organic compounds, polycyclic aromatic hydrocarbons, and pesticides.	Page 38-55
Aesthetic water quality	Colour, pH, iron, chlorine and alkalinity	Page 55-62

Drinking water quality standards

Drinking water quality standards as specified in Schedule 2 of Regulations, Including *E.coli*, trihalomethanes and turbidity.

Escherichia coli (E.coli) results

The drinking water we supplied at each locality complied with the Safe Drinking Water Regulations 2015 standard of no *E. coli* per 100 millilitres of drinking water.

E. coli is a coliform bacterium that indicates a high probability of recent faecal contamination of the drinking water. *E. coli* is found in large numbers in the faeces of human and other warm-blooded animals, although only a few strains of *E. coli* are human pathogens. The table below is a summary of all *E. coli* results as part of our monitoring program for each water sampling locality. The data in the table shows results of routine samples taken at customer taps, water storage reservoirs, pump stations, pressure reducing stations and large water mains.

Water sampling locality		Frequency of sampling	Number of samples	Max. result orgs/100mL	Number of detections and investigations conducted (s.22)	Number of samples where standard was not met (s.18)
Locality number	Locality name					
360	Balnarring	Weekly	261	0	0	0
570	Bayswater	Weekly	644	0	0	0
680	Beaumaris	Weekly	168	0	0	0
581	Belgrave	Weekly	481	0	0	0
310	Berwick	Weekly	895	0	0	0
350	Bittern	Weekly	208	**19**	**1**	0
670	Brighton / Heatherton	Weekly	693	0	0	0
270	Bunyip	Weekly	208	0	0	0
322	Carrum Downs	Weekly	169	0	0	0
610	Caulfield	Weekly	637	0	0	0
650	Chelsea	Weekly	276	0	0	0
720	Clyde North	Weekly	167	0	0	0
260	Cora Lynn	Weekly	129	0	0	0

320	Cranbourne	Weekly	469	0	0	0
640	Dandenong	Weekly	415	0	0	0
660	Dandenong North	Weekly	257	0	0	0
321	Devon Meadows	Weekly	157	0	0	0
430	Dromana	Weekly	521	0	0	0
580	Ferntree Gully	Weekly	167	0	0	0
390	Frankston	Weekly	447	0	0	0
400	Frankston South	Weekly	468	0	0	0
271	Garfield	Weekly	257	0	0	0
630	Hallam	Weekly	316	0	0	0
340	Hastings	Weekly	160	0	0	0
323	Karingal	Weekly	208	0	0	0
300	Koo Wee Rup	Weekly	233	0	0	0
450	Lang Lang	Weekly	309	0	0	0
710	Moorooduc	Weekly	136	0	0	0
690	Mordialloc	Weekly	232	0	0	0
410	Mornington	Weekly	368	0	0	0
420	Mount Martha	Weekly	334	0	0	0
290	Pakenham	Weekly	366	0	0	0
700	Rowville	Weekly	278	0	0	0
440	Rye	Weekly	509	0	0	0
370	Shoreham	Weekly	256	0	0	0
330	Somerville	Weekly	313	0	0	0
620	South Melbourne	Weekly	699	0	0	0
280	Tynong	Weekly	208	0	0	0
311	Upper Beaconsfield	Weekly	260	0	0	0
590	Wantirna	Weekly	157	0	0	0
	Business total		**13436**	**19**	**1**	**0**

Note: Sample numbers per locality are based on the population, with more samples required with greater population as per the Australian Drinking Water Guidelines 2011 recommendations.

Trihalomethane results

We complied with the Safe Drinking Water Regulations 2015 standard that total trihalomethane levels must not exceed 0.25mg/L. All results were less than or equal to 0.110mg/L. Trihalomethanes (THMs) are by-products that form when water is disinfected with chlorine.

Water sampling locality		Frequency of sampling	Number of samples	Number of non-complying samples	Average mg/L	Maximum mg/L	Complying (Yes/No)
Locality number	Locality name						
360	Balnarring	Monthly	12	0	0.061	0.077	Yes
570	Bayswater	Monthly	12	0	0.059	0.098	Yes
680	Beaumaris	Monthly	12	0	0.035	0.040	Yes
581	Belgrave	Monthly	12	0	0.080	0.110	Yes
310	Berwick	Monthly	12	0	0.028	0.036	Yes
350	Bittern	Monthly	12	0	0.054	0.064	Yes
670	Brighton / Heatherton	Monthly	24	0	0.037	0.051	Yes
270	Bunyip	Monthly	13	0	0.051	0.066	Yes
322	Carrum Downs	Monthly	12	0	0.035	0.050	Yes
610	Caulfield	Monthly	12	0	0.049	0.060	Yes
650	Chelsea	Monthly	12	0	0.039	0.046	Yes
720	Clyde North	Monthly	12	0	0.031	0.041	Yes
260	Cora Lynn	Monthly	12	0	0.048	0.060	Yes
320	Cranbourne	Monthly	12	0	0.029	0.033	Yes
640	Dandenong	Monthly	12	0	0.035	0.047	Yes
660	Dandenong North	Monthly	12	0	0.054	0.067	Yes
321	Devon Meadows	Monthly	12	0	0.032	0.040	Yes
430	Dromana	Monthly	12	0	0.064	0.074	Yes

580	Ferntree Gully	Monthly	12	0	0.055	0.068	Yes
390	Frankston	Monthly	24	0	0.037	0.056	Yes
400	Frankston South	Monthly	12	0	0.049	0.056	Yes
271	Garfield	Monthly	12	0	0.048	0.069	Yes
630	Hallam	Monthly	12	0	0.028	0.034	Yes
340	Hastings	Monthly	12	0	0.060	0.075	Yes
323	Karingal	Monthly	12	0	0.041	0.046	Yes
300	Koo Wee Rup	Monthly	12	0	0.062	0.075	Yes
450	Lang Lang	Monthly	12	0	0.078	0.098	Yes
710	Moorooduc	Monthly	12	0	0.058	0.070	Yes
690	Mordialloc	Monthly	12	0	0.040	0.053	Yes
410	Mornington	Monthly	12	0	0.065	0.077	Yes
420	Mount Martha	Monthly	12	0	0.067	0.078	Yes
290	Pakenham	Monthly	12	0	0.032	0.035	Yes
700	Rowville	Monthly	12	0	0.049	0.089	Yes
440	Rye	Monthly	12	0	0.070	0.082	Yes
370	Shoreham	Monthly	12	0	0.056	0.075	Yes
330	Somerville	Monthly	12	0	0.039	0.053	Yes
620	South Melbourne	Monthly	12	0	0.046	0.054	Yes
280	Tynong	Monthly	12	0	0.060	0.075	Yes
311	Upper Beaconsfield	Monthly	12	0	0.045	0.058	Yes
590	Wantirna	Monthly	12	0	0.063	0.081	Yes
	Business total		**505**	**0**	**0.048**	**0.110**	**Yes**

Turbidity results

We complied with the Safe Drinking Water Regulations 2015 standard for turbidity, which sets the 95th percentile of results for samples in any 12-month period must be less than or equal to 5.0 Nephelometric Turbidity Units (NTU).

Turbidity is caused by the presence of fine suspended matter such as silt and clay in the water. High turbidity can give the water a cloudy or muddy appearance and can lessen the effectiveness of disinfection.

Water sampling locality		Frequency of sampling	Number of samples	Maximum NTU	95th percentile NTU	Complying (Yes/No)
Locality number	Locality name					
360	Balnarring	Weekly	104	0.6	0.40	Yes
570	Bayswater	Weekly	252	1.7	0.80	Yes
680	Beaumaris	Weekly	104	1.5	0.60	Yes
581	Belgrave	Weekly	104	1.3	0.80	Yes
310	Berwick	Weekly	310	0.9	0.40	Yes
350	Bittern	Weekly	104	3.1	0.40	Yes
670	Brighton / Heatherton	Weekly	259	1	0.80	Yes
270	Bunyip	Weekly	104	0.2	< 0.1	Yes
322	Carrum Downs	Weekly	104	1.7	0.50	Yes
610	Caulfield	Weekly	257	5.8	0.80	Yes
650	Chelsea	Weekly	156	1.2	0.53	Yes
720	Clyde North	Weekly	103	0.8	0.6	Yes
260	Cora Lynn	Weekly	78	0.4	0.30	Yes
320	Cranbourne	Weekly	249	0.8	0.60	Yes
640	Dandenong	Weekly	108	1.1	0.86	Yes
660	Dandenong North	Weekly	201	2.8	0.80	Yes

321	Devon Meadows	Weekly	105	0.9	0.50	Yes
430	Dromana	Weekly	104	0.4	0.30	Yes
580	Ferntree Gully	Weekly	115	1.2	0.80	Yes
390	Frankston	Weekly	156	0.6	0.50	Yes
400	Frankston South	Weekly	136	0.6	0.50	Yes
271	Garfield	Weekly	154	0.3	0.10	Yes
630	Hallam	Weekly	156	0.9	0.60	Yes
340	Hastings	Weekly	104	0.5	0.38	Yes
323	Karingal	Weekly	104	0.6	0.48	Yes
300	Koo Wee Rup	Weekly	77	0.4	0.30	Yes
450	Lang Lang	Weekly	154	0.5	0.20	Yes
710	Moorooduc	Weekly	84	0.6	0.40	Yes
690	Mordialloc	Weekly	156	1.5	0.60	Yes
410	Mornington	Weekly	205	0.5	0.30	Yes
420	Mount Martha	Weekly	122	0.7	0.39	Yes
290	Pakenham	Weekly	158	0.7	0.52	Yes
700	Rowville	Weekly	155	2	0.80	Yes
440	Rye	Weekly	103	0.3	0.30	Yes
370	Shoreham	Weekly	156	7.5	0.50	Yes
330	Somerville	Weekly	157	0.8	0.50	Yes
620	South Melbourne	Weekly	259	3	0.80	Yes
280	Tynong	Weekly	104	0.3	0.10	Yes
311	Upper Beaconsfield	Weekly	104	1.2	0.58	Yes
590	Wantirna	Weekly	100	1.2	0.80	Yes
	Business total		**5825**	**7.5**	**0.70**	**Yes**

Compliance summary for drinking water quality standards

During this reporting year, despite one false positive *E.coli* detection in December 2023, we maintained 100% compliance with regulatory water quality standards, ensuring all our customers received water that met the required safety criteria.

Parameter	Percentage of localities supplied with compliance water			Percentage of customers supplied with compliance water		
	2021–22	2022–23	2023–24	2021–22	2022–23	2023–24
Escherichia coli	100%	98%	100%	100%	100%	100%
Trihalomethanes	100%	100%	100%	100%	100%	100%
Turbidity	100%	100%	100%	100%	100%	100%

Other water quality standard results

Fluoride, chlorine, arsenic, copper, lead, manganese, inorganic parameters, and organic parameters

These tables summarise the results of the other water quality standards in our monitoring program that could pose a risk to human health. We measure these standards against the Australian Drinking Water Guidelines 2011 criteria. Many of these parameters only require infrequent sampling because the results don't vary significantly, from year-to-year, or from locality-to-locality, for the same source water.

Specific results for arsenic, copper, lead, and manganese have been shown not to change in Melbourne's water supply. For this reason, we've taken random samples in groups of localities with similar source water to achieve the monitoring spread across our distribution system in 2023-24.

All levels have remained consistently below the maximums specified in the Australian Drinking Water Guidelines 2011 over the 3-year period. Results for previous years are available in our respective annual water quality reports on our website: southeastwater.com.au

Fluoride

We met the drinking water standard for fluoride, which stipulates all individual results must not exceed 1.5mg/L. Under s.5(3) of the Health (Fluoridation) Act 1973 fluoride added to drinking water must not result in an average optimum concentration in excess of 1.0 mg/L.

We add fluoride to the water to improve dental health – a requirement of the Health (Fluoridation) Act 1973. Melbourne Water has a number of fluoridation plants that supply water to our service area. We list localities supplied from each fluoridation plant in the table on page 15.

Water sampling locality		Number samples tested	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes/No)
Locality number	Locality name					
L360	Balnarring	12	0.70	0.78	0.83	Yes
L570	Bayswater	12	0.48	0.77	0.89	Yes
L680	Beaumaris	12	0.74	0.79	0.89	Yes
L581	Belgrave	12	0.58	0.80	0.92	Yes
L310	Berwick	12	0.35	0.77	0.88	Yes
L350	Bittern	12	0.71	0.78	0.82	Yes
L670	Brighton / Heatherton	12	0.65	0.76	0.83	Yes
L270	Bunyip	13	0.78	0.81	0.86	Yes
L322	Carrum Downs	12	0.71	0.80	0.89	Yes
L610	Caulfield	12	0.59	0.77	0.87	Yes
L650	Chelsea	12	0.60	0.77	0.88	Yes
L720	Clyde North	12	0.44	0.74	0.87	Yes
L260	Cora Lynn	12	0.70	0.79	0.90	Yes
L320	Cranbourne	12	0.52	0.77	0.91	Yes
L640	Dandenong	12	0.74	0.80	0.90	Yes

L660	Dandenong North	12	0.17	0.78	0.91	Yes
L321	Devon Meadows	12	0.59	0.78	0.90	Yes
L430	Dromana	12	0.74	0.79	0.87	Yes
L580	Ferntree Gully	12	0.15	0.77	0.90	Yes
L390	Frankston	12	0.41	0.76	0.88	Yes
L400	Frankston South	12	0.71	0.76	0.81	Yes
L271	Garfield	12	0.71	0.80	0.89	Yes
L630	Hallam	12	0.75	0.80	0.87	Yes
L340	Hastings	12	0.73	0.79	0.82	Yes
L323	Karingal	12	0.72	0.78	0.85	Yes
L300	Koo Wee Rup	12	0.74	0.82	0.87	Yes
L450	Lang Lang	12	0.73	0.82	0.89	Yes
L710	Moorooduc	12	0.74	0.79	0.86	Yes
L690	Mordialloc	12	0.72	0.77	0.84	Yes
L410	Mornington	12	0.74	0.78	0.85	Yes
L420	Mount Martha	12	0.71	0.77	0.83	Yes
L290	Pakenham	12	0.75	0.79	0.83	Yes
L700	Rowville	12	0.62	0.78	0.91	Yes
L440	Rye	12	0.72	0.77	0.84	Yes
L370	Shoreham	12	0.74	0.79	0.88	Yes
L330	Somerville	12	0.76	0.81	0.88	Yes
L620	South Melbourne	12	0.64	0.80	0.90	Yes
L280	Tynong	12	0.74	0.81	0.88	Yes
L311	Upper Beaconsfield	12	0.68	0.79	0.86	Yes
L590	Wantirna	12	0.73	0.81	0.90	Yes
	Business total	**481**	**0.15**	**0.79**	**0.92**	**Yes**

Chlorine

We met the Australian Drinking Water Guidelines 2011 criteria for chlorine, which suggests a health limit of 5 mg/L.

Less than 1.5 mg/L is added to drinking water at any point in our network through our secondary treatment units. The fundamental requirement is to maintain effective disinfection and a consistent concentration of chlorine. Chlorine levels are higher in the water sampling localities that are closer to where the treatment occurs as chlorine levels gradually decline over time. Chlorine is the primary disinfectant used in Melbourne's water supply. We add chlorine to destroy any harmful micro-organisms, such as pathogenic bacteria. We measure it as 'free chlorine residual'.

Water sampling locality		Frequency of sampling	Number samples tested	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes / No)
Locality number	Locality name						
L360	Balnarring	Weekly	261	< 0.05	0.99	1.6	Yes
L570	Bayswater	Weekly	645	< 0.05	0.81	1.9	Yes
L680	Beaumaris	Weekly	168	0.08	0.80	1.2	Yes
L581	Belgrave	Weekly	481	< 0.05	0.56	1.7	Yes
L310	Berwick	Weekly	894	< 0.05	0.94	1.7	Yes
L350	Bittern	Weekly	208	0.15	0.72	1.0	Yes
L670	Brighton / Heatherton	Weekly	693	< 0.05	0.80	1.3	Yes
L270	Bunyip	Weekly	208	< 0.05	0.49	0.85	Yes
L322	Carrum Downs	Weekly	169	0.35	0.98	1.4	Yes
L610	Caulfield	Weekly	637	< 0.05	0.66	1.2	Yes
L650	Chelsea	Weekly	276	0.24	0.74	1.1	Yes
L720	Clyde North	Weekly	167	0.52	0.94	1.4	Yes
L260	Cora Lynn	Weekly	129	< 0.05	0.27	1.2	Yes
L320	Cranbourne	Weekly	469	< 0.05	0.98	1.4	Yes
L640	Dandenong	Weekly	415	0.09	0.73	1.2	Yes
L660	Dandenong North	Weekly	257	0.14	0.71	1.2	Yes
L321	Devon Meadows	Weekly	157	0.09	0.86	1.4	Yes
L430	Dromana	Weekly	521	0.08	0.77	1.7	Yes

L580	Ferntree Gully	Weekly	167	0.12	1.03	1.7	Yes
L390	Frankston	Weekly	447	< 0.05	0.79	1.6	Yes
L400	Frankston South	Weekly	468	< 0.05	0.72	1.8	Yes
L271	Garfield	Weekly	257	0.1	0.71	1.5	Yes
L630	Hallam	Weekly	316	< 0.05	0.97	1.7	Yes
L340	Hastings	Weekly	160	0.41	0.87	1.3	Yes
L323	Karingal	Weekly	208	0.18	0.70	1.2	Yes
L300	Koo Wee Rup	Weekly	233	< 0.05	0.52	1	Yes
L450	Lang Lang	Weekly	309	< 0.05	0.92	1.8	Yes
L710	Moorooduc	Weekly	136	0.15	0.92	1.3	Yes
L690	Mordialloc	Weekly	232	< 0.05	0.51	1.0	Yes
L410	Mornington	Weekly	368	0.05	0.77	1.4	Yes
L420	Mount Martha	Weekly	334	0.13	0.66	1.2	Yes
L290	Pakenham	Weekly	366	0.18	0.75	1.2	Yes
L700	Rowville	Weekly	278	0.23	0.91	1.4	Yes
L440	Rye	Weekly	509	< 0.05	0.72	1.4	Yes
L370	Shoreham	Weekly	256	0.34	0.91	1.6	Yes
L330	Somerville	Weekly	313	< 0.05	0.67	1.3	Yes
L620	South Melbourne	Weekly	699	< 0.05	0.65	1.1	Yes
L280	Tynong	Weekly	208	0.08	0.58	1.4	Yes
L311	Upper Beaconsfield	Weekly	260	< 0.05	0.61	1.1	Yes
L590	Wantirna	Weekly	157	< 0.05	0.66	1.1	Yes
	Business total		**10736**	**<0.05**	**0.76**	**1.9**	**Yes**

Arsenic

Drinking water we supplied complied with the Australian Drinking Water Guidelines 2011 health-related guideline value for arsenic of 0.01mg/L. Arsenic is a naturally occurring element that can be introduced into water through the dissolution of minerals and ores (where it exists mainly in the sulphide form) or from industrial effluent and atmospheric deposition (through the burning of fossil fuels and waste incineration).

Water sampling locality		Number samples Tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes/No)
Locality number	Locality name						
L670	Brighton / Heatherton	1	0	< 0.001	< 0.001	< 0.001	Yes
L640	Dandenong	1	0	< 0.001	< 0.001	< 0.001	Yes
L440	Rye	1	0	< 0.001	< 0.001	< 0.001	Yes
L620	South Melbourne	1	0	< 0.001	< 0.001	< 0.001	Yes
L590	Wantirna	1	0	< 0.001	< 0.001	< 0.001	Yes
	Business total	**5**	**0**	**<0.001**	**<0.001**	**<0.001**	**Yes**

Copper

Drinking water we supplied complied with the Australian Drinking Water Guidelines 2011 health-related guideline value for copper of 2mg/L. Copper can occur naturally in catchments as it is widely distributed in rocks and soils as carbonate and sulphide minerals. Copper can cause the water to appear blue or green, which may stain appliances and clothing.

Water sampling locality		Number samples Tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes / No)
Locality number	Locality name						
L581	Belgrave	1	0	0.015	0.015	0.015	Yes
L350	Bittern	1	0	0.011	0.011	0.011	Yes
L670	Brighton / Heatherton	3	0	0.009	0.020	0.040	Yes
L610	Caulfield	1	0	0.015	0.015	0.015	Yes
L650	Chelsea	1	0	0.010	0.010	0.010	Yes
L720	Clyde North	1	0	0.005	0.005	0.005	Yes
L640	Dandenong	1	0	0.025	0.025	0.025	Yes
L660	Dandenong North	1	0	0.014	0.014	0.014	Yes
L321	Devon Meadows	1	0	0.049	0.049	0.049	Yes
L580	Ferntree Gully	1	0	0.006	0.006	0.006	Yes
L690	Mordialloc	1	0	0.008	0.008	0.008	Yes
L700	Rowville	1	0	0.004	0.004	0.004	Yes
L440	Rye	1	0	0.007	0.007	0.007	Yes
L620	South Melbourne	3	0	0.021	0.057	0.093	Yes
L590	Wantirna	2	0	0.023	0.023	0.023	Yes
	Business total	**20**	**0**	**0.004**	**0.022**	**0.093**	**Yes**

Lead

Drinking water we supplied complied with the Australian Drinking Water Guidelines 2011 health-related guideline value for lead of 0.01mg/L.

Lead can be present in drinking water as a result of dissolution from natural sources or from household plumbing systems containing lead. The amount of lead dissolved will depend on a number of factors including pH, water hardness and the standing time of the water.

Water sampling locality		Number samples tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes / No)
Locality number	Locality name						
L581	Belgrave	1	0	< 0.001	< 0.001	< 0.001	Yes
L350	Bittern	1	0	< 0.001	< 0.001	< 0.001	Yes
L670	Brighton / Heatherton	3	0	< 0.001	< 0.001	< 0.001	Yes
L610	Caulfield	1	0	< 0.001	< 0.001	< 0.001	Yes
L650	Chelsea	1	0	< 0.001	< 0.001	< 0.001	Yes
L720	Clyde North	1	0	< 0.001	< 0.001	< 0.001	Yes
L640	Dandenong	1	0	< 0.001	< 0.001	< 0.001	Yes
L660	Dandenong North	1	0	< 0.001	< 0.001	< 0.001	Yes
L321	Devon Meadows	1	0	< 0.001	< 0.001	< 0.001	Yes
L580	Ferntree Gully	1	0	< 0.001	< 0.001	< 0.001	Yes
L690	Mordialloc	1	0	< 0.001	< 0.001	< 0.001	Yes
L700	Rowville	1	0	< 0.001	< 0.001	< 0.001	Yes
L440	Rye	1	0	< 0.001	< 0.001	< 0.001	Yes
L620	South Melbourne	3	0	< 0.001	< 0.001	< 0.001	Yes
L590	Wantirna	2	0	< 0.001	< 0.001	< 0.001	Yes

	Business total	**20**	**0**	**<0.001**	**<0.001**	**< 0.001**	**Yes**

Manganese

Drinking water we supplied complied with the Australian Drinking Water Guidelines 2011 health-related guideline value for manganese of 0.5mg/L.

Manganese is naturally present in the environment in various water-soluble states. At concentrations exceeding 0.1mg/L, manganese imparts an undesirable taste to water and stains plumbing fixtures and laundry. All sample results were below the Australian Drinking Water Guidelines 2011 limit.

Sampling locations are random and change each year.

Water sampling locality		Number samples tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes / No)
Locality number	Locality name						
L360	Balnarring	1	0	0.003	0.003	0.003	Yes
L570	Bayswater	3	0	0.003	0.008	0.016	Yes
L680	Beaumaris	1	0	0.003	0.003	0.003	Yes
L581	Belgrave	4	0	0.003	0.004	0.005	Yes
L310	Berwick	1	0	0.002	0.002	0.002	Yes
L350	Bittern	1	0	0.005	0.005	0.005	Yes
L670	Brighton / Heatherton	8	0	0.002	0.007	0.020	Yes
L270	Bunyip	1	0	< 0.001	< 0.001	< 0.001	Yes
L322	Carrum Downs	1	0	0.005	0.005	0.005	Yes
L610	Caulfield	7	0	0.003	0.004	0.006	Yes
L650	Chelsea	2	0	0.006	0.008	0.009	Yes
L720	Clyde North	1	0	0.002	0.002	0.002	Yes
L320	Cranbourne	1	0	0.008	0.008	0.008	Yes

L640	Dandenong	2	0	0.008	0.010	0.011	Yes
L660	Dandenong North	7	0	0.003	0.004	0.007	Yes
L321	Devon Meadows	1	0	0.006	0.006	0.006	Yes
L580	Ferntree Gully	4	0	0.003	0.004	0.005	Yes
L390	Frankston	1	0	0.008	0.008	0.008	Yes
L400	Frankston South	1	0	0.004	0.004	0.004	Yes
L323	Karingal	1	0	0.002	0.002	0.002	Yes
L690	Mordialloc	1	0	0.003	0.003	0.003	Yes
L420	Mount Martha	1	0	0.005	0.005	0.005	Yes
L290	Pakenham	2	0	0.001	0.002	0.002	Yes
L700	Rowville	2	0	0.002	0.003	0.003	Yes
L440	Rye	1	0	< 0.001	< 0.001	< 0.001	Yes
L370	Shoreham	1	0	0.002	0.002	0.002	Yes
L330	Somerville	1	0	0.002	0.002	0.002	Yes
L620	South Melbourne	7	0	0.003	0.017	0.100	Yes
L311	Upper Beaconsfield	1	0	0.008	0.008	0.008	Yes
L590	Wantirna	4	0	0.003	0.004	0.005	Yes
	Business total	**70**	**0**	**< 0.001**	**0.006**	**0.100**	**Yes**

Boron

Drinking water, we supplied complied with the Australian Drinking Water Guidelines 2011 health-related guideline value for boron of 4mg/L.

Boron can be present in drinking water through the natural leaching of boron-containing minerals, or by contamination of water sources. All sample results were well below the Australian Drinking Water Guidelines 2011 limit.

Water sampling locality		Number . samples tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes / No)
Locality number	Locality name						
L360	Balnarring	1	0	0.11	0.11	0.11	Yes
L570	Bayswater	3	0	< 0.02	< 0.02	< 0.02	Yes
L680	Beaumaris	1	0	0.14	0.14	0.14	Yes
L581	Belgrave	4	0	< 0.02	< 0.02	< 0.02	Yes
L310	Berwick	1	0	0.15	0.15	0.15	Yes
L350	Bittern	1	0	0.09	0.09	0.09	Yes
L670	Brighton / Heatherton	8	0	0.09	0.12	0.16	Yes
L270	Bunyip	1	0	< 0.02	< 0.02	< 0.02	Yes
L322	Carrum Downs	1	0	0.14	0.14	0.14	Yes
L610	Caulfield	7	0	< 0.02	0.06	0.1	Yes
L650	Chelsea	2	0	0.10	0.12	0.14	Yes
L720	Clyde North	1	0	0.16	0.16	0.16	Yes
L320	Cranbourne	1	0	0.15	0.15	0.15	Yes

L640	Dandenong	2	0	0.10	0.11	0.12	Yes
L660	Dandenong North	7	0	< 0.02	< 0.02	< 0.02	Yes
L321	Devon Meadows	1	0	0.14	0.14	0.14	Yes
L580	Ferntree Gully	4	0	< 0.02	< 0.02	< 0.02	Yes
L390	Frankston	1	0	0.15	0.15	0.15	Yes
L400	Frankston South	1	0	0.15	0.15	0.15	Yes
L323	Karingal	1	0	0.16	0.16	0.16	Yes
L690	Mordialloc	1	0	0.13	0.13	0.13	Yes
L420	Mount Martha	1	0	0.06	0.06	0.06	Yes
L290	Pakenham	2	0	0.14	0.15	0.15	Yes
L700	Rowville	2	0	0.03	0.08	0.13	Yes
L440	Rye	1	0	0.08	0.08	0.08	Yes
L370	Shoreham	1	0	0.13	0.13	0.13	Yes
L330	Somerville	1	0	0.14	0.14	0.14	Yes
L620	South Melbourne	7	0	< 0.02	0.05	0.09	Yes
L311	Upper Beaconsfield	1	0	0.15	0.15	0.15	Yes
L590	Wantirna	4	0	< 0.02	< 0.02	< 0.02	Yes
	Business total	**70**	**0**	**< 0.02**	**0.07**	**0.16**	**Yes**

Inorganic parameters

The following tables summarise the results of all the other parameters in our monitoring program that may pose a risk to human health.

We measure these parameters against the Australian Drinking Water Guidelines 2011 (ADWG) criteria, health-based guideline values – if available (N/A indicates that a guideline value has not been set). All results are in mg/L unless otherwise indicated after the parameter name.

Parameter	Number samples tested	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value (mg/L)	Complied with ADWG
Ammonia	20	< 0.002	< 0.02	< 0.1	0.5	Yes
Bromate	44	< 0.005	< 0.005	< 0.005	0.02	Yes
Bromide	44	< 0.01	< 0.01	0.03	N/A	N/A
Calcium	20	3.1	5.3	7.8	N/A	N/A
Chlorate	44	< 0.01	0.07	0.19	N/A	N/A
Chloride	5	7	9	13	250	Yes
Chlorite	44	< 0.01	< 0.01	< 0.01	0.8	Yes
Dissolved Oxygen	20	6.8	9.6	11.1	N/A	N/A
Electrical Conductivity (uS/cm)	4687	48	83	170	~780 uS/cm	Yes
Hardness	20	12	18	27	200	Yes
Magnesium	20	0.8	1.2	1.8	N/A	N/A
Potassium	5	0.5	0.7	0.9	N/A	N/A
Silica	5	3.8	5.4	7.7	N/A	N/A
Sodium	5	3.7	5.1	7.1	180	Yes

Note: N/A indicates that a guideline value has not been set.

Organic parameters

Parameter	Number samples tested	Minimum mg/L	Average mg/L	Maximum mg/L	ADWG guideline value	Complied withADWG (Yes/No)
Trihalomethanes						
Dibromochloromethane	505	< 0.001	< 0.001	0.012	N/A	N/A
Bromoform	505	< 0.001	< 0.001	0.001	N/A	N/A
Dichlorobromomethane	505	0.005	0.012	0.028	N/A	N/A
Chloroform	505	0.013	0.034	0.098	N/A	N/A
Haloacetic Acids						
Bromoacetic Acid	161	<0.005	<0.005	<0.005	N/A	N/A
Bromochloroacetic Acid	161	<0.005	<0.005	<0.005	N/A	N/A
Bromodichloroacetic Acid	161	<0.005	<0.005	0.009	N/A	N/A
Dibromoacetic Acid	161	<0.005	<0.005	<0.005	N/A	N/A
Dichloroacetic Acid	161	<0.005	0.009	0.025	0.1	Yes
Monochloroacetic Acid	161	<0.005	<0.005	<0.005	0.15	Yes
Trichloroacetic Acid	161	<0.005	0.02	0.049	0.1	Yes
Chlorophenols						
2 chlorophenol	20	< 0.001	< 0.001	< 0.001	0.3 mg/L	Yes
2,4 dichlorophenol	20	< 0.001	< 0.001	< 0.001	0.2 mg/L	Yes
2,4,6 trichlorophenol	20	< 0.001	< 0.001	< 0.001	0.02 mg/L	Yes
Pentachlorophenol	20	< 0.001	< 0.001	< 0.001	0.01 mg/L	Yes
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene	5	< 0.000002	< 0.000002	< 0.000002	0.00001 mg/L	Yes

Volatile Organic Compounds						
Benzene	20	< 0.001	< 0.001	< 0.001	0.001 mg/L	Yes
Carbon Tetrachloride	20	< 0.001	< 0.001	< 0.001	0.003 mg/L	Yes
Chlorobenzene	20	< 0.001	< 0.001	< 0.001	0.3 mg/L	Yes
1,2-dichlorobenzene	20	< 0.001	< 0.001	< 0.001	1.5 mg/L	Yes
1,3-dichlorobenzene	20	< 0.001	< 0.001	< 0.001	0.02 mg/L	Yes
1,4-dichlorobenzene	20	< 0.001	< 0.001	< 0.001	0.04 mg/L	Yes
1,1-dichloroethane	20	< 0.001	< 0.001	< 0.001	N/A	N/A
1,2-dichloroethane	20	< 0.001	< 0.001	< 0.001	0.003 mg/L	Yes
1,1-dichloroethene	20	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
cis-1,2-dichloroethene	20	< 0.001	< 0.001	< 0.001	0.06 mg/L	Yes
trans-1,2-dichloroethene	20	< 0.001	< 0.001	< 0.001	0.06 mg/L	Yes
Dichloromethane	20	< 0.001	< 0.001	< 0.001	0.004 mg/L	Yes
cis-1,3-dichloropropene	20	< 0.001	< 0.001	< 0.001	0.1 mg/L	Yes
trans-1,3-dichloropropene	20	< 0.001	< 0.001	< 0.001	0.1 mg/L	Yes
Ethylbenzene	20	< 0.001	< 0.001	< 0.001	0.3 mg/L	Yes
Styrene	20	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
Tetrachloroethene	20	< 0.001	< 0.001	< 0.001	0.05 mg/L	Yes
Toluene	20	< 0.001	< 0.001	< 0.001	0.8 mg/L	Yes
1,2,3-trichlorobenzene	20	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
1,2,4-trichlorobenzene	20	< 0.001	< 0.001	< 0.001	0.03 mg/L	Yes
o -Xylene	20	< 0.001	< 0.001	< 0.001	0.6 mg/L	Yes
m&p -Xylene	20	< 0.002	< 0.002	< 0.002	0.6 mg/L	Yes

Pesticides

The following table summarises the results of pesticides in our monitoring program that may pose a risk to human health.

These parameters are measured against the Australian Drinking Water Guidelines 2011 criteria, health-based guideline values – if available (N/A indicates that a guideline value has not been set).

For these parameters, the samples are taken randomly in groups of localities, rather than within each locality, to achieve the monitoring spread. Details of the specific locations can be provided upon request.

Parameter	Number samples tested	Minimum mg/L	Average (mg/L)	Maximum (mg/L)	ADWG guideline value (mg/L)	Complied with ADWG (Yes/No)
Pesticides						
2,4,5-T	5	<0.00001	<0.00001	<0.00001	0.1 mg/L	Yes
2,4,6-T	5	<0.00001	<0.00001	<0.00001	N/A	N/A
2,4-D	5	<0.00001	<0.00001	<0.00001	0.03 mg/L	Yes
2,4-DB	5	<0.00001	<0.00001	<0.00001	N/A	N/A
2,6-D	5	<0.00001	<0.00001	<0.00001	N/A	N/A
4-CPA	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Aldrin	5	< 0.00001	< 0.00001	< 0.00001	0.0003 mg/L	Yes
Ametryn	5	< 0.002	< 0.002	< 0.002	0.07 mg/L	Yes
AMPA	5	< 0.03	< 0.03	< 0.03	N/A	N/A
Atrazine	5	< 0.002	< 0.002	< 0.002	0.02 mg/L	Yes
Bentazone	5	<0.00001	<0.00001	<0.00001	0.4 mg/L	Yes

BHC (Alpha Isomer)	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
BHC (Beta Isomer)	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
BHC (Delta Isomer)	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
Bromoxynil	5	<0.00001	<0.00001	<0.00001	0.01 mg/L	Yes
Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
cis-Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
Clopyralid	5	<0.00005	<0.00005	<0.00005	2 mg/L	Yes
DDD	5	< 0.00006	< 0.00006	< 0.00006	N/A	N/A
DDE	5	< 0.00006	< 0.00006	< 0.00006	N/A	N/A
DDT	5	< 0.00006	< 0.00006	< 0.00006	0.009 mg/L	Yes
Dicamba	5	<0.00001	<0.00001	<0.00001	0.1 mg/L	Yes
Dichlorprop	5	<0.00001	<0.00001	<0.00001	0.1 mg/L	Yes
Dieldrin	5	< 0.00001	< 0.00001	< 0.00001	0.0003 mg/L	Yes
Dinoseb	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Endosulphan I	5	< 0.00005	< 0.00005	< 0.00005	0.02 mg/L	Yes
Endosulphan II	5	< 0.00005	< 0.00005	< 0.00005	0.02 mg/L	Yes
Endosulphan Sulphate	5	< 0.00005	< 0.00005	< 0.00005	0.02 mg/L	Yes
Endrin	5	< 0.0001	< 0.0001	< 0.0001	N/A	N/A
Endrin Aldehyde	5	< 0.0001	< 0.0001	< 0.0001	N/A	N/A
Endrin Ketone	5	< 0.00005	< 0.00005	< 0.00005	N/A	N/A
Fluroxypyr	5	<0.00001	<0.00001	<0.00001	N/A	N/A

Glyphosate	5	< 0.03	< 0.03	< 0.03	1 mg/L	Yes
Heptachlor	5	< 0.00005	< 0.00005	< 0.00005	0.0003 mg/L	Yes
Heptachlor epoxide	5	< 0.00005	< 0.00005	< 0.00005	0.0003 mg/L	Yes
Hexachlorobenzene	5	< 0.000002	< 0.000002	< 0.000002	N/A	N/A
Lindane	5	< 0.00005	< 0.00005	< 0.00005	0.01 mg/L	Yes
MCPA	5	<0.00001	<0.00001	<0.00001	0.04 mg/L	Yes
MCPB	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Mecoprop	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Methoxychlor	5	< 0.0002	< 0.0002	< 0.0002	0.3 mg/L	Yes
Oxy-Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
Picloram	5	<0.0001	<0.0001	<0.0001	0.3 mg/L	Yes
Prometon	5	< 0.002	< 0.002	< 0.002	N/A	N/A
Prometryne	5	< 0.002	< 0.002	< 0.002	N/A	N/A
Propazine	5	< 0.002	< 0.002	< 0.002	0.05 mg/L	Yes
Silvex (2,4,5-TP)	5	<0.00001	<0.00001	<0.00001	N/A	N/A
Simazine	5	< 0.002	< 0.002	< 0.002	0.02 mg/L	Yes
Simetryn	5	< 0.002	< 0.002	< 0.002	N/A	N/A
Terbuthylazine	5	< 0.002	< 0.002	< 0.002	0.01 mg/L	Yes
Terbutryn	5	< 0.002	< 0.002	< 0.002	0.4 mg/L	Yes
trans-Chlordane	5	< 0.00001	< 0.00001	< 0.00001	0.002 mg/L	Yes
Triclopyr	5	<0.00001	<0.00001	<0.00001	0.02 mg/L	Yes

Note: N/A indicates that a guideline value has not been set.

Aesthetic characteristics

Colour, pH, iron, alkalinity, and inorganic parameters

The following tables summarise the results of the aesthetic water quality parameters in our monitoring program that don't pose a risk to human health.

We measure these standards against the Australian Drinking Water Guidelines 2011 criteria if available. Many of these parameters only require infrequent sampling because the results don't vary significantly, from year to year, or from locality to locality, for the same source water.

We compare all our data in the following tables to the previous 2 years' data, with no discernible differences noted in averages when analysed and trended.

All levels have remained consistently below the maximums specified in the Australian Drinking Water Guidelines 2011 over the 3-year period. Results for previous years are available in our respective annual water quality reports on our website: southeastwater.com.au

Colour (apparent) results

Colour is caused by dissolved organic matter (humic and fulvic acids), which originate from the soils and decaying vegetation from the catchments. There are 2 ways to measure colour: ‘true’ colour is measured after filtering the water to remove the particulate matter (turbidity) and ‘apparent’ colour is measured without filtration and is more like what our customers see. We use apparent colour.

Water sampling locality		Frequency of sampling	Number samples tested	Average HU	Minimum HU	Maximum HU	Complying (Yes / No)
Locality number	Locality name						
L360	Balnarring	2 per month	24	< 2	< 2	4	Yes
L570	Bayswater	2 per month	24	< 2	3.2	8	Yes
L680	Beaumaris	2 per month	25	< 2	2.0	6	Yes
L581	Belgrave	2 per month	24	< 2	3.3	8	Yes
L310	Berwick	2 per month	24	< 2	2	4	Yes
L350	Bittern	2 per month	24	< 2	2.0	12	Yes
L670	Brighton / Heatherton	2 per month	24	< 2	2.4	6	Yes
L270	Bunyip	2 per month	24	< 2	< 2	4	Yes
L322	Carrum Downs	2 per month	37	< 2	2.1	6	Yes
L610	Caulfield	2 per month	25	< 2	3.2	12	Yes
L650	Chelsea	2 per month	24	< 2	2.1	6	Yes
L720	Clyde North	2 per month	24	< 2	< 2	6	Yes
L260	Cora Lynn	2 per month	24	< 2	< 2	4	Yes
L320	Cranbourne	2 per month	60	< 2	< 2	6	Yes
L640	Dandenong	2 per month	24	< 2	2.2	6	Yes

L660	Dandenong North	2 per month	24	< 2	3.4	8	Yes
L321	Devon Meadows	2 per month	24	< 2	2	6	Yes
L430	Dromana	2 per month	24	< 2	< 2	4	Yes
L580	Ferntree Gully	2 per month	24	< 2	3.6	10	Yes
L390	Frankston	2 per month	24	< 2	< 2	6	Yes
L400	Frankston South	2 per month	24	< 2	< 2	4	Yes
L271	Garfield	2 per month	24	< 2	< 2	6	Yes
L630	Hallam	2 per month	24	< 2	2.2	6	Yes
L340	Hastings	2 per month	24	< 2	< 2	4	Yes
L323	Karingal	2 per month	24	< 2	< 2	4	Yes
L300	Koo Wee Rup	2 per month	24	< 2	< 2	4	Yes
L450	Lang Lang	2 per month	24	< 2	< 2	4	Yes
L710	Moorooduc	2 per month	24	< 2	< 2	6	Yes
L690	Mordialloc	2 per month	24	< 2	< 2	6	Yes
L410	Mornington	2 per month	24	< 2	< 2	4	Yes
L420	Mount Martha	2 per month	24	< 2	< 2	4	Yes
L290	Pakenham	2 per month	24	< 2	2.2	6	Yes
L700	Rowville	2 per month	36	< 2	2.6	6	Yes
L440	Rye	2 per month	24	< 2	< 2	4	Yes
L370	Shoreham	2 per month	24	< 2	< 2	4	Yes
L330	Somerville	2 per month	24	< 2	2.3	6	Yes
L620	South Melbourne	2 per month	24	< 2	2.3	6	Yes
L280	Tynong	2 per month	24	< 2	< 2	4	Yes

L311	Upper Beaconsfield	2 per month	24	< 2	< 2	4	Yes
L590	Wantirna	2 per month	24	< 2	3.3	8	Yes
	Business total		1023	< 2	2	12	**YES**

*Compliance with the ADWG means the upper bound of the 95% confidence interval of the mean is less than the guideline value. The ADWG value is 15 HU for true colour, however as we use apparent colour, there is no limit set. All results are still below the true colour limit.

pH results

We met the Australian Drinking Water Guidelines 2011 (ADWG) criteria for pH*, which suggests a pH range of 6.5 to 8.5 and up to 9.2 for areas where new cement-lined pipes are present. Cement-lined pipes are common in our service area.

*pH is a measure of the acidic or alkaline nature of the water.

Water sampling locality		Frequency of sampling	Number s)amples Tested	Minimum (units)	Average (units)	Maximum (units)	Complying (Yes / No)
Locality number	Locality name						
L360	Balnarring	2 per month	24	6.8	7.5	8	Yes
L570	Bayswater	2 per month	86	6.8	7.3	7.8	YES
L680	Beaumaris	2 per month	25	7.2	7.4	7.6	YES
L581	Belgrave	2 per month	116	6.9	7.4	8.7	YES
L310	Berwick	2 per month	24	7	7.3	7.6	YES

L350	Bittern	2 per month	24	7.2	7.5	7.8	YES
L670	Brighton / Heatherton	2 per month	24	6.9	7.3	7.6	YES
L270	Bunyip	2 per month	24	7.2	7.4	7.6	YES
L322	Carrum Downs	2 per month	37	7.2	7.4	7.6	YES
L610	Caulfield	2 per month	25	7	7.2	7.5	YES
L650	Chelsea	2 per month	24	7.2	7.4	7.7	YES
L720	Clyde North	2 per month	24	7.1	7.3	7.5	YES
L260	Cora Lynn	2 per month	24	7.2	7.5	7.8	YES
L320	Cranbourne	2 per month	60	6.9	7.3	7.6	YES
L640	Dandenong	2 per month	24	7.1	7.3	7.7	YES
L660	Dandenong North	2 per month	24	6.9	7.2	7.5	YES
L321	Devon Meadows	2 per month	24	7.3	7.5	8.3	YES
L430	Dromana	2 per month	24	7.4	7.6	7.8	YES
L580	Ferntree Gully	2 per month	24	6.8	7.4	8	YES
L390	Frankston	2 per month	24	6.9	7.4	7.6	YES
L400	Frankston South	2 per month	24	7.3	7.5	7.7	YES
L271	Garfield	2 per month	24	7.4	7.5	7.8	YES

L630	Hallam	2 per month	24	6.9	7.2	7.5	YES
L340	Hastings	2 per month	24	7.4	7.5	7.7	YES
L323	Karingal	2 per month	24	7.2	7.4	7.6	YES
L300	Koo Wee Rup	2 per month	76	7.2	7.5	7.8	YES
L450	Lang Lang	2 per month	24	7.2	7.5	7.7	YES
L710	Moorooduc	2 per month	24	7.2	7.4	7.6	YES
L690	Mordialloc	2 per month	25	7.2	7.5	7.9	YES
L410	Mornington	2 per month	24	7.2	7.4	7.6	YES
L420	Mount Martha	2 per month	146	7.2	7.5	7.8	YES
L290	Pakenham	2 per month	24	7.1	7.3	7.6	YES
L700	Rowville	2 per month	35	7.2	7.4	8.3	YES
L440	Rye	2 per month	24	7.4	7.7	7.8	YES
L370	Shoreham	2 per month	24	7.4	8.0	8.9	YES
L330	Somerville	2 per month	24	7.2	7.5	8.2	YES
L620	South Melbourne	2 per month	24	7	7.2	7.5	YES
L280	Tynong	2 per month	24	7.3	7.5	7.8	YES
L311	Upper Beaconsfield	2 per month	24	7.3	7.5	7.7	YES

L590	Wantirna	2 per month	24	7.1	7.3	7.5	YES
	Business total		**1351**	**6.8**	**7.4**	**8.9**	**YES**

Iron results

Iron, a naturally occurring element in water sourced from catchment area soils, can cause discoloration and staining in plumbing fixtures and laundry. The Australian Drinking Water Guidelines 2011 recommend an aesthetic limit of 0.3mg/L to minimise these issues.

Water sampling locality		Frequency of sampling	Numbersamples tested	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes / No)
Locality Number	Locality name						
L360	Balnarring	2 per month	24	0.01	0.03	0.04	Yes
L570	Bayswater	2 per month	24	0.05	0.06	0.08	Yes
L680	Beaumaris	2 per month	25	0.02	0.03	0.14	Yes
L581	Belgrave	2 per month	24	0.02	0.06	0.08	Yes
L310	Berwick	2 per month	24	0.02	0.03	0.05	Yes
L350	Bittern	2 per month	24	0.02	0.03	0.24	Yes
L670	Brighton / Heatherton	2 per month	24	0.02	0.03	0.06	Yes
L270	Bunyip	2 per month	24	< 0.01	< 0.01	0.02	Yes

L322	Carrum Downs	2 per month	25	0.01	0.03	0.1	Yes
L610	Caulfield	2 per month	25	0.04	0.08	0.55*	Yes
L650	Chelsea	2 per month	24	0.02	0.03	0.06	Yes
L720	Clyde North	2 per month	24	0.02	0.03	0.06	Yes
L260	Cora Lynn	2 per month	25	< 0.01	< 0.01	0.02	Yes
L320	Cranbourne	2 per month	24	0.02	0.03	0.06	Yes
L640	Dandenong	2 per month	24	0.02	0.04	0.07	Yes
L660	Dandenong North	2 per month	24	0.05	0.06	0.07	Yes
L321	Devon Meadows	2 per month	24	0.02	0.03	0.05	Yes
L430	Dromana	2 per month	24	< 0.01	0.02	0.03	Yes
L580	Ferntree Gully	2 per month	24	0.04	0.07	0.15	Yes
L390	Frankston	2 per month	24	0.02	0.03	0.05	Yes
L400	Frankston South	2 per month	24	< 0.01	0.03	0.05	Yes
L271	Garfield	2 per month	24	< 0.01	< 0.01	0.05	Yes
L630	Hallam	2 per month	24	0.02	0.03	0.06	Yes
L340	Hastings	2 per month	24	0.01	0.02	0.06	Yes
L323	Karingal	2 per month	24	0.02	0.03	0.05	Yes
L300	Koo Wee Rup	2 per month	24	< 0.01	< 0.01	0.03	Yes
L450	Lang Lang	2 per month	24	< 0.01	< 0.01	0.01	Yes
L710	Moorooduc	2 per month	24	< 0.01	0.02	0.03	Yes
L690	Mordialloc	2 per month	24	0.02	0.03	0.07	Yes
L410	Mornington	2 per month	24	< 0.01	0.02	0.03	Yes
L420	Mount Martha	2 per month	24	< 0.01	0.02	0.03	Yes
L290	Pakenham	2 per month	24	0.02	0.03	0.06	Yes
L700	Rowville	2 per month	24	0.02	0.04	0.07	Yes
L440	Rye	2 per month	24	0.01	0.02	0.03	Yes
L370	Shoreham	2 per month	24	0.02	0.02	0.03	Yes

L330	Somerville	2 per month	24	0.02	0.03	0.04	Yes
L620	South Melbourne	2 per month	24	0.02	0.05	0.07	Yes
L280	Tynong	2 per month	24	< 0.01	< 0.01	0.03	Yes
L311	Upper Beaconsfield	2 per month	24	0.02	0.03	0.05	Yes
L590	Wantirna	2 per month	24	0.04	0.06	0.08	Yes
	Business total		**964**	**< 0.01**	**0.03**	**0.55**	**Yes**

*The Caulfield result initially measured at 0.55mg/L was flushed and subsequently re-tested, showing a reduced level of 0.06mg/L

Alkaline results

Alkalinity is a measure of the water's ability to maintain a balanced pH. This is an important factor in water quality when measuring alkalinity as it provides additional useful information on how pH is likely to change within the system. Melbourne's water supplies typically have low alkalinity. We measure alkalinity as mg/L of calcium carbonate equivalent. To minimise undesirable build-up of scale in hot water systems, total hardness (as calcium carbonate) in drinking water should not exceed 200 mg/L.

Water sampling locality		Number samples tested	Number of non-complying results	Minimum mg/L	Average mg/L	Maximum mg/L	Complying (Yes / No)
Locality number	Locality name						
L581	Belgrave	1	0	9	9	9	Yes
L350	Bittern	1	0	18	18	18	Yes
L670	Brighton / Heatherton	3	0	15	20	24	Yes
L610	Caulfield	1	0	11	11	11	Yes
L650	Chelsea	1	0	15	15	15	Yes
L720	Clyde North	1	0	17	17	17	Yes
L640	Dandenong	1	0	15	15	15	Yes
L660	Dandenong North	1	0	11	11	11	Yes

L321	Devon Meadows	1	0	16	16	16	Yes
L580	Ferntree Gully	1	0	11	11	11	Yes
L690	Mordialloc	1	0	15	15	15	Yes
L700	Rowville	1	0	18	18	18	Yes
L440	Rye	1	0	24	24	24	Yes
L620	South Melbourne	3	0	12	13	15	Yes
L590	Wantirna	2	0	9	12	14	Yes
	Business total	**20**	**0**	**9**	**15**	**24**	**Yes**

Regulatory reporting to the Department of Health

Section 18 of the Act:

> '*A water supplier must notify the Secretary in writing if it becomes aware that the drinking water it is supplying to another person does not comply, or is not likely to comply, with any relevant water quality standard and must do so within 10 days after it becomes aware of that fact*.'

During 2023-24, we didn't notify Department of Health of any water quality events pursuant to Section 18 of the Act.

Section 22 of the Act:

> '*(1) This section applies if an officer of a water supplier believes or suspects, on reasonable grounds that water supplied, or to be supplied, for drinking purposes*
>
> a. *May be the cause of an illness; or*
> b. *May be the means by which an illness is being, has been or will be, transmitted; or*
> c. *May contain any pathogen, substance, chemical or blue-green algae toxin, whether alone or in combination, at levels that may pose a risk to human health; or*
> d. *May cause widespread public complaint.' '(2) On forming that belief or suspicion, the officer must immediately report his or her belief or suspicion to the Secretary and must make the report in the form required by the Secretary*.'

During 2023–24, we notified the Department of Health of 1 water quality event in accordance with Section 22 of the Act. This notification was due to an *E. coli* detection; however, it was found to be a false positive.

A ***false positive sample*** refers to a water sample that, after being analysed to regulation 14 and considering all relevant factors, is determined to not be representative of the water supplied in that locality. A common example of this could be sample contamination from the sample tap assembly, or contamination during the sample process.

This Section 22 report didn't originate from any real contamination event. After extensive testing and investigation, it was confirmed that there was no presence of *E. coli* in the water supply. Our quick response and investigation ensured that the water quality was maintained, and the safety of our customers was never at risk.

Section 22 notifications

Bittern *E. coli* detection

A routine sample collected on 11 December 2023, from a sample tap at our Bittern water storage tank, returned a positive *E. coli* result showing 19 *E. coli* per 100mL. The chlorine levels in the sample were 0.71mg/L for free chorine and 0.77 mg/L total chlorine, with 25 coliforms detected.

The Bittern tank and sample tap were visually inspected, and no sign of ingress or structural damage was found. The Bittern tank was isolated from the supply on the same day, and the locality began receiving water directly from the Tyabb basin.

Results from the resampling at the Bittern tank, sample tap, and additional network samples from upstream and downstream of the tank came back negative for *E. coli.*

Our investigation and consultation with the Department of Health suggested that the result collected on 11 December was a false positive sample and therefore not representative of the water supply. The false positive is believed to have been caused by contamination during the sampling process due to handling of the sample.

Water quality complaints and enquiries

Our water quality complaints increased in 2022-23 due to us expanding the definition of a ‘complaint’, in line with the Essential Services Commission’s advice. Our complaint numbers this year showed a slight decrease compared to complaints last year.

In 2022-23 the ESC’s advice was to include all enquiries in our reported complaint numbers. Under a previous definition, a complaint was only recorded when an action was required. The updated definition includes examples where information passed over the phone and recorded as an enquiry is now counted as a complaint.

Under the Essential Services Commission Water Industry Standard, a complaint is defined as:

> “*a written or verbal expression of dissatisfaction about an action, proposed action or failure to act by a water business, its employees or contractors, requiring a resolution (as per AS/NZS 10002:2022)”.*

An enquiry is defined by the same standard as:

> “*a written or verbal approach by a customer which can be satisfied by the water business providing written or verbal information, advice, assistance, clarification, explanation or referral about a matter*”.

Our complaint and enquiry results were slightly above the Essential Services Commission target (0.27 per 100 properties), with a yearly result of 0.28 per 100 properties.

The table below compares complaints for previous years.

Type of complaint	Number of complaints			Comparison with previous reporting periods	Comments
	2021–22	2022–23	2023–24		
Alleged illness	13	26	22	Slight decrease from previous reporting period.	All illness complaints were investigated thoroughly. No illness complaints have been found to be attributed to the water supply.

Dirty water (Brown, Blue, Black, Yellow)	600	1880 (840 complaints; 1040 enquiries)	1985 (831 complaints; 1154 enquiries)	Slight decrease in number of complaints and increase of enquiries from previous year.	Brown / black water can be caused by resuspending the natural sediment in pipes after water supply disruption; we worked closely with our maintenance team and contractors to reduce this. Blue and yellow water are caused by old copper / galvanised pipes which are common in Melbourne homes.
Taste and odour	230	242	226	Slight decrease compared to the last year.	Most of these complaints are attributed to chlorine. Due to our chlorination strategy, we have seen an increase in chlorine residuals across our entire network. While we have worked hard to make the changes slowly, some customers have noticed the change.
White Water	61	88	51	Decrease from previous year	White water is due to entrapped air which occurs mostly when a main is recharged following leak repairs or other work. We worked closely with the maintenance team to reduce these events.
Other	62	152 (77 complaints; 75 enquiries)	78 (55 complaints; 23 enquiries)	Large decrease from previous year	These complaints cover broad types of enquiries, from pH to requests for data
Total	**966**	**2388**	**2362**		

We try to minimise the number of complaints we receive by:

- responding to water quality complaints in a timely manner.
- ensuring all major shutdowns are conducted at night to reduce impact on the system.
- working closely with our contractor to improve the shutdown and recharging of water mains following bursts.
- working with the water carters to ensure only correct hydrants are used to fill the tankers.
- maintaining a fully closed system.
- working closely with our wholesaler, Melbourne Water, to ensure all major construction works have minimal impact on water quality.
- using secondary chlorinators for low level secondary disinfection.
- using COLT units at key locations around our system.
- using a water quality alert system to provide early warnings of potential incidents.
- ensuring all new mains are swabbed, flushed, and chlorinated where required and tested for several key water quality parameters by an independent laboratory so that we start with a clean asset before connections are made.

Our dedicated and highly trained Contact Centre team members handle all customer complaints about water quality. In all instances, the nature of the complaint determines our response, ranging from detailed investigative work to providing technical information.

Our specialised field employees respond to customer complaints with appropriate knowledge and skills to ensure customer satisfaction.

The following table shows a summary of all water quality complaints by water sampling locality.

Responding to our customers (continued)

Locality number	Locality name	Customer count	Brown	Blue	Black	White	Yellow	Total	Chlorine	Earthy	Musty	Petro	Stale	Other	Total	Suspect illness	Other	Total	Reporting total	Complaints (per 100 customers)
260	Cora Lynn	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0
270	BUNYIP	2,196	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	**4**	0
271	GARFIELD	836	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	**0**	0
280	TYNONG	740	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	**2**	0
290	PAKENHAM	21,509	23	0	0	3	0	26	4	0	0	0	0	2	6	0	0	0	**48**	0.6
300	KOO-WEE-RUP	1,511	10	0	0	0	0	10	1	0	0	0	0	0	1	2	3	5	**0**	0.1
310	BERWICK	57,895	69	0	1	4	3	77	9	0	0	1	2	8	20	0	1	1	**129**	2
311	UPPER BEACONSFIELD	937	19	0	1	1	1	22	3	1	0	2	1	2	9	0	0	0	**0**	0.9
320	CRANBOURNE	35,927	35	0	0	1	2	38	2	0	0	1	2	1	6	1	4	5	**104**	0.6
321	DEVON MEADOWS	6,678	46	0	0	3	1	50	4	0	1	0	0	2	7	0	3	3	**7**	0.7
322	CARRUM DOWNS	13,896	2	0	0	2	0	4	3	0	0	0	0	1	4	0	0	0	**27**	0.4
323	KARINGAL	4,959	11	0	0	6	1	18	2	1	0	0	0	1	4	0	1	1	**16**	0.4
330	SOMERVILLE	7,749	31	2	0	2	1	36	0	2	1	0	0	0	3	0	0	0	**36**	0.3
340	HASTINGS	5,426	14	0	0	1	0	15	1	0	0	1	0	1	3	0	2	2	**9**	0.3
350	BITTERN	2,642	6	0	0	0	0	6	0	0	0	0	0	0	0	0	1	1	**7**	0
360	BALNARRING	2,806	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	**6**	0.1
370	SHOREHAM	1,601	3	0	0	0	0	3	0	0	0	0	0	1	1	0	0	0	**0**	0.1
390	FRANKSTON	42,223	12	2	1	1	1	17	3	0	0	0	0	6	9	1	3	4	**41**	0.9
400	FRANKSTON SOUTH	6,274	14	3	0	2	2	21	2	1	0	0	0	1	4	2	0	2	**17**	0.4
410	MORNINGTON	21,122	3	0	0	1	1	5	2	0	1	0	1	1	5	1	0	1	**11**	0.5
420	MOUNT MARTHA	4,626	4	0	0	0	0	4	0	1	0	0	0	0	1	0	0	0	**7**	0.1

430	DROMANA	10,415	1	0	0	1	0	2	1	0	0	0	0	1	2	0	3	3	**5**	0.2
440	RYE	36,158	8	0	0	3	0	11	0	0	0	0	0	1	1	0	4	4	**20**	0.1
450	LANG LANG	1,233	0	0	0	2	1	3	0	1	0	0	0	1	2	1	0	1	**2**	0.2
570	BAYSWATER	31,997	22	0	0	2	2	26	4	2	0	1	0	2	9	0	2	2	**48**	0.9
580	FERNTREE GULLY	10,167	22	0	0	1	1	24	1	1	0	0	0	1	3	0	1	1	**22**	0.3
581	BELGRAVE	6,788	8	0	0	0	0	8	4	0	0	3	0	0	7	0	0	0	**12**	0.7
590	WANTIRNA	11,491	13	0	0	0	0	13	1	0	0	0	1	0	2	0	0	0	**22**	0.2
610	CAULFIELD	75,434	28	2	1	0	2	33	5	1	2	0	1	4	13	3	1	4	**56**	1.3
620	SOUTH MELBOURNE	109,861	15	4	1	1	1	22	7	2	0	0	1	1	11	3	4	7	**43**	1.1
630	HALLAM	32,340	43	1	0	1	1	46	10	2	0	0	1	5	18	1	3	4	**66**	1.8
640	DANDENONG	59,031	77	0	1	1	3	82	4	0	0	1	0	6	11	1	5	6	**91**	1.1
650	CHELSEA	23,574	17	0	0	0	2	19	5	0	1	1	0	1	8	1	2	3	**25**	0.8
660	DANDENONG NORTH	12,238	14	0	0	2	0	16	2	1	0	0	0	2	5	0	1	1	**20**	0.5
670	BRIGHTON HEATHERTON	112,774	81	3	1	1	7	93	3	0	4	2	0	9	18	3	7	10	**148**	1.8
680	BEAUMARIS	13,414	32	0	0	1	0	33	5	1	0	1	3	1	11	0	1	1	**16**	1.1
690	MORDIALLOC	15,354	28	0	0	1	0	29	1	0	0	0	0	0	1	1	2	3	**57**	0.1
700	ROWVILLE	14,650	31	0	0	3	1	35	3	0	2	1	0	1	7	1	0	1	**23**	0.7
710	MOOROODUC	61	3	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	**0**	0
720	CLYDE NORTH	18,586	11	0	0	2	4	17	3	1	0	0	0	0	4	0	0	0	**27**	0.4
-999	Unknown	0	6	0	0	1	0	7	2	0	1	0	0	0	3	0	1	1	**0**	0
Business total		**836,707**	**767**	**17**	**7**	**51**	**40**	**882**	**97**	**18**	**13**	**15**	**13**	**64**	**220**	**22**	**55**	**77**	**1179**	**0.14**

[5] Customer count refers to property connections.

[6] White water is caused by trapped air in pressurised mains.

Discoloured water complaints

We enjoy high-quality water from our catchments, and carefully treat it before we send it out into our network. Much of Melbourne's water supplied into our pipeline system is unfiltered, which means some harmless natural sedimentation can occur in the pipes.

We attribute most discoloured water complaints received during 2023–24 to increases in the flow of water through the main, or a reversal of the flow direction within the main. This can disturb the fine sediment material from the source water, which can settle in the main during periods of low flow. A change of the flow in the main can stir up sediment and cause discoloured water. A portion of this year's complaints can be contributed to the early phases of the air scouring and ice pigging process.

Most discoloured water complaints are a result of emergency works. We're committed to meeting the needs and expectations of our customers and engaging with our community. When we receive complaints relating to a burst or damaged water main, we respond by communicating why the water is discoloured and how we'll resolve the problem. We respond by flushing the water main if the water is still discoloured, usually targeting dead-end streets where water does not move through the system as frequently

Taste and odour complaints

Taste and odour complaints are generally related to chlorine. These complaints can vary with seasonal water demands and the location of the customer's property.

The chlorination process can lead to noticeable, yet harmless, tastes and odours if the chlorine reacts with organic matter present in the pipe. Chlorine has been used effectively around the world for more than 100 years as part of the water treatment process and the amount of chlorine added is minimal.

While we regularly monitor the drinking water supply, it's not possible to accurately predict the occurrence of taste and odour problems. However, once reported by customers, or detected by our employees, we investigate the issue to devise a prompt resolution.

Blue water

Blue water is caused by the release of copper into water passing through copper pipe, resulting in the water appearing blue. All blue water related complaints received in 2023–24 were associated with corrosion of the copper pipe within a customer's property or service pipe. We investigate these complaints, and we provide our customers with up-to-date information on this issue.

Alleged illness complaints

Alleged illness complaints are received from customers who suspect their water supply may be associated with an illness they are experiencing. We investigate each complaint relating to alleged illness from our water quality with care and concern, inviting the Department of Health to assist where appropriate.

During 2023–24 there were no confirmed cases of illness arising from our water supply system.

Other complaints

Other water quality complaints received were either from industrial customers concerned about water quality issues that could affect their processes (e.g., pH), or residential customers with concerns about water quality such as discolouration of appliances and issues with aquariums.

Glossary/acronyms

ADWG	Australian Drinking Water Guidelines 2011
COLT	Continuous online testing
E.coli	Escherichia coli
HACCP	Hazard Analysis and Critical Control Point
HU	Hazen Units
Mg/L	Milligrams per litre
mL	Millilitres
NUT	Nephelometric Turbidity Units
PRV	Pressure Reducing Valve
The Act	Safe Drinking Water Act 2003
The Regulations	Safe Drinking Water Regulations 2015
WTP	Water Treatment Plant

Primary disinfection refers to the initial disinfection treatment before water is supplied to customers, usually when water leaves an open storage such as Cardinia Reservoir.

Secondary disinfection refers to additional or booster disinfection treatment within the distribution system, usually a long time after primary disinfection. For example, secondary disinfection occurs towards the end of the distribution system where the residual from the primary disinfection has diminished

Healthy Water.
For Life.

How to get in touch

Email support@southeastwater.com.au
General account enquiries 13 18 51
South East Water Assist 03 9552 3540
Hearing and speech impaired services
TTY 13 36 77 (ask for 13 18 51)
Interpreter service (all languages) 03 9209 0130

Follow us