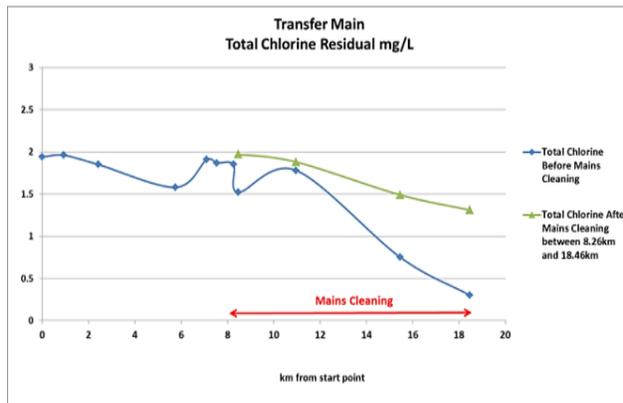


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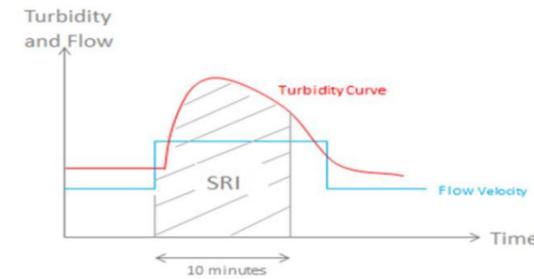


Chloramine Decay Investigation

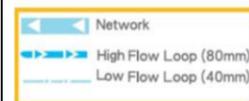
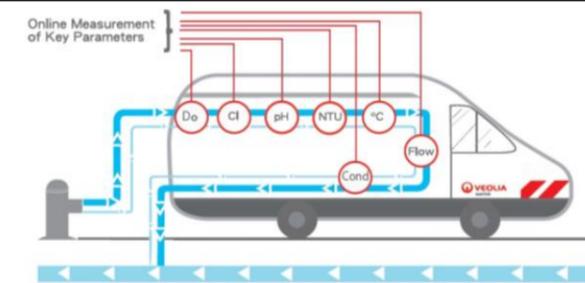
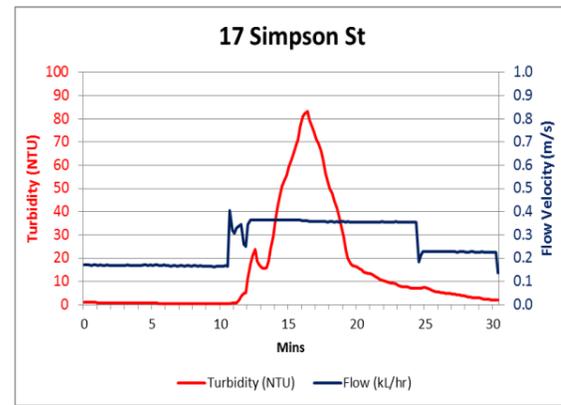
- Loss of chloramine residual and high water age in a long trunk main
- Sampling along the trunk main identified one section with nitrification activity
- This section was then air scoured
- Nitrification was reduced and chloramine residual restored at the end of the trunk main



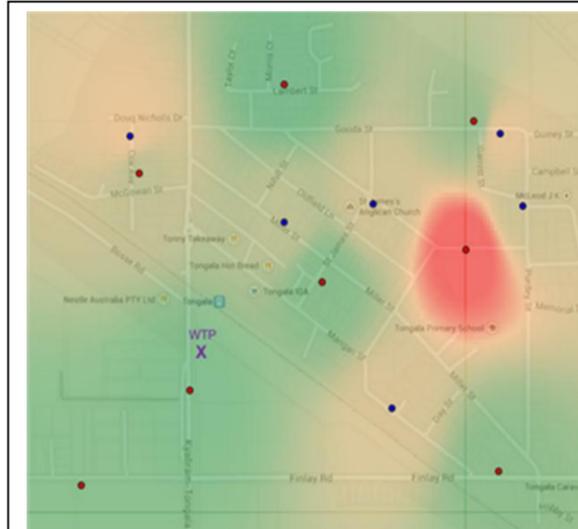
- **How do you quantify sediment build-up in water mains which may have the potential to cause dirty water complaints?**
- A standard test has been developed to determine this. This test is called the **SRI test** (Sediment Re-suspension Indicator)
- This test is used as a measure to indicate the risk of sediment re-suspension. A controlled flow rate and velocity is established in the water main. We then measure the turbidity using the on-line turbidity analyser



The SRI is determined by averaging the on-line turbidity curve during the initial 10 minute time period against a flow velocity of 0.35m/s. The SRI factor is determined by calculating the average turbidity units x time. If the average measure is 100 NTU for the 10 minute period, we determine the result as 1000 NTU minutes



Enquiries to:
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0439 995 534



Free Chlorine (mg/L)

- <0.1
- 0.1-0.3
- 0.3-0.8
- 0.8-1.3
- >1.3

- Non intrusive and non invasive
 - No damage to pipe integrity
 - No disturbance to the neighbourhood
 - No need for interruption of service—no disruption for customers
- Mobility and convenience
 - Can sample up to 8 points each day
 - Up to 100 analyses a day
 - Can access any fireplug in desired location
 - Fully automated data logging to minimise human error
- Flexibility
 - Can accommodate particular water quality parameters
 - On the spot results – if any hazards are identified they are communicated immediately for prompt response

Parameters Measured

On-line Measurement	Grab Sample
Flow	Turbidity
Turbidity	Chlorine (free and total)
Chlorine (free and total)	pH
pH	Temperature
Temperature	Mono-chloramine
D.O.	Free Ammonia
Conductivity	Nitrite
O.R.P.	Nitrate
	Iron (if required)
	Manganese (if required)
	TSS (if required)
	Any additional parameters required for specific campaigns

Goulburn Valley Water Campaign Objectives	Achieved
Assess chlorination performance and identify chlorine decay issues	✓
Identify sediment accumulation in the networks and dirty water risks	✓
Assess efficiency of historical flushing/scouring programs	✓
Reduce cleaning by targeting high risk areas	✓
Reduce water use for cleaning operations	✓
Develop mains cleaning programs based on water quality and risk	✓
Increase network knowledge – accurate snapshot	✓
Benchmark water quality across the central district	✓
Identify and address local issues within networks	(identified)
Establish measurable water quality customer complaint thresholds	In progress
Target Consistent Service Levels	In progress
Reduce customer complaints	Future

