



**Australian  
Water  
Quality  
Centre**



# Sample Bottle Pocket Guide

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# ~ Sampling Tips ~







- 💧 Ensure the sample is representative of the source & always collect from the same location.
- 💧 If sampling from a tap, minimum flush of 2mins prior to collection.
- 💧 Collection of microbiological samples should be immediately after sample point disinfection.
- 💧 All microbiological samples should be double zip lock bagged for transportation to AWQC.
- 💧 Sample bottles should be adequately filled. If air gap required, fill to base of neck.
- 💧 Ensure all sample bottles are labelled. If no AWQC label, provide sample location description & time/date collected as minimum.
- 💧 Samples should be immediately chilled, preferably use ice. In the case of ice bricks, please attempt to pre-chill samples prior to transport to AWQC with ice bricks.
- 💧 Samples for Amoeba analysis must NOT be chilled or placed on ice.
- 💧 Pre-dosed bottles must never be rinsed.
- 💧 Surface sampling should always occur as best as possible at a minimum of 30cm below the surface to avoid any surface scums.




## ~ Field Filtering ~



- 💧 Avoid contamination by not touching tips of filters & syringe internals.
- 💧 Pre-rinse syringe with sample water.
- 💧 Add 50-60ml of sample, invert and expel air.
- 💧 Screw on a white GF filter first, followed by the 0.45 $\mu$ m yellow filter.
- 💧 Samples low in suspended material can be filtered with only a 0.45 $\mu$ m yellow filter.
- 💧 Commence filtering until sample is dispensed or filters are blocked. Replace filters if necessary.
- 💧 Ensure a minimum of 60ml is collected.
- 💧 DO NOT completely fill container, air gap required for sample freezing at AWQC.
- 💧 Discard filters after use.
- 💧 NOTE: when collecting a filtered & unfiltered sample from the same location, filter water from the unfiltered container to ensure the samples are comparable with each other.





GENERAL	HEAVY METALS
<p><b><u>Sample Container</u></b>  <b>600ml Plastic</b>  <b>(PT600)</b></p> 	<p><b><u>Sample Container</u></b>  <b>355mL Plastic</b>  <b>(PT355)</b></p> 
<p><b><u>Label</u></b></p> <p>PT600 – None – None – No Air Gap, Ice</p>	<p><b><u>Label</u></b></p> <p>PT355 – Acid Washed – None – No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>                      General Cations (7 days)                      **pH (6 hours) per                      *Conductivity (28 days)                      *Colour / Turbidity (24 hours)                      *Alkalinity (24 hours)</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>                      *All Metals (excluding Mercury) (28 days)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C                      No preservative</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C                      No preservative</p>
<p><b><u>Notes</u></b></p> <p>No container preparation</p>	<p><b><u>Notes</u></b></p> <p>Container is pre acid washed.                      Containers have <b>Green Lid</b>.</p>

MERCURY	NUTRIENTS - TOTAL
<p><b><u>Sample Container</u></b> 100mL Glass (GL100)</p> 	<p><b><u>Sample Container</u></b> 355mL Plastic (PT355)</p> 
<p><b><u>Label</u></b></p> <p>GL100 – Acid Washed – None – No Air Gap, Ice</p>	<p><b><u>Label</u></b></p> <p>PT355 – None – None – No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p>All water types *Mercury (28 days)</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p>All water types *Chloride (28 days) *Fluoride (28 days) *OXN (28 days) *Ammonia (28 days)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C No preservative</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C No preservative</p>
<p><b><u>Notes</u></b></p> <p>Container is pre acid washed Containers have <b>Blue Lid</b></p>	<p><b><u>Notes</u></b></p> <p>No container preparation</p>



<b>NUTRIENTS - FILTERABLE</b>	<b>ALGAL &amp; ODOURS</b>
<p><b><u>Sample Container</u></b>  <b>150mL Plastic (PT150)</b></p> 	<p><b><u>Sample Container</u></b>  <b>355mL Plastic (PT355)</b></p> 
<p><b><u>Label</u></b></p> <p>A. PT120–None–None–Filtered–Air gap, Ice          B. PT120–None–None - Air gap, Ice</p>	<p><b><u>Label</u></b></p> <p>PT355 – None – None – Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>          *TKN (28 days)          *Total P (28 days)</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>          ***Blue Green Algae (24 Hours) see preservation below          ***Odour Test (24 hours)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>Air gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C          No preservative</p> 	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C</p> <p>Algae holding time increased to 28 days when preserved with Lugol's solution</p> <ul style="list-style-type: none"> <li>Freshwater samples 1:100 by volume &amp; Marine 1:200</li> </ul>
<p><b><u>Notes</u></b></p> <p>Filtered Sample will require filter equipment. Attach white filter 1<sup>st</sup> followed by yellow. Single use only.</p>	<p><b><u>Notes</u></b></p> <p>No container preparation</p>



<b>CHLOROPHYLL</b>	<b>GENERAL AND BOD</b>
<p><b><u>Sample Container</u></b>  <b>1 L Black Plastic (BLKPT1)</b></p> 	<p><b><u>Sample Container</u></b>  <b>1.25L Plastic (PT1250)</b></p> 
<p><b><u>Label</u></b></p> <p>BLKPT1 – None – None – Air Gap, Ice</p>	<p><b><u>Label</u></b></p> <p>PT1250 – None – None – No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>          *Chlorophyll (24 Hours)</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>          *Biological Oxygen Demand (BOD) (24 hours)          *Suspended Solids (24 hours)          Chemical Oxygen Demand (24 hours)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C          No preservative</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C          No preservative</p>
<p><b><u>Notes</u></b></p> <p>No container preparation</p>	<p><b><u>Notes</u></b></p> <p>No container preparation</p>



## Wastewater cont.....



CYANIDES	GREASE & OILS
<p><b><u>Sample Container</u></b> 600ml Plastic (PT600)</p> 	<p><b><u>Sample Container</u></b> 1L Glass (GL1000)</p> 
<p><b><u>Label</u></b></p> <p>PT600 – None – None – No Air Gap, Ice</p>	<p><b><u>Label</u></b></p> <p>GL1000 – None – None –Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p>All water types *Cyanide (24 hours)</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p>All water types *Grease (24 hours) *MBA's (48 hours)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C No preservative</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C No preservative</p>
<p><b><u>Notes</u></b></p> <p>No container preparation</p>	<p><b><u>Notes</u></b></p> <p>No container preparation</p>







<b>SULPHIDES</b>	<b>PHENOLS - Distillation</b>
<p><b><u>Sample Container</u></b>  <b>355mL Plastic</b>  <b>(PT355)</b></p> 	<p><b><u>Sample Container</u></b>  <b>1L Amber Glass</b>  <b>(AG1000)</b></p> 
<p><b><u>Label</u></b></p> <p>PT355 –None – Zinc Acetate – No Air Gap, Ice</p>	<p><b><u>Label</u></b></p> <p>AG1000 – None – None –No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>          *Sulphides (28 days for preserved samples)          24 hours for non preserved samples</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b> (24 Hours)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C          Zinc Acetate Dosed</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C          No preservative</p>
<p><b><u>Notes</u></b></p> <p>Samples to be taken with the minimum amount of aeration and bottle completely filled</p>	<p><b><u>Notes</u></b></p> <p>No container preparation</p>



SLUDGES/SOLIDS/SOILS	PHENOL Halogenated
<p><b><u>Sample Container</u></b> 500mL Plastic Pot (PP500)</p> 	<p><b><u>Sample Container</u></b> 1.25L Plastic (PT1250)</p> 
<p><b><u>Label</u></b></p> <p>PP500 –None– None – None</p>	<p><b><u>Label</u></b></p> <p>PT1250 – None - Ammonium Chloride –No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p>All water types ***Halogenated Phenols (14 days)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>No preservative</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C 100mg/L Ammonium Chloride dosed</p>
<p><b><u>Notes</u></b></p> <p>Caution to not overfill container Required to place pot in double zip locked bags</p>	<p><b><u>Notes</u></b></p> <p>No container preparation</p>

NDMA	GENERAL
<p><b><u>Sample Container</u></b> 1.25L Plastic (APT1250 Alfoil Wrapped)</p> 	<p><b><u>Sample Container</u></b> 1L Glass (GL1000)</p> 
<p><b><u>Label</u></b> APT1000 – None – Sodium Thio – No Air Gap, Ice</p>	<p><b><u>Label</u></b> GL1000 – None – None –No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b> ***NDMA (14 Days)</p>	<p><b><u>Analytes &amp; Holding Times</u></b> <b>All water types</b> ***Organochlorides (14 days) ***Organophosphates (14 days) ***Acid herbicides (14 days) ***GCMSSCANs (14 days) ***Diesel , VOC, BTEX, MTBE, ***Fipronyl , Haloxyfop (14 days) ***Atrazine (metabolites), Simazine (14) ***Formaldehyde TPH/TRH (14 day)</p>
<p><b><u>Sampling Requirements</u></b> No Air Gap</p>	<p><b><u>Sampling Requirements</u></b> No Air Gap</p>
<p><b><u>Storage and Preservation</u></b> Iced or chilled to 4°C 150mg/L Sodium Sulphite for Chloramine &lt; 4.0mg/L</p>	<p><b><u>Storage and Preservation</u></b> Iced or chilled to 4°C No preservative</p>
<p><b><u>Notes</u></b> Wrap entire bottle in foil Amber glass bottles or black plastic bottles can be used.</p>	<p><b><u>Notes</u></b> No container preparation Amber glass bottle can also be used.</p>

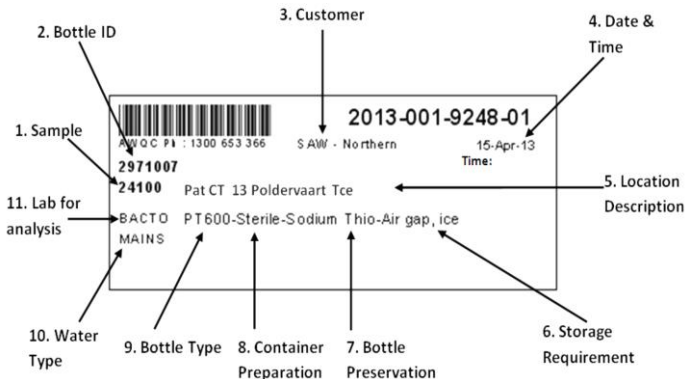
<b>ALGAL TOXINS MIB/GEOSMIN, TCA</b>	<b>DOC, TOC, MIB, GEOSMIN, TCA, HAAFP, THMPF, GLYPHOSATE</b>
<p><b><u>Sample Container</u></b> 1.25L Plastic (PT1250)</p> 	<p><b><u>Sample Container</u></b> 355mL Plastic (PT355)</p> 
<p><b><u>Label</u></b></p> <p>PT1250 – None – None – No Air Gap, Ice</p>	<p><b><u>Label</u></b></p> <p>PT355 – None – None – No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>        ***MIB , GEOSMIN (5 days)        ***TCA(5 days) are performed by        CLSA for lower detection limits.        ***Algal Toxins (14 days)</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b>        ***Dissolved Organic Carbon, Total        Organic Carbon (14 days)        ***Total Carbon (14 days)        ***MIB, GEOSMIN, TCA (5 days)        ***Glyphosate (14 days)        ***THM and HAA Formation        Potential (14 days)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C        No preservative</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C        No preservative</p>
<p><b><u>Notes</u></b></p> <p>No container preparation</p>	<p><b><u>Notes</u></b></p> <p>No container preparation</p>

DISINFECTION by PRODUCTS	GENERAL
<p><b><u>Sample Container</u></b> 355ml Plastic (PT355) 600ml Plastic (PT600)</p> 	<p><b><u>Sample Container</u></b> 300 or 600mL Sterile Plastic (PT300 or 600)</p>  <p style="text-align: right;">Ice Jar</p>
<p><b><u>Label</u></b> PT355 or PT600 –None – Ammonium Chloride – No Air Gap, Ice</p>	<p><b><u>Label</u></b> PT300 or 600 – Sterile – Sodium Thio – Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b> ***Haloacetic Acids (14 days) ***Chloracetic Acids (14 days) ***DBP_551 (14 days) ***THM (14 days)</p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b> #<i>E.coli</i> (24 hours) #Faecal Coliforms (24 hours) #Coliforms (24 hours) #Enterococcus (24 hours) #Iron Bacteria (24 hours) #Pseudomonas (24 hours) #Plate Counts (24 hours) Bacteriophages &amp; f RNA phage ( 24 hr) Campylobacter &amp; Salmonella (24 hr)</p>
<p><b><u>Sampling Requirements</u></b> No Air Gap</p>	<p><b><u>Sampling Requirements</u></b> Air Gap</p>
<p><b><u>Storage and Preservation</u></b> Iced or chilled to 4°C 100mg/L Ammonium Chloride dosed</p>	<p><b><u>Storage and Preservation</u></b> Iced or chilled to 4°C Sodium Thiosulphate Dosed</p>
<p><b><u>Notes</u></b> Single analysis 355mL bottle is sufficient for &gt; 2 analyses 600mL bottle required</p>	<p><b><u>Notes</u></b> Aseptic preparation is mandatory. Place bottles in double zip locked bags for storage on ice.</p>

<p style="text-align: center;"><b>LEGIONELLA</b></p>	<p style="text-align: center;"><b>SULPHITE &amp; SULPHATE REDUCING BACTERIA</b></p>
<p><b><u>Sample Container</u></b> 300mL Sterile Plastic (PT300)</p> 	<p><b><u>Sample Container</u></b> 300mL Sterile Plastic (PT300)</p> 
<p><b><u>Label</u></b></p> <p>PT300 – Sterile – Sodium Thio – Air Gap, Ice</p>	<p><b><u>Label</u></b></p> <p>PT300 – Sterile – Sodium Thio – No Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b> #Legionella (24 hours)</p> <p><b>Samples from Warm or Hot Water Systems require NO FLUSHING or flame sterilisation of sample tap prior to sampling.</b></p>	<p><b><u>Analytes &amp; Holding Times</u></b></p> <p><b>All water types</b> #Sulphite reducing Clostridia including <i>Clostridium perfringens</i> (24 hours) #Sulphate Reducing Bacteria (24 hours)</p>
<p><b><u>Sampling Requirements</u></b></p> <p>Air Gap</p>	<p><b><u>Sampling Requirements</u></b></p> <p>No Air Gap</p>
<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C Sodium Thiosulphate Dosed</p>	<p><b><u>Storage and Preservation</u></b></p> <p>Iced or chilled to 4°C Sodium Thiosulphate Dosed</p>
<p><b><u>Notes</u></b></p> <p>Aseptic preparation is mandatory. Place bottles in double zip locked bags for storage on ice.</p>	<p><b><u>Notes</u></b></p> <p>Aseptic preparation is mandatory. Place bottles in double zip locked bags for storage on ice.</p>

<p style="text-align: center;"><b>AMOEBAE</b></p>	<p style="text-align: center;"><b>CRYPTOSPORIDIUM &amp; GIARDIA</b></p>
<p><b><u>Sample Container</u></b> 600mL Sterile Plastic (PT600)</p> 	<p><b><u>Sample Container</u></b> 2 x10L Plastic</p>  <p>(JC1)</p>
<p><b><u>Label</u></b> PT600 – Sterile – Sodium Thio – Air Gap, No Ice</p>	<p><b><u>Label</u></b> JC1 – Sterile – Sodium Thio – Air Gap, Ice</p>
<p><b><u>Analytes &amp; Holding Times</u></b> <b>All water types</b> Amoebae – <i>Naegleria fowleri</i> (48 hours)</p> <p><b>AMOEBAE samples are not to be chilled</b></p>	<p><b><u>Analytes &amp; Holding Times</u></b> <b>All water types</b> <i>Cryptosporidium</i> and <i>Giardia</i> (48 hours)</p>
<p><b><u>Sampling Requirements</u></b> Air Gap</p>	<p><b><u>Sampling Requirements</u></b> Air Gap</p>
<p><b><u>Storage and Preservation</u></b> <b>Not iced or chilled</b> Sodium Thiosulphate Dosed</p>	<p><b><u>Storage and Preservation</u></b> Iced or chilled to 4°C Sodium Thiosulphate Dosed</p>
<p><b><u>Notes</u></b> Aseptic preparation is mandatory. Place bottles in double zip locked bags.</p>	<p><b><u>Notes</u></b> Aseptic Preparation is mandatory 2x10L Plastic Containers (jerry cans) to be used. Waste samples may be requested in 1.25L bottles (PT1250).</p>

## ~ AWQC Label ~



### Bottle type descriptions

- PT = Plastic Type in sizes 120, 355, 600 & 1250ml
- GL = Glass (clear) in size 100 or 1000ml
- AG = Amber Glass in size 1000ml
- JC1 = Jerry Can in size 10Lt
- APT = Amber Plastic Type OR foil wrapped clear, in size 1000 or 1250ml
- PP = Plastic Pot in size 500ml
- GJ = Glass Jar
- BLKPT1 = Black Plastic Type in size 1000ml



Sterile = container pre-sterilised



Acid Washed = container pre-acid washed



Sodium Thio = container dosed with sodium thiosulphate



Ammonium chloride = container dosed with ammonium chloride



# Holding Time Standards

- \* Holding times as per Standard Method, 22<sup>nd</sup> Edition, 2012
- \*\* Holding times as per AS/NZS5667.1:1998
- \*\*\* No stated holding time in Standard Method or AS/NZS5667, deliver to lab As Soon as Possible or as stated
- # Holding times as per AZ/NZS2031