

WATER ANALYSIS REPORT

Location ZANZIBAR Source SPRING
 Sample site BUBUBU Source: MAIN FOR PUBLIC USE
 Water: Not treated/~~Filtered~~/~~Chlorinated~~
 Sampling Time 8:48 A.M Sampling Date 4/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>odour less</u>
- Temperature	oC	<u>29.5</u>
- pH		<u>7.4</u>
- Conductivity	Hs/cm	<u>459</u>
- Total Dissolved Solids	mg/l	<u>229</u>
- Hardness	mg/l CaCO ₃	<u>85</u>
- Chloride	mg/l Cl	<u>45.38</u>
- Salinity	ppt	<u>79.75</u>
- Turbidity		<u>NO turbidity (clear)</u>
- Fluoride	mg/l F	<u>0.23</u>
- Iron. Total	mg/l Fe	<u>0.05</u>
- Sulphate	mg/l SO ₄	<u>25.8</u>
- Nitrate	mg/l NO ₃	<u>0.374</u>
- Nitrite	mg/l NO ₂	<u>0.0528</u>
- Calcium	mg/l Ca	<u>3.4</u>
- Magnesium	mg/l Mg	<u>1.20</u>
- Ammonium	mg/l NH ₄	<u>0.585</u>
- Bicarbonate	mg/l HCO ₃	<u>289.7</u>
- Carbonate	mg/l CO ₃	<u>6</u>
- Chromium	mg/l Cr	<u>Trace (< 0.1)</u>
- Sodium	mg/l Na	<u>6.0</u>
- Potassium	mg/l K	<u>4.4</u>

Bacteriological Quality:

Total Coliforms	<u>5</u>	/100 ml
Fecal Coliforms	<u>NIL</u>	/100 ml
Bacteriological Quality		
Potable /suspicious/polluted		

Remarks and Action recommended: Water has some bacterial which show that it is contaminated so it should be treated but chemical and physical water is good.

Date 7/12/2002 Name of Analyst Atthodg - AMEIR

WATER ANALYSIS REPORT

Location ZANZIBAR Source RESERVOIR

Sample site SAATENI PUMPING STATION Source: FOR PUBLIC USE

Water: Not treated/Filtered/Chlorinated

Sampling Time 8:40

Sampling Date 4/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odourless</u>
- Temperature	oC	<u>30.8</u>
- pH		<u>7.2</u>
- Conductivity	Hs/cm	<u>468</u>
- Total		
- Dissolved		
- Solids	mg/l	<u>234</u>
- Hardness	mg/l CaCO ₃	<u>95</u>
- Chloride	mg/l Cl	<u>40.413</u>
- Salinity	ppt	<u>71.02</u>
- Turbidity		<u>NOT turbid (clear)</u>
- Fluoride	mg/l F	<u>0.13</u>
- Iron, Total	mg/l Fe	<u>0.05</u>
- Sulphate	mg/l SO ₄	<u>31</u>
- Nitrate	mg/l NO ₃	<u>0.748</u>
- Nitrite	mg/l NO ₂	<u>0.0231</u>
- Calcium	mg/l Ca	<u>38</u>
- Magnesium	mg/l Mg	<u>1.20</u>
- Ammonium	mg/l NH ₄	<u>0.26</u>
- Bicarbonate	mg/l HCO	<u>274.5</u>
- Carbonate	mg/l CO ₃	<u>21</u>
- Chromium	mg/l Cr	<u>Trace (< 0.1)</u>
- Sodium	mg/l Na	<u>80</u>
- Potassium	mg/l K	<u>1.8</u>

Bacteriological Quality:

Total Coliforms	<u>65</u>	/100 ml
Fecal Coliforms	<u>7</u>	/100 ml
Bacteriological	Quality	
Potable/suspicious/polluted		

Remarks and Action recommended:

Water seemed to be Contaminated in both fecal and Total Coliform so it should be Chlorinated before used but Chemical quality is good.

Date 7/12/2002 Name of Analyst AMEIK - ~~Atahoti~~

WATER ANALYSIS REPORT

Location ZANZIBAR Source WATER TANK

Sample site WEZEZO Source: For PUBLIC USE

Water: Not treated/Filtered/Chlorinated

Sampling Time 9:48 a.m

Sampling Date 29/11/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odourless</u>
- Temperature	oC	<u>33.2</u>
- pH		<u>6.6</u>
- Conductivity	Hs/cm	<u>422</u>
- Total Dissolved Solids	mg/l	<u>212</u>
- Hardness	mg/l CaCO ₃	<u>36</u>
- Chloride	mg/l Cl	<u>39</u>
- Salinity	ppt	<u>68.53</u>
- Turbidity		<u>Not turbid</u>
- Fluoride	mg/l F	<u>0.02</u>
- Iron. Total	mg/l Fe	<u>Trace (< 0.05)</u>
- Sulphate	mg/l SO ₄	<u>48</u>
- Nitrate	mg/l NO ₃	<u>0.176</u>
- Nitrite	mg/l/NO ₂	<u>0.001</u>
- Calcium	mg/l Ca	<u>90</u>
- Magnesium	mg/l Mg	<u>100</u>
- Ammonium	mg/l NH ₄	<u>0.00</u>
- Bicarbonate	mg/l HCO ₃	<u>274.5</u>
- Carbonate	mg/l CO ₃	<u>3</u>
- Chromium	mg/l Cr	<u>Trace (< 0.1)</u>
- Sodium	mg/l Na	<u>90</u>
- Potassium	mg/l K	<u>2.3</u>

Bacteriological Quality:

Total Coliforms	<u>3</u>	/100 ml
Fecal Coliforms	<u>1</u>	/100 ml
Bacteriological Quality		
Potable/suspicious/polluted		

Remarks and Action recommended: From the result water seemed to be contaminated by both fecal and total Coliform, so it should be treated before used, but Chemical and Physical is good.

Date 7/12/2002 Name of Analyst Ameir - [Signature]

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP

Sample site KIJANGWANI Source: PUBLIC USE

Water: ~~Not treated~~/Filtered/Chlorinated

Sampling Time 8:38 a.m Sampling Date 2/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odourless</u>
- Temperature	oC	<u>30.5</u>
- pH		<u>7.2</u>
- Conductivity	Hs/cm	<u>467</u>
- Total Dissolved Solids	mg/l	<u>233</u>
- Hardness	mg/l CaCo3	<u>85</u>
- Chloride	mg/l Cl	<u>39.7</u>
- Salinity	ppt	<u>69.8</u>
- Turbidity		<u>Not turbid (Clear)</u>
- Fluoride	mg/l F	<u>0.10</u>
- Iron. Total	mg/l Fe	<u>Trace (<0.05)</u>
- Sulphate	mg/l SO4	<u>36.4</u>
- Nitrate	mg/l NO3	<u>0.3168</u>
- Nitrite	mg/l NO2	<u>0.0363</u>
- Calcium	mg/l Ca	<u>34</u>
- Magnesium	mg/l Mg	<u>110</u>

Bacteriological Quality:

Total Coliforms	<u>22</u>	/100 ml
Fecal Coliforms	<u>6</u>	/100 ml
Bacteriological Quality		
Potable /suspicious/polluted		

Remarks and Action recommended:

Water seemed to be contaminated by fecal and total Coliform so treatment should be done before used for domestic.

Date 7/12/2002 Name of Analyst AMEIR

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP
 Sample site CHUMBUNI Source: PUBLIC USE
 Water: ~~Not treated/Filtered/Chlorinated~~
 Sampling Time 9:12 a.m Sampling Date 2/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odourless</u>
- Temperature	oC	<u>33.3</u>
- pH		<u>7.2</u>
- Conductivity	Hs/cm	<u>429</u>
- Total Dissolved Solids	mg/l	<u>215</u>
- Hardness	mg/l CaCo ₃	<u>115</u>
- Chloride	mg/l Cl	<u>35.45</u>
- Salinity	ppt	<u>62.3</u>
- Turbidity		<u>Not turbid (Clear)</u>
- Fluoride	mg/l F	<u>0.23</u>
- Iron. Total	mg/l Fe	<u>0.05</u>
- Sulphate	mg/l SO ₄	<u>34</u>
- Nitrate	mg/l NO ₃	<u>0.66</u>
- Nitrite	mg/l NO ₂	<u>0.0132</u>
- Calcium	mg/l Ca	<u>46</u>
- Magnesium	mg/l Mg	<u>60</u>

Bacteriological Quality:

Total Coliforms	<u>16</u>	/100 ml
Fecal Coliforms	<u>4</u>	/100 ml
Bacteriological Quality		
Potable/suspicious/polluted		

Remarks and Action recommended: Water seemed to be contaminated by both fecal and total Coliform so it should be treated before used.

Date 7/12/2002 Name of Analyst AMEIR *[Signature]*

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP
 Sample site KWANTI PURA Source: PUBLIC USE
 Water: Not treated/~~Filtered~~/~~Chlorinated~~
 Sampling Time 10:08 a.m Sampling Date 2/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odour less</u>
- Temperature	oC	<u>29.7</u>
- pH		<u>7.2</u>
- Conductivity	Hs/cm	<u>432</u>
- Total Dissolved Solids	mg/l	<u>216</u>
- Hardness	mg/l CaCo ₃	<u>90</u>
- Chloride	mg/l Cl	<u>36.2</u>
- Salinity	ppt	<u>63.54</u>
- Turbidity		<u>NOT turbid (clear)</u>
- Fluoride	mg/l F	<u>0.00</u>
- Iron. Total	mg/l Fe	<u>Trace (< 0.05)</u>
- Sulphate	mg/l SO ₄	<u>32.5</u>
- Nitrate	mg/l NO ₃	<u>0.1881 0.2596</u>
- Nitrite	mg/l NO ₂	<u>0.1881</u>
- Calcium	mg/l Ca	<u>36</u>
- Magnesium	mg/l Mg	<u>50</u>

Bacteriological Quality:

Total Coliforms	<u>8</u>	/100 ml
Fecal Coliforms	<u>1</u>	/100 ml
Bacteriological Quality		
Potable/suspicious/polluted		

Remarks and Action recommended:

From the result of analysis water seemed good in Chemical and Physical quality but bacteriological water should be treated.

Date 7/12/2002 Name of Analyst AMEIR ~~Atahady~~

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP

Sample site MCHANQANI (ZNZ TOWN) Source: PUBLIC USE

Water: ~~Not treated/Filtered/Chlorinated~~

Sampling Time 1:45 a.m

Sampling Date 2/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odourless</u>
- Temperature	oC	<u>30.7</u>
- pH		<u>7.1</u>
- Conductivity	Hs/cm	<u>46.5</u>
- Total Dissolved Solids	mg/l	<u>232</u>
- Hardness	mg/l CaCo ₃	<u>75</u>
- Chloride	mg/l Cl	<u>36.16</u>
- Salinity	ppt	<u>63.54</u>
- Turbidity		<u>Not turbidly (clear)</u>
- Fluoride	mg/l F	<u>0.08</u>
- Iron. Total	mg/l Fe	<u>Trace</u>
- Sulphate	mg/l SO ₄	<u>35</u>
- Nitrate	mg/l NO ₃	<u>0.2992</u>
- Nitrite	mg/l/NO ₂	<u>0.4455</u>
- Calcium	mg/l Ca	<u>30</u>
- Magnesium	mg/l Mg	<u>110</u>

Bacteriological Quality:

Total Coliforms	<u>56</u>	/100 ml
Fecal Coliforms	<u>5</u>	/100 ml
Bacteriological Quality		
Possible/suspicious/polluted		

Remarks and Action recommended: Water results show that there are contaminated, so it should be treated (Chlorinated) before used for domestic.

Date 7/12/2002 Name of Analyst AMEIR - ~~AMIR~~

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP (IN THE HOUSE)

Sample site MALINDI Source: FOR PERSONAL USE

Water: ~~Not treated~~ / Filtered / Chlorinated

Sampling Time 8:02 a.m Sampling Date 2/12/2002

Chemical and Physical Quality:

-	Appearance		<u>Clear</u>
-	Odour	mg/Pt	<u>Odour less</u>
-	Temperature	oC	<u>32.4</u>
-	pH		<u>6.8</u>
-	Conductivity	Hs/cm	<u>467</u>
-	Total Dissolved Solids	mg/l	<u>234</u>
-	Hardness	mg/l CaCo3	<u>130</u>
-	Chloride	mg/l Cl	<u>32</u>
-	Salinity	ppt	<u>56.1</u>
-	Turbidity		<u>Not turbid (clear)</u>
-	Fluoride	mg/l F	<u>0.08</u>
-	Iron. Total	mg/l Fe	<u>Trace (< 0.05)</u>
-	Sulphate	mg/l SO4	<u>41.2</u>
-	Nitrate	mg/l NO3	<u>0.352</u>
-	Nitrite	mg/l NO2	<u>0.00</u>
-	Calcium	mg/l Ca	<u>52</u>
-	Magnesium	mg/l Mg	<u>110</u>

Bacteriological Quality:

Total Coliforms	<u>59</u>	/100 ml
Fecal Coliforms	<u>22</u>	/100 ml
Bacteriological Quality		
Potable/suspicious/polluted		

Remarks and Action recommended: Water seemed to be contaminated by both fecal and total Coliform so treatment required before using, but chemical quality is good.

Date 7/12/2002 Name of Analyst AMEIR - ~~Alhadi~~

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP (HOUSE AT END)
 Sample site SHANGANI Source: FOR PERSONAL USE
 Water: ~~Not treated~~/Filtered/Chlorinated
 Sampling Time 8:25 a.m Sampling Date 2/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odourless</u>
- Temperature	oC	<u>31.9</u>
- pH		<u>6.6</u>
- Conductivity	Hs/cm	<u>483</u>
- Total Dissolved Solids	mg/l	<u>242</u>
- Hardness	mg/l CaCo ₃	<u>135</u>
- Chloride	mg/l Cl	<u>34.03</u>
- Salinity	ppt	<u>60</u>
- Turbidity		<u>Not turbid (clear)</u>
- Fluoride	mg/l F	<u>0.06</u>
- Iron. Total	mg/l Fe	<u>Trace (< 0.05)</u>
- Sulphate	mg/l SO ₄	<u>48</u>
- Nitrate	mg/l NO ₃	<u>0.66</u>
- Nitrite	mg/l NO ₂	<u>1.1649</u>
- Calcium	mg/l Ca	<u>54</u>
- Magnesium	mg/l Mg	<u>110</u>

Bacteriological Quality:

Total Coliforms	<u>49</u>	/100 ml
Fecal Coliforms	<u>21</u>	/100 ml
Bacteriological Quality		
Potable/suspicious/polluted		

Remarks and Action recommended:

Water seemed to be contaminated by both fecal and total Coliform so that required treatment before using but Chemical and physical quality is good.

Date 7/12/2002 Name of Analyst AMEIR

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP (HOUSE)
 Sample site MOMBASA Source: PERSONAL USE
 Water: ~~Not treated/Filtered/Chlorinated~~
 Sampling Time 8:54 a.m Sampling Date 2/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pt	<u>Odour less</u>
- Temperature	oC	<u>32.9</u>
- pH		<u>7.5</u>
- Conductivity	Hs/cm	<u>572</u>
- Total Dissolved Solids	mg/l	<u>290</u>
- Hardness	mg/l CaCo3	<u>130</u>
- Chloride	mg/l Cl	<u>88.62</u>
- Salinity	ppt	<u>155.75</u>
- Turbidity		<u>Not turbid (Clear)</u>
- Fluoride	mg/l F	<u>0.09</u>
- Iron. Total	mg/l Fe	<u>0.08</u>
- Sulphate	mg/l SO4	<u>31.8</u>
- Nitrate	mg/l NO3	<u>0.528</u>
- Nitrite	mg/l/NO2	<u>0.0825</u>
- Calcium	mg/l Ca	<u>52</u>
- Magnesium	mg/l Mg	<u>100</u>

Bacteriological Quality:

Total Coliforms	<u>32</u>	/100 ml
Fecal Coliforms	<u>4</u>	/100 ml
Bacteriological Quality		
Potable/suspicious/polluted		

Remarks and Action recommended: Water seemed to be Contaminated by fecal and total coliform so it should be treated before used but Chemical and Physical quality water is good.

Date 7/12/2002 Name of Analyst AMEIR *[Signature]*

WATER ANALYSIS REPORT

Location ZANZIBAR Source TAP (HOUSE)

Sample site BUBUBU Source: PERSONAL USE

Water: Not treated/Filtered/Chlorinated

Sampling Time 9:48 a.m

Sampling Date 2/12/2002

Chemical and Physical Quality:

- Appearance		<u>Clear</u>
- Odour	mg/Pl	<u>Odourless</u>
- Temperature	oC	<u>33.3</u>
- pH		<u>6.8</u>
- Conductivity	Hs/cm	<u>454</u>
- Total Dissolved Solids	mg/l	<u>227</u>
- Hardness	mg/l CaCo3	<u>135</u>
- Chloride	mg/l Cl	<u>46.1</u>
- Salinity	ppt	<u>81</u>
- Turbidity		<u>Not turbid (clear)</u>
- Fluoride	mg/l F	<u>0.05</u>
- Iron, Total	mg/l Fe	<u>0.08</u>
- Sulphate	mg/l SO4	<u>49</u>
- Nitrate	mg/l NO3	<u>0.484</u>
- Nitrite	mg/l NO2	<u>0.0693</u>
- Calcium	mg/l Ca	<u>54</u>
- Magnesium	mg/l Mg	<u>130</u>

Bacteriological Quality:

Total Coliforms	<u>54</u>	/100 ml
Fecal Coliforms	<u>6</u>	/100 ml
Bacteriological Quality		
Potable/suspicious/polluted		

Remarks and Action recommended:

Water seemed to be Contaminated by both fecal and total Coliform, So treatment should be done before drinking but chemical is good.

Date 7/12/2002 Name of Analyst AMEIR *[Signature]*

Photograph of Water Quality Survey



Collection of Water Samples at Dinami Cave Spring



Collection of Water Samples in the Existing Pipelines



Collection of Water Samples at Mtoni Spring



Water Quality Test at Saateni Water Laboratory



Water Quality Test at Saateni Water Laboratory