



# QUARTERLY REPORT BOTTLED WATER QUALITY

(October-December, 2014)



**PAKISTAN COUNCIL OF RESEARCH IN WATER RESOURCES**

**Ministry of Science & Technology**

**Khyban-e-johar, H-8/1, Islamabad.**

[www.pcrwr.gov.pk](http://www.pcrwr.gov.pk)

October-December, 2014



## SUMMARY

The poor quality of drinking water has forced a large cross-section of citizens to buy bottled water. However, many of the mineral water companies were found selling contaminated water. To monitor and improve the quality of bottled water, the government of Pakistan through Ministry of Science and Technology has designated the task for quarterly monitoring of bottled/mineral water brands to PCRWR. According to the monitoring report for the quarter October-December, 2014 following is the brief overview of the findings.

### Quarterly Monitoring of Bottled/Mineral Water (October-December, 2014)

|   |   |   |
|---|---|---|
| <b>No. of Brands Collected</b>              | <b>76</b>   |   |
| <b>No. of Cities Targeted</b>               | <b>08</b><br>(Islamabad, Rawalpindi, Tando Jam, Lahore, Bahawalpur, Karachi, Quetta, and Peshawar).   |   |
| <b>No. of Overall Safe Brands</b>           | <b>66</b>   |   |
| <b>Overall Unsafe Brands (07)</b>           | <b>Brand Name</b>   | <b>Manufacturer(s)</b>  |
|   | Dewan Water Express   | Dewan Foods:168,Shah Jamal Lahore   |
|   | Aqua National   | Milli Brothres 8-km G.T Road Shahdra Lahore   |
|   | Natur Aqua  | Maqbool Industries:G.T Road Shahdra Lahore  |
|   | Butt Water  | A Product of Azhar &Co. Gulberg 111,Lahore  |
|   | Best Natural  | Bhatti Brothers:9-km,G.T.Road Shahdra Lahore  |
|   | Aftab Qarshi  | Aftab Qarshi Herbal Laboratories water Division Muzamil Town,20-km Multan Road Chang Lahore           |
|   | Noble   | Bottled by Pak National Company Lahore. Head Office Tower Market Hakeem Habib Road Hyderabad Pakistan |
|   | AFRA  | Bottled by Pak National Company Lahore. Head Office Tower Market Hakeem Habib Road Hyderabad Pakistan |
| NASH  | Block 13-D,Gulshan –e-Iqbal Karachi   |   |
| Ideal Life                                  | Ideal food International Plot#B-9/B-1,Office #37,S-P Chamber S.I.T.E Karachi  |   |
| <b>Chemically Safe Brands</b>               | <b>67</b>   |   |
| <b>Chemically Unsafe Brands</b>             | <p><b>09</b></p> <p><b>Arsenic: 04</b><br/>(Aqua National, Natur Aqua, Butt Water, Best Natural)</p> <p><b>Sodium: 05</b><br/>(Dewan Water Express, Best Natural, Noble, AFRA &amp; Ideal Life)</p> <p><b>Potassium: 01</b><br/>(Nash)</p> <p><b>Total Dissolved Solids (TDS): 01</b><br/>Dewan Water Express</p> |   |
| <b>No. of Microbiologically Safe Brands</b> | <b>74</b>   |   |
| <b>Microbiologically Unsafe Brands</b>      | <b>02</b> (Aftab Qarshi, Ideal Life)  |   |



## INTRODUCTION

Drinking water quality is deteriorating continually due to biological contamination from human waste, chemical pollutants from industries and agricultural inputs. Piped water also gets contaminated because pipes are laid very close to sewerage lines or open drains and cause many serious water borne diseases. It was found that 45% of infant deaths have been attributed to diarrhea and about 60% to overall infectious waterborne diseases in Pakistan. According to the World Health Organization (WHO) 25-30% of the diseases are gastro-intestinal in nature. The poor quality of drinking water has forced a large cross-section of citizens to buy bottled water. As a consequence of this expanding market a mushroom growth of bottled water industry in the country is witnessed during the last few years. However, many of the mineral water companies were found selling contaminated water. To monitor and improve the quality of bottled water, the government of Pakistan has designated the PCRWR as focal point agency.

1. Ministry of Science & Technology informed PCRWR Vide U.O. No. 5(21)/2004-ATA-II dated 17.10.2005 that the Cabinet in its meeting under the chairmanship of Prime Minister directed Ministry of Science & Technology to undertake regular survey/samples of bottled/mineral water at source of production publicize the results on a quarterly basis and follow up with punitive/legal action.
2. Ministry of Science & Technology has assigned the task of quality monitoring of bottled water and publicize the results to PCRWR Vide U.O. No.1(1)/2005-Secy (MoST) dated 8.12.2005.

## PCRWR SAMPLING METHODOLOGY

|                              |   |   |
|------------------------------|---|---|
| No. of Brands Collected      | 76  |   |
| No. of Cities Targeted       | 08 (Islamabad, Rawalpindi, Lahore, Tando Jam, Bahawalpur, Karachi, Quetta, and Peshawar).   |   |
| Composition of Sampling Team | One Research Officer and Two Laboratory Assistants  |   |
| Sampling Procedure           | Samples of seventy six commercially available brands of mineral/bottled water were collected from local market of eight cities of Pakistan. These samples were collected by the senior staff members of National Water Quality Laboratory (NWQL) of PCRWR Head Office and Regional/district Water Quality Laboratories of PCRWR during October-December, 2014. A set of four bottles of each brand was collected and sealed on site. Identification codes were allotted to all the brands according to PCRWR Bottled Water Classification System. |   |
| Transparency                 | Sample No. 1  | Handed over to shopkeeper at the time of sample collection;                               |
|                              | Sample No. 2  | Preserved in the National Water Quality Laboratory of PCRWR, Islamabad for future record. |
|                              | Sample No. 3  | Used for Microbiological Analysis   |
|                              | Sample No. 4  | Used for Physico-chemical Analysis  |

PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



PCRWR BOTTLED WATER CLASSIFICATION SYSTEM

| Brand Name    | PCRWR Code | City       | Date of Collection | Date of Expiry | Size      | Name & Address of Seller/Shop Keeper   | Manufacturer's Address   |
|---------------|------------|------------|--------------------|----------------|-----------|--|--|
| Verbena       | BWD-01     | Rawalpindi | 27/11/2014         | 03/2015        | 1.5 Liter | Vizor Pharma(Pvt)Ltd. 82,Lalazar Estate Rawalpindi                           | Vizor Pharma(Pvt)Ltd.82,Lalazar Estate Rawalpindi                            |
| Nectar        | BWD-02     | Islamabad  | 27/11/2014         | -              | 0.5 Liter | Plot#14/10,markaz G-7 Islamabad  | Plot#14/10,markaz G-7 Islamabad  |
| Fresh life    | BWD-03     | Islamabad  | 27/11/2014         | -              | 1.5 Liter | T& S Islamabad Office # 01, main Hall Pindori Road Main Khanna Dak Islamabad | T& S Islamabad Office # 01, main Hall Pindori Road Main Khanna Dak Islamabad |
| Water Plus    | BWD-04     | Islamabad  | 27/11/2014         | 09/2015        | 0.5 Liter | Plot # 235,St # 6,I-9/2, Industrial Area Islamabad                           | Plot # 235,St # 6,I-9/2, Industrial Area Islamabad                           |
| Maple Dew     | BWD-05     | Islamabad  | 28/11/2014         | 08/2015        | 0.5 Liter | Maple Associates, Park Road, Islamabad Ph 051-2552424                        | Maple Associates, Park Road, Islamabad Ph 051-2552424                        |
| Hydra         | BWD-06     | Islamabad  | 28/11/2014         | -              | 1.5 Liter | Plot # 31-A, I-9 Industrial Area Islamabad                                   | Plot # 31-A, I-9 Industrial Area Islamabad                                   |
| Refresh Water | BWD-07     | Islamabad  | 28/11/2014         | 09/2015        | 1.5 Liter | T& S Islamabad Office # 01, main Hall Pindori Road Main Khanna Dak Islamabad | T& S Islamabad Office # 01, main Hall Pindori Road Main Khanna Dak Islamabad |
| A.R.Water     | BWD-08     | Islamabad  | 28/11/2014         | 12/2015        | 0.5 Liter | Plot#18,Main Road RCCi,Industrial Estate Rawat Islamabad                     | Plot#18,Main Road RCCi,Industrial Estate Rawat Islamabad                     |
| Freshle       | BWD-09     | Rawalpindi | 27/11/2014         | 09/2015        | 0.5 Liter | A-1,Gulzar-e-Quaid Rawalpindi  | A-1,Gulzar-e-Quaid Rawalpindi  |
| Deep Spring   | BWD-10     | Islamabad  | 28/11/2014         | -              | 1.5 Liter | Plot#226,St#7, Sector 1-9/2,Industrial Area Islamabad                        | Plot#226,St#7, Sector 1-9/2,Industrial Area Islamabad                        |
| Nestle        | BWD-11     | Tando Jam  | 27/11/2014         | 04/2016        | 0.5 Liter | New Rehmat Sweets &Bakers Nimko Nawa hut Bazar Tando Jam                     | 308,Upper Mall, Lahore Pakistan  |
| Sunlay        | BWD-12     | Tando Jam  | 26/11/2014         | 12/2015        | 0.6 Liter | Abdul Rahim Bakers &G.store Tando Jam  | Hani Patel Enterprises:27/1 Nazimabad No.1 Karachi                           |
| Aquafina      | BWD-13     | Tando Jam  | 27/11/2014         | 08/2015        | 0.5 Liter | New Rehmat Sweets &Bakers Nimko Nawa hut Bazar Tando Jam                     | Pakistan Beverages Ltd (PVT) Survey # 213 Deh. Konkar District Maiir Karachi |
| Healthy Pure  | BWD-14     | Tando Jam  | 26/11/2014         | 12/2016        | 0.6 Liter | Abdul Rahim Bakers &G.store Tando Jam  | KK Water Company Tando Allahyar Sindh Pakistan                               |

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| Brand Name          | PCRWR Code | City      | Date of Collection | Date of Expiry | Size      | Name & Address of Seller/Shop Keeper                                  | Manufacturer's Address   |
|---------------------|------------|-----------|--------------------|----------------|-----------|---|--|
| Buxton              | BWD-15     | Tando Jam | 26/11/2014         | 12/2015        | 0.6 Liter | Abdul Rahim Bakers &G.store Tando Jam                                 | Tower Market Hyderabad   |
| Oslo                | BWD-16     | Tando Jam | 27/11/2014         | 06/2015        | 0.6 Liter | New Rehmat Sweets &Bakers Nimko Nawa hut Bazar Tando Jam              | Oslo International:14-Ramzan Chamber Dr.Billmorla Street off 1.1Chandigar Road Karachi                                     |
| Moya Mineral Water  | BWD-17     | Peshawar  | 02/12/2014         | 11/2016        | 1.5 Liter | Al-Saudia Enterprises 580/B Main Gulberg Peshawar Cantt               | Al-Saudia Enterprises 580/B Main Gulberg Peshawar Cantt  |
| Natural Aqwah       | BWD-18     | Peshawar  | 02/12/2014         | 07/2015        | 0.6 Liter | RG enterprises Plot#1 41-A Industrial Estate Hayatabad, Peshawar      | RG enterprises Plot#1 41-A Industrial Estate Hayatabad, Peshawar   |
| Aqua Splash         | BWD-19     | Peshawar  | 02/12/2014         | 05/2015        | 0.6 Liter | Euro International) 192-A, Industrial Estate Hayatabad, Peshawar      | (Euro International) 192-A, Industrial Estate Hayatabad, Peshawar  |
| Aquatic Fresh       | BWD-20     | Peshawar  | 02/12/2014         | 10/2015        | 0.6 Liter | Royal Food Industries Plot-1/C Industrial Estate Jamrud Road Peshawar | Royal Food Industries Plot-1/C Industrial Estate Jamrud Road Peshawar  |
| NEBRASKA            | BWD-21     | Peshawar  | 02/12/2014         | 10/2015        | 0.6 Liter | 12-C Industrial Estate Hayatabad, Peshawar                            | 12-C Industrial Estate Hayatabad, Peshawar   |
| Aina Aab E Hayat    | BWD-22     | Lahore    | 26/11/2014         | 07/2015        | 1.5 Liter | Shakeel Pan Shop Raiwind Road Lahore                                  | Aina Aab-e- Hayat Pure Water(Pvt)Ltd Suite No.5-6,2 <sup>nd</sup> Floor Empress tower Road Lahore                          |
| Dewan Water Express | BWD-23     | Lahore    | 26/11/2014         | 10/2015        | 1.5 Liter | Malik Sweets Raiwind Lahore   | Dewan Foods:168,Shah Jamal Lahore  |
| Qaswa               | BWD-24     | Lahore    | 26/11/2014         | 08/2015        | 1.5 Liter | Sanaa Pan Shop Raiwind Road Lahore                                    | Y.B foods(Pvt)Ltd.320-A,Huma Block Main Boulevard Allama Iqbal town Lahore   |
| Gourmet Water       | BWD-25     | Lahore    | 27/11/2014         | 05/2015        | 1.5 Liter | Gourmet Bakers Lahore   | Gourmet foods: Gate #1,Plot#1-5,Sunder Industrial Estate Raiwind Sunder Road Lahore  |
| Top Fresh Water     | BWD-26     | Lahore    | 26/11/2014         | 06/2015        | 1.5 Liter | Farooq Pan Shop Raiwind Road Lahore                                   | Top Foods Lahore   |
| Aqua National       | BWD-27     | Lahore    | 28/11/2014         | 12/2015        | 1.5 Liter | Rizwan PanShop Chowk Samanabad Lahore                                 | Milli Brothres 8-km G.T Road Shahdra Lahore  |
| Mashmoom Aqua       | BWD-28     | Lahore    | 27/11/2014         | 10/2015        | 1.5 Liter | Zain Medical Store Lahore   | Mashmoom(Pvt)Ltd.Plot# 154/3,154/4 Phase V,industrial Estate Hattar District Haripur                                       |
| Pure It             | BWD-29     | Lahore    | 26/11/2014         | 10/2015        | 1.5 Liter | Sanaa Pan Shop Raiwind Road Lahore                                    | E-mail: <a href="mailto:info@pureitwater.pk">info@pureitwater.pk</a><br><a href="http://www.pureit.com">www.pureit.com</a> |

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|-------------------|------------|------------|--------------------|----------------|-----------|--|---|
| Natur Aqua        | BWD-30     | Lahore     | 28/11/2014         | 08/2015        | 1.5 Liter | Hamza Pan Shop Bho-Bation Stop Lahore                      | Maqbool Industries:G.T Road Shahdra Lahore  |
| Avalon Pure Water | BWD-31     | Lahore     | 26/11/2014         | 09/2015        | 1.5 Liter | Sanaa Pan Shop Raiwind Road Lahore                         | Life Food Products:Samsani Road Hanjarwal Lahore  |
| Sufi              | BWD-32     | Lahore     | 26/11/2014         | 10/2013        | 1.5 Liter | Quality Medical Store Jail Road Lahore                     | Hadayat Foods Stuffs Industries(Pvt)Ltd.1-B Garden Block, Garden Town Lahore                  |
| Butt Water        | BWD-33     | Lahore     | 27/11/2014         | 06/2015        | 1.5 Liter | Butt Sweets & Bakers Chuburgi Lahore                       | A Product of Azhar &Co. Gulberg 111,Lahore  |
| Springley         | BWD-34     | Lahore     | 27/11/2014         | 03/2016        | 1.5 Liter | Sabzazar P-Block Multan Road Lahore                        | Qarshi Industries(Pvt)Ltd.Hattat (N.W.F.P)Pakistan  |
| Aab-e-Rahat       | BWD-35     | Lahore     | 26/11/2014         | 09/2015        | 1.5 Liter | Haider Pan Shop Raiwind Road Lahore                        | E-mail:<br><a href="mailto:aabe_rahata@yahoo.com">aabe_rahata@yahoo.com</a><br>042-37530111   |
| Best Natural      | BWD-36     | Lahore     | 28/11/2014         | 03/2016        | 0.6 Liter | Quality Medical Store Jail Road Lahore                     | Bhatti Brothers:9-km,G.T.Road Shahdra Lahore  |
| Doce              | BWD-37     | Lahore     | 27/11/2014         | 09/2015        | 1.5 Liter | Sabzazar P-Block Multan Road Lahore                        | 46-M,Quaid-e-Azam Industries Estate Kot Lakhpat Lahore  |
| Sparkle           | BWD-38     | Lahore     | 28/11/2014         | -              | 1.5 Liter | Hamza Pan Shop Bho-Bation Stop Lahore                      | 393,F-1,Johar Town Lahore   |
| Rain Drop         | BWD-39     | Lahore     | 28/11/2014         | 06/2015        | 1.5 Liter | Hamza Pan Shop Bho-Bation Stop Lahore                      | Office#2,Sanawar Centre More Samanabad Lahore   |
| AJWA              | BWD-40     | Lahore     | 28/11/2014         | 11/2015        | 1.5 Liter | Quality Medical Store Jail Road Lahore                     | Ajwa Nizam Park,Muridkey Lahore<br><a href="http://www.ajwa.com.pk">www.ajwa.com.pk</a>       |
| Aftab Qarshi      | BWD-41     | Lahore     | 26/11/2014         | 11/2015        | 1.5 Liter | Nasir Sweets Raiwind Road Lahore                           | Aftab Qarshi Herbal Laboratories water Division Muzamil Town,20-km Multan Road Chang Lahore   |
| Aqua RO7          | BWD-42     | Lahore     | 26/11/2014         | 12/2015        | 1.5 Liter | Ansar Dogar Pan Shop Farooq Pan Shop Raiwind Road Lahore   | Waqar Haider Brothers:Hasan Kot 7.5 Raiwind Road Lahore                                       |
| Spin Water        | BWD-43     | Lahore     | 26/11/2014         | 03/2015        | 1.5 Liter | Farooq Pan Shop Raiwind Road Lahore                        | SPIN FOOD PAKISTAN:<br><a href="http://www.spinwater.pk">www.spinwater.pk</a><br>0301-4635720 |
| Fresco            | BWD-44     | Lahore     | 26/11/2014         | 10/2015        | 1.5 Liter | Noshahi Qadri Pan Shop Farooq Pan Shop Raiwind Road Lahore | Fresco Foods(Pvt)Ltd.514-Zeenat Block Allama Iqbal Town Lahore                                |
| Aqua Dew          | BWD-45     | Lahore     | 26/11/2014         | 07/2015        | 1.5 Liter | New Malik Shop Raiwind Road Lahore                         | Mustafa & Hamza Foods:N, Block Sabzazar Lahore  |
| Kinley            | BWD-46     | Bahawalpur | 26-11-2014         | 12/2015        | 0.5 Liter | Shah Sweet and Bakers Railway Road Bahawalpur              | Coca-Cola Beverages Pakistan Ltd.ICCBPL,S-E-II,Gulberg III Lahore                             |
| Pineo Water       | BWD-47     | Bahawalpur | 26-11-2014         | 02/2015        | 0.6 Liter | Alkhair Pharmacy Opp. BVH, Bahawalpur                      | Gysing Pak PSIE,Bahawalpur<br><a href="mailto:gysing@live.com">gysing@live.com</a>            |

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| Brand Name           | PCRWR Code | City       | Date of Collection | Date of Expiry | Size       | Name & Address of Seller/Shop Keeper                        | Manufacturer's Address  |
|----------------------|------------|------------|--------------------|----------------|------------|---|---|
| Fresco Healthy Water | BWD-48     | Bahawalpur | 26/11/2014         | 06/2015        | 0.6 Liter  | Usman Pharmacy near Ali Hospital M.T.B, Bahawalpur          | Fresco foods Jhang Road, Kabir Wala 065-2400255   |
| ARWA                 | BWD-49     | Bahawalpur | 26/11/2014         | -              | 0.65L iter | Usman Pharmacy near Ali Hospital M.T.B, Bahawalpur          | Aslam Group of Industries :16,Km Hasilpur Road Dera Bakha Bahawalpur  |
| Maza Water           | BWD-50     | Bahawalpur | 28/11/2014         | 10/2015        | 0.5 Liter  | Asif Medical Store Hospital Road Rahim Yar Khan             | Popular Food Industries Ltd.311-Chapal Plaza Off.1.1 Chandigarh Road Karachi  |
| Al- masafi           | BWD-51     | Bahawalpur | 28/11/2014         | 05/2015        | 0.6 Liter  | Hafiz Pharma Hospital Road Rahim Yar Khan                   | Street#22,Cannal View R.Y.K<br>E-mail <a href="mailto:almasafi@yahoo.com">almasafi@yahoo.com</a>  |
| Blu Water            | BWD-52     | Bahawalpur | 28/11/2014         | 11/2015        | 1.5 Liter  | Al-Noor Super Store Commercial Area Bahawalpur              | Al-Hilal Industries(Pvt)Ltd.Sultan Nagar Vehari Road Multan   |
| Sky Water            | BWD-53     | Bahawalpur | 28/11/2014         | 12/2015        | 1.5 Liter  | Hera Medical Store Hospital Road Rahim Yar Khan             | Aafaq Engineering Services (Pvt)Ltd.Islamabad <a href="mailto:Aafaq.info@yahoo.com">Aafaq.info@yahoo.com</a>                                      |
| Aab                  | BWD-54     | Bahawalpur | 29/11/2014         | 09/2015        | 6 Liter    | Life Chemist 23-Shai Road Rahim Yar Khan                    | Rehmat & Sons Enterprises: Rahim Yar Khan<br>E-mail: <a href="mailto:rehmatandsonseneterprises@gmail.com">rehmatandsonseneterprises@gmail.com</a> |
| Viz                  | BWD-55     | Bahawalpur | 29/11/2014         | 12/2015        | 6 Liter    | New Aziz Medicine Company Shai Road Rahim Yar Khan          | Tiszta Viz Enterprises: Plot#1178,Qamarabad Akbar Road Rahim Yar Khan   |
| Aabshaar Water       | BWD-56     | Bahawalpur | 29/11/2014         | 12/2015        | 6 Liter    | Life Chemist 23-Shai Road Rahim Yar Khan                    | 0302-8600150<br>0311-0060150  |
| Al-Safa Water        | BWD-57     | Bahawalpur | 29/11/2014         | 11/2015        | 6 Liter    | Numan Medical Store Opp.Sheikh Zaid Hospital Rahim Yar Khan | 0301-5325297<br>0302-7762936  |
| Aqua Hygienic        | BWD-58     | Quetta     | 08/12/2014         | 11/2015        | 1.5 Liter  | New Al-Khalid medicine Store Quetta                         | Plot#12,Street#12,Faisal Town Brewery Road Quetta   |
| Noble                | BWD-59     | Quetta     | 08/12/2014         | 12/2015        | 1.5 Liter  | Utility Store Zarghoon Road G.P.O Quetta                    | Bottled by Pak National Company Lahore. Head Office Tower Market Hakeem Habib Road Hyderabad Pakistan   |
| AFRA                 | BWD-60     | Quetta     | 08/12/2014         | 12/2014        | 1.5 Liter  | Utility Store Zarghoon Road G.P.O Quetta                    | Bottled by Pak National Company Lahore. Head Office Tower Market Hakeem Habib Road Hyderabad Pakistan   |
| 1 Water              | BWD-61     | Karachi    | 04/12/2014         | -              | 1.5 Liter  | Danish Bakery & General Store Indus Mehran Malir Karachi    | Pure Foods:48-G,Market Block VI, P.E.C.H.S Karachi  |

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| Brand Name   | PCRWR Code | City    | Date of Collection | Date of Expiry | Size      | Name & Address of Seller/Shop Keeper                      | Manufacturer's Address  |
|--------------|------------|---------|--------------------|----------------|-----------|---|---|
| ORION        | BWD-62     | Karachi | 04/12/2014         | -              | 1.5 Liter | Akhtar General Store Malir Karachi                        | Orion Foods:Site#E-1,Suite No.02 Defence View Phase II Karachi                              |
| NASH         | BWD-63     | Karachi | 04/12/2014         | 12/2016        | 1.5 Liter | Ibrahim General Store Landhi Hospital Karachi             | Block 13-D,Gulshan -e-Iqbal Karachi   |
| Crystal Maya | BWD-64     | Karachi | 04/12/2014         | 12/2016        | 1.5 Liter | Waqar Sheerin Shop#36,37 Plot#17,Main Road Landhi Karachi | Off:B-221,226,Hub Baluchistan   |
| Vey          | BWD-65     | Karachi | 04/12/2014         | 09/2016        | 1.5 Liter | Ibrahim General Store Landhi Hospital Karachi             | Fluid Technology Int'l(Pvt)Ltd.424,Bhayani Centre Block-M,North Nazimabad Karachi           |
| Safe Life    | BWD-66     | Karachi | 04/12/2014         | -              | 1.5 Liter | Akhtar General Store Malir Karachi                        | Plot#411,M.Colony Garden West Karachi   |
| Marbella     | BWD-67     | Karachi | 04/12/2014         | 12/2016        | 1.5 Liter | Waqar Sheerin Shop#36,37 Plot#17,Main Road Landhi Karachi | Marbella Enterprises: 0332-2633744 021-3201636  |
| GULFA        | BWD-68     | Karachi | 04/12/2014         | 05/2015        | 1.5 Liter | Al-Taimuria Mart Block - 7,Gulshan-e-Iqbal Karachi        | Gulfa Mineral Water Co. United Arab Emirates <a href="http://www.gulfa.ae">www.gulfa.ae</a> |
| Culligan     | BWD-69     | Karachi | 05/12/2014         | 10/2015        | 1.5 Liter | Nagori Super Store Safora Goth Karachi                    | Johan(Pvt)Ltd.F-17/A, Hub River Road S.I.T.E Karachi  |
| Miracle      | BWD-70     | Karachi | 05/12/2014         | 12/2015        | 0.5 Liter | Nagori Super Store Safora Goth Karachi                    | The Miracle Product(Pvt)Ltd.Plot#WS A-23,Block 14,F.B Area Karachi                          |
| JEL          | BWD-71     | Karachi | 04/12/2014         | 12/2015        | 0.5 Liter | Danish Bakery & General Store Indus Mehran Malir Karachi  | Mega Fina Industries:plot#A-92,Malir Industrial Area Malir Karachi                          |
| Ideal Life   | BWD-72     | Karachi | 04/12/2014         | 12/2014        | 0.6 Liter | New Falcon Medical & General Store Karachi                | Ideal food International Plot#B-9/B-1,Office #37,S-P Chamber S.I.T.E Karachi                |
| Zindagi      | BWD-73     | Karachi | 05/12/2014         | --             | 0.6 Liter | Iftikhar Bakery General Store Gulistan-e-Johar Karachi    | Zindagi International 021-35432033  |
| AI-SAHAR     | BWD-74     | Karachi | 05/12/2014         | 12/2015        | 0.6 Liter | Sweets&Nimko Shop #23,24 Safora Chowrangi Karachi         | Al-Safrrat International: Plot#C-68,Site Super Highway Industrial Area Karachi              |
| ASKARI       | BWD-75     | Karachi | 05/12/2014         | 12/2015        | 0.6 Liter | Akhtar Super Store,Gulistan-e-Johar Karachi               | ASKARI International  |
| AI-Massafi   | BWD-76     | Karachi | 04/12/2014         | 06/2016        | 0.6 Liter | New Falcon Medical & General Store Karachi                | AI-Massafi foods:Plot#S-3,S-4 Malir City Karachi  |





**WATER QUALITY PARAMETERS AND METHODS USED FOR ANALYSIS**

| Sr. # | PARAMETERS                  | ANALYTICAL METHOD  |
|-------|-----------------------------|--|
| 1.    | Alkalinity (mg/l as CaCO3)  | 2320, Standard method (2005) APHA                                    |
| 2.    | Arsenic (ppb)               | AAS Vario 6, Analytik Jena AG  |
| 3.    | Bicarbonate                 | 2320, Standard method (2005) APHA                                    |
| 4.    | Calcium (mg/l)              | 3500-Ca-D, Standard Method (2005) APHA                               |
| 5.    | Carbonate (mg/l)            | 2320, Standard method (2005)   |
| 6.    | Chloride (mg/l)             | Titration (Silver Nitrate), Standard Method (2005) APHA              |
| 7.    | Color (TCU)                 | Sensory Test   |
| 8.    | Conductivity (µS/cm)        | E.C meter, Hach-44600-00, USA  |
| 9.    | Hardness (mg/l)             | EDTA Titration, Standard Method (2005) APHA                          |
| 10.   | Magnesium (mg/l)            | 2340-C, Standard Method (2005) APHA                                  |
| 11.   | Nitrate Nitrogen (mg/l)     | Cd. Reduction (Hach-8171) by Spectrophotometer                       |
| 12.   | Odor                        | Sensory Test   |
| 13.   | pH                          | pH Meter, Hanna Instrument, Model 8519, Italy                        |
| 14.   | Potassium (mg/l)            | Flame photometer PFP7, UK  |
| 15.   | Sodium (mg/l)               | Flame photometer PFP7, UK  |
| 16.   | Sulfate (mg/l)              | SulfaVer4 (Hach-8051) by Spectrophotometer                           |
| 17.   | Phosphate (mg/l)            | 8190 and 8048 (Hach)   |
| 18.   | Taste                       | Sensory Test   |
| 19.   | TDS (mg/l)                  | 2540C, Standard method (2005) APHA                                   |
| 20.   | Turbidity (NTU)             | Turbidity Meter, Lamotte, Model 2008, USA                            |
| 21.   | Fluoride (mg/l)             | 4500-F C. ion-Selective Electrode Method Standard method (2005) APHA |
| 22.   | Iron (mg/l)                 | FerroVer method (HACH Cat. 21057-69)                                 |
| 23.   | Total Coliforms (MPN/100ml) | 9221-B,C&D, Standard Methods (2005) APHA                             |
| 24.   | E. Coli (MPN/100ml)         | 9221-B,C&D, Standard Methods (2005) APHA                             |

**WATER QUALITY PERMISSIBLE LIMITS FOR BOTTLED WATER**

| Sr. # | Parameter    | Units   | Permissible Limits |      |                 |
|-------|--------------|---------|--------------------|------|-----------------|
|       |              |         | WHO                | IBWA | PSQCA           |
| 1.    | Alkalinity   | (mg/l)  | NGVS               | NGVS | NGVS            |
| 2.    | Bicarbonate  | (mg/l)  | NGVS               | NGVS | NGVS            |
| 3.    | Calcium      | (mg/l)  | NGVS               | NGVS | 100             |
| 4.    | Carbonate    | (mg/l)  | NGVS               | NGVS | NGVS            |
| 5.    | Chloride     | (mg/l)  | 250                | 250  | 250             |
| 6.    | Co lour      | (TCU)   | 15                 | NGVS | 5               |
| 7.    | Conductivity | (µS/cm) | NGVS               | NGVS | NGVS            |
| 8.    | Fluoride     | (mg/l)  | 1.5                | 3    | 0.7             |
| 9.    | Hardness     | (mg/l)  | NGVS               | NGVS | NGVS            |
| 10.   | Iron         | (mg/l)  | 0.3                | 0.3  | 0.3             |
| 11.   | Magnesium    | (mg/l)  | NGVS               | NGVS | 50              |
| 12.   | Odor         | -       | Odorless           | NGVS | Unobjectionable |
| 13.   | Nitrate-N    | (mg/l)  | 10                 | 10   | 10              |
| 14.   | pH           | -       | 6.5-8.5            | NGVS | 6.5-8.5         |
| 15.   | Potassium    | (mg/l)  | NGVS               | NGVS | 10              |
| 16.   | Sodium       | (mg/l)  | 200                | NGVS | 50              |
| 17.   | Sulfate      | (mg/l)  | 250                | 250  | 250             |
| 18.   | Taste        | -       | Unobject.          | NGVS | Unobjectionable |
| 19.   | TDS          | (mg/l)  | 1000               | 500  | 500             |
| 20.   | Turbidity    | (NTU)   | 5                  | NGVS | 0.5             |

PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



| Sr. # | Parameter       | Units     | Permissible Limits |      |       |
|-------|-----------------|-----------|--------------------|------|-------|
|       |                 |           | WHO                | IBWA | PSQCA |
| 21.   | Phosphate       | (mg/l)    | NGVS               | NGVS | NGVS  |
| 22.   | Arsenic         | ppb       | 10                 | 10   | 10    |
| 23.   | Total Coliforms | MPN/100ml | 0                  | 0    | 0     |
| 24.   | E-Coli          | MPN/100ml | 0                  | 0    | 0     |

**WHO** World Health Organization  
**IBWA** International Bottled Water Association  
**PSQCA** Pakistan Standards and Quality Control Authority

**SUMMARY OF RESULTS OF PCRWR MONITORING**

**CONTAMINANTS OF POTENTIAL CONCERNS FOUND IN BOTTLED WATER BRANDS**

| Arsenic: Safe Limit : 10 parts per billion (ppb) |               |        |                       |      |         |
|--|---------------|--------|-----------------------|------|---------|
| Sr. No   | Brand Name    | Code   | City of Manufacturing | Unit | Results |
| 1.   | Aqua National | BWD-27 | Lahore                | ppb  | 45      |
| 2.   | Natur Aqua    | BWD-30 | Lahore                | ppb  | 44      |
| 3.   | Butt Water    | BWD-33 | Lahore                | ppb  | 27      |
| 4.   | Best Natural  | BWD-36 | Lahore                | ppb  | 57      |

| Sodium: Safe Limit : 50 parts per million (ppm) |                     |        |                       |      |         |
|---|---------------------|--------|-----------------------|------|---------|
| Sr. No  | Brand Name          | Code   | City of Manufacturing | Unit | Results |
| 1.  | Dewan Water Express | BWD-23 | Lahore                | ppm  | 62      |
| 2.  | Best Natural        | BWD-36 | Lahore                | ppm  | 80      |
| 3.  | Noble               | BWD-59 | Lahore                | ppm  | 61      |
| 4.  | AFRA                | BWD-60 | Lahore                | ppm  | 62      |
| 5.  | Ideal Life          | BWD-72 | Karachi               | ppm  | 70      |

| Potassium : Safe Limit : 10 parts per million (ppm) |            |        |                       |      |         |
|---|------------|--------|-----------------------|------|---------|
| Sr. No  | Brand Name | Code   | City of Manufacturing | Unit | Results |
| 1.  | NASH       | BWD-63 | Karachi               | ppm  | 11      |

| TDS : Safe Limit : 500 parts per million (ppm) |                     |        |                       |      |         |
|--|---------------------|--------|-----------------------|------|---------|
| Sr. No   | Brand Name          | Code   | City of Manufacturing | Unit | Results |
| 2.   | Dewan Water Express | BWD-23 | Lahore                | ppm  | 564     |

PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



| <b>BACTERIOLOGICAL: (Total Coliforms , Fecal Coliforms &amp; E Coli) (Safe Limit: 0/100ml)</b> |              |        |                             |                     |
|--|--------------|--------|-----------------------------|---------------------|
| Sr. No   | Brand Name   | Code   | Results                     |                     |
|  |              |        | Total Coliforms (MPN/100ml) | E. Coli (MPN/100ml) |
| 1.   | Aftab Qarshi | BWD-41 | 08                          | Nil                 |
| 2.   | Ideal Life   | BWD-72 | 39                          | Nil                 |

**PCRWR TESTING: SAFE BRANDS**

| Sr. No | Brand Name         | Code   | Quality (Safe/Unsafe) |                 |
|--------|--------------------|--------|-----------------------|-----------------|
|        |                    |        | Chemical              | Microbiological |
| 1.     | Verbena            | BWD-01 | Safe                  | Safe            |
| 2.     | Nectar             | BWD-02 | Safe                  | Safe            |
| 3.     | Fresh life         | BWD-03 | Safe                  | Safe            |
| 4.     | Water Plus         | BWD-04 | Safe                  | Safe            |
| 5.     | Maple Dew          | BWD-05 | Safe                  | Safe            |
| 6.     | Hydra              | BWD-06 | Safe                  | Safe            |
| 7.     | Refresh Water      | BWD-07 | Safe                  | Safe            |
| 8.     | A.R.Water          | BWD-08 | Safe                  | Safe            |
| 9.     | Freshle            | BWD-09 | Safe                  | Safe            |
| 10.    | Deep Spring        | BWD-10 | Safe                  | Safe            |
| 11.    | Nestle             | BWD-11 | Safe                  | Safe            |
| 12.    | Sunlay             | BWD-12 | Safe                  | Safe            |
| 13.    | Aquafina           | BWD-13 | Safe                  | Safe            |
| 14.    | Healthy Pure       | BWD-14 | Safe                  | Safe            |
| 15.    | Buxton             | BWD-15 | Safe                  | Safe            |
| 16.    | Oslo               | BWD-16 | Safe                  | Safe            |
| 17.    | Moya Mineral Water | BWD-17 | Safe                  | Safe            |
| 18.    | Natural Aqwah      | BWD-18 | Safe                  | Safe            |
| 19.    | Aqua Splash        | BWD-19 | Safe                  | Safe            |
| 20.    | Aquatic Fresh      | BWD-20 | Safe                  | Safe            |
| 21.    | NEBRASKA           | BWD-21 | Safe                  | Safe            |
| 22.    | Aina Aab E Hayat   | BWD-22 | Safe                  | Safe            |
| 23.    | Qaswa              | BWD-24 | Safe                  | Safe            |
| 24.    | Gourmet Water      | BWD-25 | Safe                  | Safe            |
| 25.    | Top Fresh Water    | BWD-26 | Safe                  | Safe            |
| 26.    | Mashmoom Aqua      | BWD-28 | Safe                  | Safe            |
| 27.    | Pure It            | BWD-29 | Safe                  | Safe            |
| 28.    | Avalon Pure Water  | BWD-31 | Safe                  | Safe            |
| 29.    | Sufi               | BWD-32 | Safe                  | Safe            |
| 30.    | Springley          | BWD-34 | Safe                  | Safe            |
| 31.    | Aab-e-Rahat        | BWD-35 | Safe                  | Safe            |
| 32.    | Doce               | BWD-37 | Safe                  | Safe            |
| 33.    | Sparkle            | BWD-38 | Safe                  | Safe            |
| 34.    | Rain Drop          | BWD-39 | Safe                  | Safe            |
| 35.    | AJWA               | BWD-40 | Safe                  | Safe            |
| 36.    | Aqua RO7           | BWD-42 | Safe                  | Safe            |

PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



| Sr. No | Brand Name           | Code   | Quality (Safe/Unsafe) |                 |
|--------|----------------------|--------|-----------------------|-----------------|
|        |                      |        | Chemical              | Microbiological |
| 37.    | Spin Water           | BWD-43 | Safe                  | Safe            |
| 38.    | Fresco               | BWD-44 | Safe                  | Safe            |
| 39.    | Aqua Dew             | BWD-45 | Safe                  | Safe            |
| 40.    | Kinley               | BWD-46 | Safe                  | Safe            |
| 41.    | Pine'o               | BWD-47 | Safe                  | Safe            |
| 42.    | Fresco Healthy Water | BWD-48 | Safe                  | Safe            |
| 43.    | ARWA                 | BWD-49 | Safe                  | Safe            |
| 44.    | Maza Water           | BWD-50 | Safe                  | Safe            |
| 45.    | Al- masafi           | BWD-51 | Safe                  | Safe            |
| 46.    | Blu Water            | BWD-52 | Safe                  | Safe            |
| 47.    | Sky Water            | BWD-53 | Safe                  | Safe            |
| 48.    | Aab                  | BWD-54 | Safe                  | Safe            |
| 49.    | Viz                  | BWD-55 | Safe                  | Safe            |
| 50.    | Aabshaar Water       | BWD-56 | Safe                  | Safe            |
| 51.    | Al-Safa Water        | BWD-57 | Safe                  | Safe            |
| 52.    | Aqua Hygienic        | BWD-58 | Safe                  | Safe            |
| 53.    | 1 Water              | BWD-61 | Safe                  | Safe            |
| 54.    | ORION                | BWD-62 | Safe                  | Safe            |
| 55.    | Crystal Maya         | BWD-64 | Safe                  | Safe            |
| 56.    | Vey                  | BWD-65 | Safe                  | Safe            |
| 57.    | Safe Life            | BWD-66 | Safe                  | Safe            |
| 58.    | Marbella             | BWD-67 | Safe                  | Safe            |
| 59.    | GULFA                | BWD-68 | Safe                  | Safe            |
| 60.    | Culligan             | BWD-69 | Safe                  | Safe            |
| 61.    | Miracle              | BWD-70 | Safe                  | Safe            |
| 62.    | JEL                  | BWD-71 | Safe                  | Safe            |
| 63.    | Zindagi              | BWD-73 | Safe                  | Safe            |
| 64.    | AI-SAHAR             | BWD-74 | Safe                  | Safe            |
| 65.    | ASKARI               | BWD-75 | Safe                  | Safe            |
| 66.    | Al-Massafi           | BWD-76 | Safe                  | Safe            |

PCRWR TESTING: UNSAFE BRANDS

| Sr. No | Brand Name          | Code   | Address/ Manufacturer  | Quality (Safe/Unsafe) |                 |
|--------|---------------------|--------|--|-----------------------|-----------------|
|        |                     |        |  | Chemical              | Microbiological |
| 1.     | Dewan Water Express | BWD-23 | Dewan Foods:168,Shah Jamal Lahore  | Unsafe                | Safe            |
| 2.     | Aqua National       | BWD-27 | Milli Brothres 8-km G.T Road Shahdra Lahore  | Unsafe                | Safe            |
| 3.     | Natur Aqua          | BWD-30 | Maqbool Industries:G.T Road Shahdra Lahore   | Unsafe                | Safe            |
| 4.     | Butt Water          | BWD-33 | A Product of Azhar &Co. Gulberg 111,Lahore   | Unsafe                | Safe            |
| 5.     | Best Natural        | BWD-36 | Bhatti Brothers:9-km,G.T.Road Shahdra Lahore   | Unsafe                | Safe            |
| 6.     | Aftab Qarshi        | BWD-41 | Aftab Qarshi Herbal Laboratories water Division Muzamil Town,20-km Multan Road Chang Lahore  | Safe                  | Unsafe          |
| 7.     | Noble               | BWD-59 | Bottled by Pak National Company Lahore. Head Office Tower Market Hakeem Habib Road Hyderabad | Unsafe                | Safe            |

PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



| Sr. No | Brand Name | Code   | Address/ Manufacturer  | Quality (Safe/Unsafe) |                 |
|--------|------------|--------|--|-----------------------|-----------------|
|        |            |        |  | Chemical              | Microbiological |
| 8.     | AFRA       | BWD-60 | Pakistan<br>Bottled by Pak National Company<br>Lahore. Head Office Tower Market<br>Hakeem Habib Road Hyderabad<br>Pakistan | Unsafe                | Safe            |
| 9.     | NASH       | BWD-63 | Block 13-D, Gulshan -e-Iqbal<br>Karachi  | Unsafe                | Safe            |
| 10.    | Ideal Life | BWD-72 | Ideal food International Plot#B-9/B-1,<br>Office #37,S-P Chamber S.I.T.E<br>Karachi  | Unsafe                | Unsafe          |

MARKET CONSISTENCY IN TWO NEIGHBORING QUARTERS

| Sr. No | Consistent Brands   | New Brands        | Unavailable Brands |
|--------|---------------------|-------------------|--------------------|
| 1.     | Nectar              | Verbena           | Aqua Q             |
| 2.     | Fresh Life          | Freshle           | Aab-e-Kousar       |
| 3.     | Water Plus          | Healthy Pure      | Yes                |
| 4.     | Maple Due           | Buxton            | Vaskaro            |
| 5.     | Hydra               | Oslo              | Aqua Spring        |
| 6.     | Refresh Water       | Aina Aab E Hayat  | Kisan Better Life  |
| 7.     | A.R.Water           | Top Fresh Water   | Natural Dew        |
| 8.     | Deep Spring         | Pure it           | Active             |
| 9.     | Nestle              | Natur Aqua        | Alphine Hydr8      |
| 10.    | Sunlay              | Avalon Pure Water | Elight Water       |
| 11.    | Aquafina            | Aab-e-Rahat       | Al-Sana            |
| 12.    | Moya Mineral Water  | Best Natural      | Effort             |
| 13.    | Natural Aqwah       | Rain Drop         | Best Water         |
| 14.    | Aqua Splash         | AJWA              | Aqua Vida          |
| 15.    | Aquatic Fresh       | Spin Water        | First Water        |
| 16.    | Nebraska            | Sky Water         | Aqua Pure          |
| 17.    | Dewan Water Express | Aab               | Al-Habib           |
| 18.    | Qaswa               | Viz               | Paradise           |
| 19.    | Gourmet Water       | Aabshaar Water    | Spring Fresh       |
| 20.    | Aqua National       | Al-Safa Water     | Glaxo              |
| 21.    | Mashmoom Aqua       | Noble             | Pure99             |
| 22.    | Sufi                | AFRA              | Deosai             |
| 23.    | Butt Water          | 1 Water           |                    |
| 24.    | Springley           | Nash              |                    |
| 25.    | Doce                | Crystal Maya      |                    |
| 26.    | Sparkle             | Safe Life         |                    |
| 27.    | Aftab Qarshi        | GULFA             |                    |
| 28.    | Aqua Ro7            | Culligan          |                    |
| 29.    | Aqua Dew            | Zindagi           |                    |
| 30.    | Kinley              | ASKARI            |                    |
| 31.    | Pine'o              | Fresco            |                    |
| 32.    | ARWA                | Al-Masafi         |                    |
| 33.    | Blue Water          | Maza              |                    |
| 34.    | Aqua Hygienic       |                   |                    |
| 35.    | Vey                 |                   |                    |
| 36.    | Marbella            |                   |                    |
| 37.    | Miracle             |                   |                    |

PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



|     |                      |  |  |
|-----|----------------------|--|--|
| 38. | Jel                  |  |  |
| 39. | Ideal Life           |  |  |
| 40. | Al-Sahar             |  |  |
| 41. | Al-Massafi           |  |  |
| 42. | Fresco Healthy Water |  |  |
| 43. | Orion                |  |  |

**DISEASE POTENTIAL FROM CONTAMINATED BOTTLED WATER**

| Sr. No | Contaminant                          | Diseases Impacts   |
|--------|--------------------------------------|--|
| 1.     | <b>Bacteriological Contamination</b> | Cholera, Diarrhea, Dysentery, Hepatitis, Typhoid   |
| 2.     | <b>Arsenic</b>                       | Cancer (lungs, bladder, skin, prostate, kidney, nose and liver), diabetes kidney diseases, hypertension, heart diseases, birth defects, black foot diseases. |
| 3.     | <b>Sodium</b>                        | Hypertension   |

**CONCLUSIONS**

| Sr. No | Item  | Conclusion |           |
|--------|---|------------|-----------|
|        |   | No.        | % age     |
| 1.     | <b>Total No. of Brands Collected</b>          | <b>76</b>  | <b>-</b>  |
| 2.     | <b>Overall safe brands</b>                    | <b>66</b>  | <b>87</b> |
| 3.     | <b>No. of overall unsafe brands</b>           | <b>10</b>  | <b>13</b> |
| 4.     | <b>No. of Chemically safe brands</b>          | <b>67</b>  | <b>88</b> |
| 5.     | <b>No. of Chemically unsafe brands</b>        | <b>09</b>  | <b>12</b> |
| 6.     | <b>No. of Microbiologically safe brands</b>   | <b>74</b>  | <b>97</b> |
| 7.     | <b>No. of Microbiologically unsafe brands</b> | <b>02</b>  | <b>03</b> |
| 8.     | <b>No. of Consistent brands in Market</b>     | <b>43</b>  | <b>57</b> |
| 9.     | <b>No. of brands disappeared from market</b>  | <b>22</b>  | <b>29</b> |
| 10.    | <b>No. of new brands</b>                      | <b>33</b>  | <b>43</b> |

Detailed water quality status of each bottled water brand is available at **Annexure-1**

## Annexure-1

## Chemical and Microbiological Quality of Bottled/Mineral Water Brands

| Brand Name                    | Brand Code | Turbidity | pH        | EC    | TDS | Ca  | Mg  | Hard | HCO <sub>3</sub> | Cl  | Na  | F    | PO <sub>4</sub> | Fe   | K   | NO <sub>3</sub> | SO <sub>4</sub> | As  | * Microbiological Contaminants |                 |
|-------------------------------|------------|-----------|-----------|-------|-----|-----|-----|------|------------------|-----|-----|------|-----------------|------|-----|-----------------|-----------------|-----|--------------------------------|-----------------|
| PSQCA Bottled Water Standards | -          | 0.5       | 6.5 - 8.5 | NGVS  | 500 | 100 | 50  | NGVS | NGVS             | 250 | 50  | 0.7  | NGVS            | 0.3  | 10  | 10              | 250             | 10  | Total Coli forms 0/100 ml      | E-Coli 0/100 ml |
| Detection Limits              | -          | 0.2       | 0.02      | 0.287 | -   | 2   | 1   | 5    | 5                | 2   | 1   | 0.03 | 0.03            | 0.03 | 0.2 | 0.06            | 0.4             | 0.1 | -                              | -               |
| Units                         | -          | NTU       |           | µS/cm | Ppm | ppm | ppm | ppm  | ppm              | ppm | ppm | ppm  | ppm             | ppm  | ppm | ppm             | ppm             | ppb | MPN /100ml                     | MPN /100ml      |
| Verbena                       | BWD-01     | BDL       | 6.65      | 386   | 212 | 40  | 12  | 150  | 60               | 89  | 26  | 0.06 | BDL             | BDL  | 0.5 | 2               | 26              | BDL | Nil                            | Nil             |
| Nectar                        | BWD-02     | BDL       | 7.13      | 402   | 221 | 44  | 12  | 160  | 150              | 36  | 28  | 0.22 | BDL             | BDL  | 1.0 | 6               | 21              | 0.6 | Nil                            | Nil             |
| Fresh life                    | BWD-03     | BDL       | 7.11      | 359   | 197 | 56  | 10  | 180  | 150              | 30  | 10  | 0.06 | BDL             | BDL  | 1.0 | 2               | 19              | 0.2 | Nil                            | Nil             |
| Water Plus                    | BWD-04     | BDL       | 7.15      | 543   | 299 | 60  | 24  | 250  | 200              | 60  | 25  | 0.14 | BDL             | BDL  | 1.0 | 4               | 28              | 0.2 | Nil                            | Nil             |
| Maple Dew                     | BWD-05     | BDL       | 7.01      | 306   | 168 | 36  | 12  | 140  | 80               | 48  | 13  | BDL  | BDL             | BDL  | 0.5 | 1               | 07              | BDL | Nil                            | Nil             |
| Hydra                         | BWD-06     | BDL       | 7.68      | 339   | 186 | 40  | 12  | 150  | 170              | 24  | 24  | 0.06 | BDL             | BDL  | 0.6 | 1               | 12              | BDL | Nil                            | Nil             |
| Refresh Water                 | BWD-07     | BDL       | 7.18      | 360   | 198 | 44  | 10  | 150  | 50               | 80  | 12  | 0.06 | BDL             | BDL  | 0.8 | 2               | 22              | 0.3 | Nil                            | Nil             |
| A.R.Water                     | BWD-08     | BDL       | 8.20      | 281   | 155 | 40  | 7   | 130  | 45               | 72  | 15  | BDL  | BDL             | BDL  | 0.2 | BDL             | 15              | 0.2 | Nil                            | Nil             |
| Freshle                       | BWD-09     | BDL       | 7.06      | 403   | 222 | 48  | 27  | 250  | 85               | 96  | 13  | BDL  | BDL             | BDL  | 0.2 | BDL             | 13              | 2.2 | Nil                            | Nil             |
| Deep Spring                   | BWD-10     | BDL       | 7.15      | 298   | 178 | 40  | 11  | 120  | 160              | 16  | 11  | BDL  | BDL             | BDL  | 0.6 | 0.6             | 4               | BDL | Nil                            | Nil             |
| Nestle                        | BWD-11     | BDL       | 7.42      | 391   | 215 | 40  | 15  | 160  | 96               | 30  | 12  | BDL  | BDL             | BDL  | BDL | BDL             | 32              | BDL | Nil                            | Nil             |
| Sunlay                        | BWD-12     | BDL       | 7.80      | 299   | 164 | 12  | 17  | 100  | 65               | 48  | 32  | 0.22 | BDL             | BDL  | 1.8 | BDL             | 30              | BDL | Nil                            | Nil             |
| Aquafina                      | BWD-13     | BDL       | 7.31      | 211   | 116 | BDL | 13  | 55   | 40               | 26  | 28  | BDL  | BDL             | BDL  | 1.1 | BDL             | 42              | BDL | Nil                            | Nil             |
| Healthy Pure                  | BWD-14     | BDL       | 7.60      | 438   | 241 | 40  | 12  | 150  | 150              | 42  | 33  | BDL  | BDL             | BDL  | 6.0 | BDL             | 39              | 1.3 | Nil                            | Nil             |
| Buxton                        | BWD-15     | BDL       | 7.59      | 260   | 143 | 20  | 12  | 100  | 50               | 72  | 19  | BDL  | BDL             | BDL  | 4.1 | BDL             | 03              | BDL | Nil                            | Nil             |
| Oslo                          | BWD-16     | BDL       | 7.14      | 491   | 270 | 20  | 24  | 150  | 80               | 96  | 44  | BDL  | BDL             | BDL  | 5.5 | 2               | 40              | BDL | Nil                            | Nil             |
| Moya Mineral Water            | BWD-17     | BDL       | 7.10      | 245   | 135 | 20  | 15  | 110  | 45               | 48  | 12  | BDL  | BDL             | BDL  | 0.4 | 2               | 10              | BDL | Nil                            | Nil             |
| Natural Aqwah                 | BWD-18     | BDL       | 7.41      | 380   | 209 | 32  | 17  | 150  | 130              | 20  | 16  | 0.12 | BDL             | BDL  | 1.2 | 4               | 30              | 0.4 | Nil                            | Nil             |
| Aqua Splash                   | BWD-19     | BDL       | 7.25      | 352   | 194 | 48  | 07  | 150  | 40               | 78  | 09  | BDL  | BDL             | BDL  | 0.3 | 2               | 22              | BDL | Nil                            | Nil             |

October-December, 2014

## PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



|                     |        |     |      |      |     |     |    |     |     |     |    |      |     |     |     |     |     |     |     |     |
|---------------------|--------|-----|------|------|-----|-----|----|-----|-----|-----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| Aquatic Fresh       | BWD-20 | BDL | 7.59 | 522  | 287 | 48  | 32 | 250 | 180 | 36  | 19 | 0.16 | BDL | BDL | 1.8 | 3   | 35  | 0.5 | Nil | Nil |
| NEBRASKA            | BWD-21 | BDL | 7.58 | 391  | 215 | 60  | 12 | 200 | 90  | 88  | 14 | BDL  | BDL | BDL | 0.2 | BDL | 34  | BDL | Nil | Nil |
| Aina Aab E Hayat    | BWD-22 | BDL | 7.30 | 338  | 213 | 32  | 17 | 150 | 65  | 78  | 22 | BDL  | BDL | BDL | 0.4 | 0.6 | 37  | 0.3 | Nil | Nil |
| Dewan Water Express | BWD-23 | BDL | 7.22 | 1025 | 564 | 100 | 24 | 350 | 50  | 240 | 62 | BDL  | BDL | BDL | 0.2 | BDL | 67  | 0.5 | Nil | Nil |
| Qaswa               | BWD-24 | BDL | 7.14 | 179  | 98  | 16  | 10 | 80  | 50  | 36  | 17 | BDL  | BDL | BDL | BDL | BDL | 12  | 2.1 | Nil | Nil |
| Gourmet Water       | BWD-25 | BDL | 6.88 | 383  | 211 | 40  | 07 | 130 | 45  | 76  | 20 | BDL  | BDL | BDL | 0.2 | BDL | 24  | 0.2 | Nil | Nil |
| Top Fresh Water     | BWD-26 | BDL | 7.18 | 431  | 237 | 40  | 15 | 160 | 96  | 85  | 38 | 0.05 | BDL | BDL | 0.7 | 2   | 14  | 0.4 | Nil | Nil |
| Aqua National       | BWD-27 | BDL | 7.47 | 274  | 151 | 28  | 12 | 120 | 110 | 18  | 10 | 0.16 | BDL | BDL | 1.3 | BDL | 18  | 45  | Nil | Nil |
| Mashmoom Aqua       | BWD-28 | BDL | 7.62 | 434  | 239 | 52  | 29 | 250 | 210 | 20  | 14 | 0.15 | BDL | BDL | 1.4 | 2   | 13  | 0.9 | Nil | Nil |
| Pure It             | BWD-29 | BDL | 6.52 | 318  | 175 | 40  | 15 | 160 | 45  | 58  | 06 | BDL  | BDL | BDL | 0.3 | BDL | 39  | 0.2 | Nil | Nil |
| Natur Aqua          | BWD-30 | BDL | 7.99 | 494  | 272 | 40  | 17 | 170 | 200 | 12  | 50 | 0.16 | BDL | BDL | 2.4 | BDL | 40  | 44  | Nil | Nil |
| Avalon Pure Water   | BWD-31 | BDL | 7.69 | 325  | 179 | 40  | 12 | 150 | 50  | 72  | 16 | BDL  | BDL | BDL | 0.2 | BDL | 28  | 1   | Nil | Nil |
| Sufi                | BWD-32 | BDL | 7.45 | 350  | 193 | 40  | 12 | 150 | 20  | 96  | 09 | BDL  | BDL | BDL | 0.2 | BDL | 24  | 0.2 | Nil | Nil |
| Butt Water          | BWD-33 | BDL | 7.25 | 708  | 389 | 76  | 15 | 250 | 30  | 192 | 35 | 1.13 | BDL | BDL | 2.0 | BDL | 23  | 27  | Nil | Nil |
| Springley           | BWD-34 | BDL | 7.77 | 518  | 285 | 80  | 12 | 250 | 250 | 24  | 21 | 0.16 | BDL | BDL | 1.0 | 03  | 22  | 0.6 | Nil | Nil |
| Aab-e-Rahat         | BWD-35 | BDL | 7.60 | 225  | 124 | 20  | 15 | 110 | 45  | 36  | 11 | BDL  | BDL | BDL | 0.2 | BDL | 27  | 0.9 | Nil | Nil |
| Best Natural        | BWD-36 | BDL | 7.75 | 794  | 437 | 60  | 24 | 250 | 240 | 28  | 80 | 0.21 | BDL | BDL | 3.0 | BDL | 113 | 57  | Nil | Nil |
| Doce                | BWD-37 | BDL | 7.02 | 334  | 184 | 40  | 10 | 140 | 110 | 50  | 27 | BDL  | BDL | BDL | 0.3 | BDL | 31  | 0.8 | Nil | Nil |
| Sparkle             | BWD-38 | BDL | 7.29 | 320  | 176 | 36  | 10 | 130 | 70  | 52  | 16 | BDL  | BDL | BDL | BDL | BDL | 32  | 0.2 | Nil | Nil |
| Rain Drop           | BWD-39 | BDL | 7.50 | 281  | 155 | 20  | 05 | 70  | 70  | 44  | 29 | BDL  | BDL | BDL | 0.3 | BDL | 14  | 3   | Nil | Nil |
| AJWA                | BWD-40 | BDL | 7.24 | 377  | 207 | 44  | 10 | 150 | 70  | 72  | 22 | BDL  | BDL | BDL | 0.2 | BDL | 26  | 0.2 | Nil | Nil |
| Aftab Qarshi        | BWD-41 | BDL | 6.60 | 347  | 191 | 44  | 10 | 150 | 60  | 76  | 08 | BDL  | BDL | BDL | 0.2 | BDL | 13  | 6   | 08  | Nil |
| Aqua RO7            | BWD-42 | BDL | 6.86 | 373  | 205 | 40  | 12 | 150 | 60  | 60  | 18 | BDL  | BDL | BDL | BDL | BDL | 32  | 2   | Nil | Nil |
| Spin Water          | BWD-43 | BDL | 6.82 | 385  | 212 | 40  | 12 | 150 | 45  | 84  | 15 | BDL  | BDL | BDL | 0.2 | BDL | 30  | 0.2 | Nil | Nil |
| Fresco              | BWD-44 | BDL | 6.92 | 468  | 257 | 48  | 19 | 200 | 60  | 102 | 16 | 0.07 | BDL | BDL | 0.2 | BDL | 31  | 1   | Nil | Nil |
| Aqua Dew            | BWD-45 | BDL | 6.82 | 358  | 197 | 44  | 10 | 150 | 60  | 74  | 25 | BDL  | BDL | BDL | 1.2 | 0.5 | 24  | 3   | Nil | Nil |
| Kinley              | BWD-46 | BDL | 7.19 | 494  | 272 | 48  | 17 | 190 | 30  | 136 | 25 | BDL  | BDL | BDL | 1.6 | BDL | 34  | BDL | Nil | Nil |
| Pineo               | BWD-47 | BDL | 7.29 | 404  | 222 | 48  | 07 | 150 | 150 | 50  | 30 | 0.06 | BDL | BDL | 2.0 | BDL | 14  | 10  | Nil | Nil |
| Fresco              | BWD-48 | BDL | 7.20 | 197  | 108 | 12  | 05 | 50  | 80  | 12  | 22 | 0.09 | BDL | BDL | 1.2 | BDL | 31  | 1   | Nil | Nil |



## PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



|                |        |     |      |     |     |    |    |     |     |     |    |      |     |     |     |     |     |     |     |     |
|----------------|--------|-----|------|-----|-----|----|----|-----|-----|-----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| Healthy Water  |        |     |      |     |     |    |    |     |     |     |    |      |     |     |     |     |     |     |     |     |
| ARWA           | BWD-49 | BDL | 6.77 | 392 | 216 | 60 | 12 | 200 | 40  | 100 | 10 | 0.09 | BDL | BDL | 0.5 | BDL | 60  | 1   | Nil | Nil |
| Maza           | BWD-50 | BDL | 7.18 | 319 | 175 | 48 | 07 | 150 | 30  | 88  | 03 | BDL  | BDL | BDL | 1.5 | BDL | BDL | 6   | Nil | Nil |
| Al- masafi     | BWD-51 | BDL | 7.21 | 476 | 262 | 48 | 07 | 150 | 100 | 48  | 39 | 0.16 | BDL | BDL | 6.2 | 9   | 58  | 2   | Nil | Nil |
| Blu Water      | BWD-52 | BDL | 7.18 | 338 | 186 | 40 | 07 | 130 | 65  | 70  | 26 | BDL  | BDL | BDL | 0.4 | BDL | 34  | 2   | Nil | Nil |
| Sky Water      | BWD-53 | BDL | 6.75 | 380 | 209 | 40 | 02 | 110 | 65  | 56  | 38 | 0.30 | BDL | BDL | 2   | BDL | 42  | 0.3 | Nil | Nil |
| Aab            | BWD-54 | BDL | 6.97 | 318 | 175 | 40 | 12 | 150 | 60  | 48  | 24 | BDL  | BDL | BDL | 1.4 | BDL | 76  | 0.9 | Nil | Nil |
| Viz            | BWD-55 | BDL | 6.60 | 316 | 174 | 40 | 05 | 120 | 60  | 48  | 22 | BDL  | BDL | BDL | 0.5 | BDL | 32  | BDL | Nil | Nil |
| Aabshaar Water | BWD-56 | BDL | 6.80 | 209 | 115 | 24 | 10 | 100 | 40  | 48  | 14 | BDL  | BDL | BDL | 0.8 | 01  | 14  | 0.2 | Nil | Nil |
| Al-Safa Water  | BWD-57 | BDL | 6.90 | 247 | 136 | 40 | 05 | 120 | 65  | 60  | 09 | BDL  | BDL | BDL | 2.5 | BDL | 02  | BDL | Nil | Nil |
| Aqua Hygienic  | BWD-58 | BDL | 6.80 | 286 | 157 | 40 | 12 | 140 | 30  | 82  | 10 | BDL  | BDL | BDL | BDL | BDL | 08  | 0.6 | Nil | Nil |
| Noble          | BWD-59 | BDL | 7.15 | 551 | 303 | 40 | 12 | 150 | 90  | 92  | 61 | 0.24 | BDL | BDL | 3.2 | 0.5 | 87  | 1   | Nil | Nil |
| AFRA           | BWD-60 | BDL | 7.18 | 550 | 303 | 40 | 12 | 150 | 90  | 92  | 62 | 0.18 | BDL | BDL | 3.3 | 0.6 | 85  | 1   | Nil | Nil |
| 1 Water        | BWD-61 | BDL | 7.21 | 297 | 163 | 40 | 12 | 150 | 60  | 58  | 17 | BDL  | BDL | BDL | 0.6 | 0.7 | 8   | 0.7 | Nil | Nil |
| ORION          | BWD-62 | BDL | 7.35 | 290 | 160 | 08 | 07 | 50  | 50  | 70  | 45 | BDL  | BDL | BDL | 1.2 | 02  | 6   | 0.4 | Nil | Nil |
| NASH           | BWD-63 | BDL | 7.01 | 315 | 173 | 24 | 17 | 130 | 50  | 76  | 25 | 0.06 | BDL | BDL | 11  | 0.5 | 21  | 0.2 | Nil | Nil |
| Crystal Maya   | BWD-64 | BDL | 6.72 | 325 | 179 | 40 | 12 | 150 | 50  | 72  | 18 | BDL  | BDL | BDL | 0.4 | 0.4 | 20  | 0.2 | Nil | Nil |
| Vey            | BWD-65 | BDL | 6.79 | 313 | 172 | 20 | 15 | 110 | 50  | 74  | 20 | BDL  | BDL | BDL | 8.3 | BDL | 21  | 0.2 | Nil | Nil |
| Safe Life      | BWD-66 | BDL | 6.91 | 194 | 107 | 20 | 10 | 90  | 40  | 50  | 16 | BDL  | BDL | BDL | 0.2 | 0.5 | 04  | 0.3 | Nil | Nil |
| Marbella       | BWD-67 | BDL | 6.84 | 186 | 102 | 20 | 05 | 70  | 45  | 36  | 17 | 0.09 | BDL | BDL | 3.2 | BDL | 04  | 0.2 | Nil | Nil |
| GULFA          | BWD-68 | BDL | 6.95 | 232 | 128 | 20 | 12 | 100 | 50  | 50  | 10 | BDL  | BDL | BDL | 0.2 | BDL | BDL | BDL | Nil | Nil |
| Culligan       | BWD-69 | BDL | 6.90 | 301 | 166 | 40 | 05 | 120 | 45  | 70  | 10 | BDL  | BDL | BDL | 8.0 | BDL | BDL | BDL | Nil | Nil |
| Miracle        | BWD-70 | BDL | 7.32 | 375 | 206 | 26 | 13 | 120 | 60  | 76  | 41 | BDL  | BDL | BDL | 5.0 | 02  | 23  | 0.2 | Nil | Nil |
| JEL            | BWD-71 | BDL | 6.92 | 337 | 185 | 20 | 15 | 110 | 50  | 78  | 40 | BDL  | BDL | BDL | 1.0 | 03  | 12  | BDL | Nil | Nil |
| Ideal Life     | BWD-72 | BDL | 6.70 | 443 | 244 | 08 | 17 | 90  | 30  | 130 | 70 | BDL  | BDL | BDL | 1.4 | 04  | BDL | BDL | 39  |     |
| Zindagi        | BWD-73 | BDL | 6.82 | 359 | 197 | 32 | 17 | 150 | 60  | 82  | 26 | BDL  | BDL | BDL | 9.6 | BDL | 30  | 0.3 | Nil | Nil |
| Al-SAHAR       | BWD-74 | BDL | 6.65 | 311 | 171 | 40 | 12 | 150 | 50  | 84  | 12 | BDL  | BDL | BDL | 6.6 | 0.6 | 15  | 0.3 | Nil | Nil |
| ASKARI         | BWD-75 | BDL | 6.70 | 256 | 196 | 40 | 12 | 150 | 50  | 86  | 17 | BDL  | BDL | BDL | 0.2 | 01  | 22  | BDL | Nil | Nil |
| Al-Massafi     | BWD-76 | BDL | 6.82 | 318 | 175 | 08 | 22 | 110 | 50  | 72  | 25 | BDL  | BDL | BDL | 2.6 | 02  | 01  | 0.3 | Nil | Nil |

## PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



NGVS =No Guideline Value Set

BDL = Below Detection Limits

\* Microbiological results have also been verified by IDEXX (Quanti-Tray/2000 USA) and Membrane Filtration (CFU/100ml, 9222-B&D APHA) Methods.