



QUARTERLY REPORT BOTTLED WATER QUALITY

(April-June, 2013)



PAKISTAN COUNCIL OF RESEARCH IN WATER RESOURCES
Ministry of Science & Technology
Khyban-e-johar, H-8/1, Islamabad.
www.pcrwr.gov.pk

April-June, 2013



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	86	
No. of Cities Targeted	13 (Islamabad, Rawalpindi, Lahore, Faisalabad, Sialkot, D.G Khan, Multan, Bahawalpur, Tandojam, Karachi, Quetta, D.I Khan and Peshawar)	
Composition of Sampling Team	One Research Officer and Two Laboratory Assistants	
Sampling Procedure	Samples of eighty six commercially available brands of mineral/bottled water were collected from nine cities of four Provinces of Pakistan. These samples were collected by the senior staff members of Head Office and Regional Offices of PCRWR from April-June, 2013. A set of four bottles of each brand was collected and sealed on site. Identification codes are 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

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PCRWR BOTTLED WATER CLASSIFICATION SYSTEM

Sr. No	Brand Name	PCRWR Code	City	Date of Collection	Date of Expiry	Claimed Bottled Water Type	Size	Name & Address of Seller/Shop Keeper	Manufacturer
1	NEBRASKA	BWX-01	Peshawar	09/04/2013	04/2014	-	0.6 Liter	12-C Industrial Estate Hayatabad Peshawar	12-C Industrial Estate Hayatabad Peshawar
2	Natural Aqwah	BWX-02	Peshawar	09/04/2013	03/2014	-	0.6 Liter	RG enterprises Plot#1 41-A Industrial Estate Hayatabad Peshawar	RG enterprises Plot#1 41-A Industrial Estate Hayatabad Peshawar
3	Moya Mineral	BWX-03	Peshawar	09/04/2013	09/2014	-	0.6 Liter	Al-Saudia Enterprises 580/B Main Gulberg Peshawar Cantt	Al-Saudia Enterprises 580/B Main Gulberg Peshawar Cantt
4	Aquatic Fresh	BWX-04	Peshawar	09/04/2013	03/2014	-	0.6 Liter	Royal Food Industries Plot#1-C Industrial Estate Jamrud Road Peshawar KPK Pakistan	Royal Food Industries Plot#1-C Industrial Estate Jamrud Road Peshawar KPK Pakistan
5	Aqua Splash	BWX-05	Peshawar	09/04/2013	03/2014	-	0.6 Liter	Euro International A-7, Town Centre, Abdara Road University Town Peshawar	(Euro International) A-7, Town Centre, Abdara Road University Town Peshawar
6	Aqua RO7	BWX-06	Lahore	16/04/2013	06/2014	-	1.5 Liter	Nasir Sweets & Bakers Raiwind Road Lahore	Hasan Kot 7.5 Km Raiwind Road Lahore
7	Elixir	BWX-07	Lahore	16/04/2013	02/2014	-	1.5 Liter	Pan Shop Niazi Ada Lahore	Hussain Enterprises 95-km Multan Road Lahore
8	Natur Aqua	BWX-08	Lahore	15/04/2013	06/2014	-	1.5 Liter	Hamid Pan Shop Lari Adda Lahore	Bhatti Industries G.T Road Shahdra Lahore
9	Aqua Safe	BWX-09	Lahore	15/04/2013	02/2014	-	1.5 Liter	Pan Shop Railway Station	Aqua Safe Pakistan (Pvt)Ltd 96-Mcleod Road Lahore Pakistan
10	Jami Water	BWX-10	Lahore	15/04/2013	04/2014	-	1.5 Liter	Jami Water Services Thokar Chowk College Road Township Lahore	Jami Water Services Thokar Chowk College Road Township Lahore
11	Nestle	BWX-11	Lahore	16/04/2013	09/2014	-	1.5 Liter	Wakat G.Store	308-Upper Mall Lahore Pakistan

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								Dobai Town Lahore	
12	Doce	BWX-12	Lahore	12/04/2013	04/2014	-	0.6 Liter	Doce Bakers Near Sabzazar Multan Road Lahore	48-M,Quaid-e- Azam Industrial Estate Kot Lakhpat Lahore
13	Mashmoom Aqua	BWX-13	Lahore	15/04/2013	02/2014	-	0.6 Liter	Pan Shop Opp.Jinnah Hospital	Mashmoom (Pvt)Ltd 154/3,154/4 Pahse V Industrial Estate Hattar District Haripur KPK Pakistan
14	Classic	BWX14	Lahore	15/04/2013	12/2013	-	0.6 Liter	35- N.Industrial Area Gulberg 11,Lahore	35-N.Industrial Area Gulberg 11,Lahore
15	Best Nation	BWX-15	Lahore	15/04/2013	-	-	0.5 Liter	Pan Shop Railway Station Lahore	Hamza Brothers 9- km G.T Road Rachna Town Shahdara Lahore
16	Bliss Water	BWX-16	Lahore	12/04/2013	06/2013	-	0.6 Liter	Pan Shop Thokar bypass Lahore	4,Country Road Opposite Jinnah Hospital Lahore
17	AI-SANA	BWX-17	Lahore	12/04/2013	01/2014	-	0.6 Liter	Pan Shop Thokar Bypass Lahore	AL-Sana Foods and Beverages, 2- Shamas Block Yezman Garden Jalo Park Road Lahore
18	Qaswa	BWX-18	Lahore	12/04/2013	03/2014	-	0.6 Liter	Pan Shop Thokar Bypass Lahore	Y.B Foods(Pvt)Ltd 320-A Huma Block main Boulevard Allama Iqbal Town Lahore
19	Active	BWX-19	Lahore	15/04/2013	03/2014	-	0.6 Liter	Pan Shop Yadgar Chowk Lari Adda Lahore	Ali Enterprises 50- E,Sabzazar Lahore
20	Aqua National	BWX-20	Lahore	12/04/2013	06/2014	-	0.6 Liter	Pan Shop Yadgar Lahore	Milli Brothers 8- km,G.T Road Shahdra Lahore
21	Oxigyzer	BWX-21	Lahore	16/04/2013	01/2014	-	0.6 Liter	Mirza PanShop Raiwind Road Lahore	Industrial Area College Road Lahore E- Mail:info@oxigyzer. com, 042- 35146280
22	Gourmet Water	BWX-22	Lahore	15/04/2013	08/2013	-	0.6 Liter	Airline Lahore	Gourmet Foods 1-5 Sunder industrial Estate,Lahore Pakistan
23	Lock	BWX-23	Lahore	15/04/2013	03/2014	-	0.6 Liter	Hamid Pan Shop Lari Adda Lahore	Ali Enterprises Pakistan(Pvt)Ltd Multan Road 50-E Sabzazar Lahore
24	Premier Pure Water	BWX-24	Lahore	15/04/2013	06/2014	-	0.6 Liter	Pan Shop Railway Station Lahore	Zafir Industries 19- km Near Highnoon Laboratories Multan Road Lahore
25	Natural Dew	BWX-25	Lahore	12/04/2013	02/2014	-	0.6 Liter	Gohsai Pan Shop Shah pur Lahore	1067-A Block Sabzazar Scheme, Near BijiGhar Stop Multan Road Lahore
26	Aquafina	BWX-26	Lahore	12/04/2013	01/2014	-	0.6 Liter	Sarveid Pharmacy New Town Factory	32-N Gulberg 11,Lahore

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								Multan Road Lahore	
27	Kinley	BWX-27	Lahore	16/04/2013	03/2014	-	0.6 Liter	Malik Sweets & Bakers Raiwind Raod Lahore	CoCa Cola Beverages(CC&PL) 5-E,11,Gulberg 111 Lahore
28	Kallan Water	BWX-28	Lahore	15/04/2013	04/2014	-	0.6Liter	Pan Shop Railway Station Lahore	Help Line# 042-37490404 , 0323-4304302 Lahore
29	Blu Water	BWX-29	Bahawalpur	11/04/2013	08/2013	-	0.6 Liter	Al-Noor Super Store Commercial Area Bahawalpur Sett lite Town	Al-Hilal Industries Sultan Nagar,Vehari Road Multan
30	Pan Pura	BWX-30	Bahawalpur	11/04/2013	02/2014	-	0.6 Liter	Al-Rehman Medicose Opp. B.V.H Bahawalpur	Pan Pura(Pvt)Ltd Tufailabad 253-E.B.Burewala
31	Springley	BWX-31	Bahawalpur	11/04/2013	05/2014	-	0.6 Liter	Life Medical Store Opp.B.V.H Bahawalpur	Springley Jam-e shirin Boulevard,14-G,Gulberg 111,Lahore
32	Pineo	BWX-32	Bahawalpur	11/04/2013	-	-	0.6 Liter	Al-Khair Pharmacy Medical Store Bahawalpur	Gysing Pak PSIE, BahawalpurE-Mail:Gysing@live.com
33	Panee	BWX-33	Bahawalpur	11/04/2013	04/2014	-	0.6 Liter	Al-Rehman Medicose Opp. Bahawalpur	Sualeh Sons Foods Room#2/32 Al-Abid Chamber Shahrha e Liaqat Karachi
34	Kalash Pure Water	BWX-34	Bahawalpur	11/04/2013	08/2013	-	1.5 Liter	New Shan Sweet and Backers, Railway Station Chowk Bahawalpur	Al-Rehman Enterprises Ali Hijweri Arcade,Kutchery Road Multan
35	Safi Mineral Water	BWX-35	D.I.Khan	16/04/2013	01/2014	-	1.5 Liter	Safi Water Plant Qurtaba University D.I.Khan	Chashma Mineral Water Near Grid Station D.I.Khan
36	Bless	BWX-36	D.G.Khan	23/04/2013	04/2014	-	0.6 Liter	New Hasnain Medical Store Near Civil Hospital D.G.Khan	Water World Indus Highway D.G.Khan
37	Cool	BWX-37	D.G.Khan	23/04/2013	12/2013	-	0.6 Liter	Khosa Medical Hall Jaam Pur Road D.G.Khan	M.T Mineral Water Co Lahore Pakistan
38	Ultra Pak	BWX-38	D.G.Khan	23/04/2013	-	-	0.6 Liter	Asad Medical Store DHQ Hospital D.G.Khan	Ultra Pak Water Industries Shehzada Sultan Town Near Sufi Khalil CNG Pump D.G.Khan
39	Atlantis Water	BWX-39	Faisalabad	18/02/2013	11/2013	-	0.6 Liter	Madni G.Store Afshan Colony Faisalabad	Plot#57,St#17 Dastageer Colony West Canel Faisalabad

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40	Al-Saudia	BWX-40	Faisalabad	17/04/2013	12/2013	-	0.6 Liter	Madni G.Store Afshan Colony Faisalabad	Al-Saudia Water Industries 77-K, Gulistan Colony Faisalabad
41	Super Natural	BWX-41	Faisalabad	22/04/2013	-	-	1.5 Liter	Adnan G.Store Chowk Akbarabad Faisalabad	WELL-O(Pvt)Ltd p-958 St#12 Muhammad A bad Faisalabad
42	Aqua Classic	BWX-42	Quetta	15/04/2013	06/2013	-	1.5 Liter	Javed Medical Store Jinnah Road Quetta	S.A Enterprises Browri Road Quetta
43	Sunlay	BWX-43	Quetta	15/04/2013	12/2014	-	1.5 Liter	Javed Medical Store Jinnah Road Quetta	27/1 Sunlay Nazimabad #1 Patel Industries Karachi
44	Aqua Save	BWX-44	Sialkot	23/05/2013	03/2014	-	0.6 Liter	SFS Mineral Water Company Wazirabad Raod JalianWala Ugoki Sialkot	SFS Mineral Water Company Wazirabad Raod JalianWala Ugoki Sialkot
45	ECO	BWX-45	Sialkot	23/05/2013	03/2014	-	0.6 Liter	J&J Foods Beverages Roras Road Naul Chowk Sialkot	J&J Foods Beverages Roras Road Naul Chowk Sialkot
46	Isberg	BWX-46	Sialkot	23/05/2013	05/2014	-	0.6 Liter	Premier Water Refining Company Dhabola Roras Road Sialkot	Premier Water Refining Company Dhabola Roras Road Sialkot
47	Vina	BWX-47	Sialkot	23/05/2013	05/2014	-	0.6 Liter	Al-Sultan Beverages Industries,Ch aprar Road Gul Bahar Kalan Sialkot	Al-Sultan Beverages Industries,Chaprar Road Gul Bahar Kalan Sialkot
48	Rise Water	BWX-48	Sialkot	23/05/2013	12/2013	-	0.6 Liter	Pure Foods Sialkot 3-km Kingra Road Sialkot	Pure Foods Sialkot 3-km Kingra Road Sialkot
49	Athar	BWX-49	Sialkot	23/05/2013	02/2014	-	1.5 Liter	E-Mail:ajva Rise@gmail.com	E-Mail:ajva Rise@gmail.com
50	Lite Aqua	BWX-50	Multan	20/05/2013	12/2013	-	0.6 Liter	Ali Raza Drink Corner Chowk Shah Abbas Multan	Lite Aqua Minerals D-8-1 Mehmood A bad Multan
51	Aqua 7	BWX-51	Multan	17/05/2013	01/2014	-	0.6 Liter	Souk Super Store Bosan Road Multan	Pulse International Water Company 4,H.T.E.Z Old Bulda Road Multan
52	NN Welfare Hospital	BWX-52	Multan	20/05/2013	-	-	0.6 Liter	Umer CNG Tuck Shop Bahawalpur Road Multan	M/S NN Premium Water Factory Khanewal
53	Sip	BWX-53	Multan	20/05/2013	-	-	0.6 Liter	Food Festival Sabzi Mandi Multan	Rahim Building Asia Shoes Link Abdali Road Multan
54	Indus Water	BWX-54	Multan	21/05/2013	09/2013	-	0.6 Liter	One Shop Drink Corner Chungi#6 Bosan Road	DJ Enterprises Committed to Quality Suite#225,Jaskani

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								Multan	Commercial Centre Bulakh Sarwar City Jam Pur Road D.G Khan
55	Aqua Royal	BWX-55	Rawalpindi	13/06/2013	03/2014	-	1.5 Liter	United Pharmacy Holy Family Hospital Rawalpindi	J&M Enterprises 38-B,Small Industrial Estate Jhelum Pakistan
56	Murree Sparkletts	BWX-56	Rawalpindi	13/06/2013	05/2014	-	1.5 Liter	United Pharmacy Holy Family Hospital Rawalpindi	Murree Sparkletts(A Division of Murree Brewery co.Ltd)10/2 Phase 111 Industrial Estate Hattar
57	Aquafina (A)	BWX-57	Rawalpindi	13/06/2013	01/2014	-	0.5 Liter	Al Saba Pharmacy Holy Family Hospital Rawalpindi	Haidri Beverages Pvt Ltd CDA Industrial Triangle Kahuta Road Islamabad
58	Berg	BWX-58	Rawalpindi	13/06/2013	-	-	0.6 Liter	Al Saba Pharmacy Holy Family Hospital Rawalpindi	M-1851/2,St#12 Iqbal Pura(Mitter Pura)Rawalpindi
59	Water Empire	BWX-59	Rawalpindi	13/06/2013	-	-	0.5 Liter	Al Saba Pharmacy Holy Family Hospital Rawalpindi	E- Mail:info@waterem pire.com.pk
60	New Nestle	BWX-60	Rawalpindi	13/06/2013	12/2014	-	0.5 Liter	Jawad Pharmacy Opp.Benazir Hospital Rawalpindi	Nestle Pakistan Ltd 308-Upper Mall Lahore Pakistan
61	Necter	BWX-61	Rawalpindi	13/06/2013	-	-	0.5 Liter	S.M Niaz G.Store Saddar Railway Road Rawalpindi	Plot#14/10 Markaz G-7 Islamabad
62	LITE WAVE	BWX-62	Rawalpindi	17/06/2013	-	-	0.6 Liter	Shehzada Salman G.Store Faizabad Rawalpindi	LITE WAVE Ph# 051-2517193
63	Abr-e-Rehmat	BWX-63	Rawalpindi	17/06/2013	05/2014	-	0.5 Liter	Nozeer G.Store Faizabad Rawalpindi	Plot#18 Main Road RCCI Industrial Area Rawat Islamabad
64	Aqua Sky Drop	BWX-64	Rawalpindi	17/06/2013	03/2014	-	0.5 Liter	Naqeebi G.Store Faizabad Rawalpindi	Ittehad Enterprises Ghori Town Phase 1 Opp.Fizaia Colony Near Khanna Bridge Islamabad
65	Water Plus	BWX-65	Islamabad	17/06/2013	-	-	0.5 Liter	Imran G.Store Peshawar Mor Islamabad	Bottled by ABS , I/9 Industrial Area Islamabad, Customer Care 051-2543795
66	Springley (A)	BWX-66	Islamabad	18/06/2013	-	-	0.5 Liter	Modern Bakers & Sweets 654- 655 Abpara Islamabad	Qarshi Industries(Pvt)Ltd Hattar N.W.F.P Pakistan
67	Kinley (A)	BWX-67	Islamabad	18/06/2013	-	-	1.5 Liter	SOGO 2000 Yummy,s 36	Coca cola Beverages

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								Melody Foods Islamabad	Pakistan Pvt Ltd D-51 Estate Avenue S.I.T.E Karachi Pakistan
68	Masafi	BWX-68	Islamabad	18/06/2013	11/2013	-	0.5 Liter	Esaje&Co. Shop #9 Kohsar Market F-6/3 Islamabad	P.O Box 11035, Masafi, Ras, Al Khaimah, United Arab Emirates
69	ARROW HEAD	BWX-69	Islamabad	18/06/2013	-	-	0.5 Liter	Esaje&Co. Shop #9 Kohsar Market F-6/3 Islamabad	ARROWHEADWATER.COM
70	Evian	BWX-70	Islamabad	18/06/2013	-	-	0.5 Liter	Esaje&Co. Shop #9 Kohsar Market F-6/3 Islamabad	Product of France S.A.E.M.E 74500 Evian France
71	Volvic	BWX-71	Islamabad	18/06/2013	-	-	0.5 Liter	Esaje&Co. Shop #9 Kohsar Market F-6/3 Islamabad	www.volvic.co.uk
72	KIRKLAND	BWX-72	Islamabad	18/06/2013	-	-	05 Liter	Esaje&Co. Shop #9 Kohsar Market F-6/3 Islamabad	P.O.Box 34535 Seattle.WA98124-1535, U.S.A
73	Vey	BWX-73	Tando Jam	12/6/2013	06/2015	-	0.6 Liter	Qasimabad Phase 11 Hyderabad	Fluid Technology Int.(Pvt)Ltd ,424 Bhayani Centre Block M,North Nazimabad Karachi
74	OSLO	BWX-74	Tando Jam	12/6/2013	06/2014	-	0.6 Liter	Qasimabad Phase 11 Hyderabad	Oslo International 14 Ramzan Chamber Dr.Bill meria Street Off.Chundrigar Raod Karachi
75	Via	BWX-75	Tando Jam	12/6/2013	12/2013	-	0.6 Liter	Saleem G.Store Bus Stand Hyderabad	U.N Brothers S.I.T.E Area Karachi
76	Al-Masafi	BWX-76	Karachi	13/6/2013	-	-	0.6 Liter	Al-Hammad G.Store Main National Highway Road Near Landhi Hospital	Plot#S-3,S-4, Malir City Karachi
77	Al-habib	BWX-77	Karachi	13/6/2013	06/2015	-	0.6 Liter	Bismillah Bakery Malir Area Karachi	Al-Habib Enterprises E-10,Al-Azam Square F.B. Area Block 1 Karachi
78	Orion	BWX-78	Karachi	17/6/2013	-	-	0.6 Liter	New Danish Bakery& G.Store Indus Mehran Malir Karachi	E-1, Suite#2 Defence View Phase-11 Karachi
79	Jel	BWX-79	Karachi	13/6/2013	12/2013	-	0.6 Liter	Shop#36,37 Al-Ateeq Market Plot#17 Main Road Landhi Karachi	Mega Fina Industries Plot#a-92, Malir Industrial Malir Karachi
80	Zindagi	BWX-80	Karachi	17/6/2013	-	-	0.6 Liter	Sohail G.Store Saudabad S2 Area	Zindagi International 021-34522035

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81	Matrah	BWX-81	Karachi	13/6/2013	12/2013	0.6 Liter	Malir Karachi Shop#36,37 Al-Ateeq Market Plot#17 Main Road Landhi Karachi	Ahmed Enterprises Contact#0323- 2441785
82	Miracle	BWX-82	Karachi	13/6/2013	12/2014	0.5 Liter	New pak sweet & Nimko Shop#23,24 Chowrangi Karachi	The Miracle Products(Pvt)Ltd Plot#WSA- 23,Block- 14,F.B.Arae Karachi
83	Crystal Maya	BWX-83	Karachi	13/6/2013	-	1.5 Liter	Al-Hammad G.Store Mr. Muhammad Ibrahim	Tilon Global Off:B- 221,226 Hub Baluchistan
84	Snow Drop	BWX-84	Karachi	13/6/2013	07/2013	1.5 Liter	Haroon Medical General Store Old Muzafarabad Landhi Karachi #22	B-63,Block#17,F.B. Area Karachi
85	Best Water	BWX-85	Karachi	13/6/2013	-	1.5 Liter	Haroon Medical General Store Old Muzafarabad Landhi Karachi #22	4/33,Sector 21,Korangi Industrial Area Karachi
86	Sea Breeze	BWX-86	Karachi	13/6/2013	12/2013	1.5 Liter	Al-Madina G.Store,S-2 Area, Malir Karachi	Seabreeze water@yahoo.com

WATER QUALITY PARAMETERS AND METHODS USED FOR ANALYSIS

Sr. #	PARAMETERS	ANALYTICAL METHOD
1.	Alkalinity (mg/l as CaCO ₃)	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

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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
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 : 10ppb)					
Sr. No	Brand Name	Code	City of Manufacturing	Unit	Results
1.	Natur Aqua	BWX-08	Lahore	ppb	35
2.	Aqua Safe	BWX-09	Lahore	ppb	15
3.	Best Nation	BWX-15	Lahore	ppb	44
4.	Active	BWX-19	Lahore	ppb	35
5.	Aqua National	BWX-20	Lahore	ppb	44
6.	Oxygyzer	BWX-21	Lahore	ppb	17

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7.	Lock	BWX-23	Lahore	ppb	17
8.	Premier	BWX-24	Lahore	ppb	27
9.	Kallan Water	BWX-28	Lahore	ppb	18
10.	Pan Pura	BWX-30	Burewala	ppb	16
11.	Kalash Pure Water	BWX-34	Multan	ppb	23
12.	Cool	BWX-37	Lahore	ppb	34

Sodium (Safe Limit : 50ppm)					
Sr. No	Brand Name	Code	City of Manufacturing	Unit	Results
1.	Natur Aqua	BWX-08	Lahore	ppm	70
2.	Best Nation	BWX-15	Lahore	ppm	68
3.	AL-SANA	BWX-17	Lahore	ppm	150
4.	Premier	BWX-24	Lahore	ppm	160
5.	NN Welfare	BWX-52	Khanewal	ppm	58
6.	OSLO	BWX-74	Karachi	ppm	58
7.	Best Water	BWX-85	Karachi	ppm	58

Fluoride (Safe Limit : 0.7 ppm)					
Sr. No	Brand Name	Code	City of Manufacturing	Unit	Results
1.	AL-SANA	BWX-17	Lahore	ppm	1.19
2.	Safi Mineral Water	BWX-35	D.I Khan	ppm	0.97

Potassium (Safe Limit : 10 ppm)					
Sr. No	Brand Name	Code	City of Manufacturing	Unit	Results
1.	Zindagi	BWX-80	Karachi	ppm	19

BACTERIOLOGICAL: (Total Coliforms & E Coli) (Safe Limit: 0/100ml)					
Sr. No	Brand Name	Code	Results		
			Total Coliforms (MPN/100ml)	E. Coli (MPN/100ml)	
1.	Elixir	BWX-07	12	Nil	
2.	Safi Mineral Water	BWX-35	7	Nil	
3.	Sunlay	BWX-43	6	Nil	
4.	Aqua Royal	BWX-55	4	Nil	
5.	Berg	BWX-58	2	Nil	
6.	Water Empire	BWX-59	2	Nil	
7.	Lite Wave	BWX-62	26	Nil	
8.	Water Plus	BWX-65	2	Nil	
9.	Mathar	BWX-81	2	Nil	
10.	Sea Breeze	BWX-86	30	Nil	

PCRWR TESTING: SAFE BRANDS

Sr. No	Brand Name	Code	Quality (Safe/Unsafe)	
			Chemical	Microbiological
1.	NEBRASKA	BWX-01	Safe	Safe
2.	Natural Aqwah	BWX-02	Safe	Safe
3.	Moya Mineral	BWX-03	Safe	Safe
4.	Aquatic Fresh	BWX-04	Safe	Safe
5.	Aqua Splash	BWX-05	Safe	Safe

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6.	Aqua RO7	BWX-06	Safe	Safe
7.	Jami Water	BWX-10	Safe	Safe
8.	Nestle	BWX-11	Safe	Safe
9.	Doce	BWX-12	Safe	Safe
10.	Mashmoom Aqua	BWX-13	Safe	Safe
11.	Classic	BWX14	Safe	Safe
12.	Bliss Water	BWX-16	Safe	Safe
13.	Qaswa	BWX-18	Safe	Safe
14.	Gourmet Water	BWX-22	Safe	Safe
15.	Natural Dew	BWX-25	Safe	Safe
16.	Aquafina	BWX-26	Safe	Safe
17.	Kinley	BWX-27	Safe	Safe
18.	Blu Water	BWX-29	Safe	Safe
19.	Springley	BWX-31	Safe	Safe
20.	Pineo	BWX-32	Safe	Safe
21.	Panee	BWX-33	Safe	Safe
22.	Bless	BWX-36	Safe	Safe
23.	Ultra Pak	BWX-38	Safe	Safe
24.	Atlantis Water	BWX-39	Safe	Safe
25.	Al-Saudia	BWX-40	Safe	Safe
26.	Super Natural	BWX-41	Safe	Safe
27.	Aqua Classic	BWX-42	Safe	Safe
28.	Aqua Save	BWX-44	Safe	Safe
29.	ECO	BWX-45	Safe	Safe
30.	Isberg	BWX-46	Safe	Safe
31.	Vina	BWX-47	Safe	Safe
32.	Rise Water	BWX-48	Safe	Safe
33.	Athar	BWX-49	Safe	Safe
34.	Lite Aqua	BWX-50	Safe	Safe
35.	Aqua 7	BWX-51	Safe	Safe
36.	Sip	BWX-53	Safe	Safe
37.	Indus Water	BWX-54	Safe	Safe
38.	Murree Sparkletts	BWX-56	Safe	Safe
39.	AquaFina	BWX-57	Safe	Safe
40.	New Nestle	BWX-60	Safe	Safe
41.	Necter	BWX-61	Safe	Safe
42.	Abr-e-Rehmat	BWX-63	Safe	Safe
43.	Aqua Sky Drop	BWX-64	Safe	Safe
44.	Springley	BWX-66	Safe	Safe
45.	Kinley	BWX-67	Safe	Safe
46.	Masafi	BWX-68	Safe	Safe
47.	ARROWHEAD	BWX-69	Safe	Safe
48.	Evian	BWX-70	Safe	Safe
49.	Volvic	BWX-71	Safe	Safe
50.	KIRRKLAND	BWX-72	Safe	Safe
51.	Vey	BWX-73	Safe	Safe
52.	Via	BWX-75	Safe	Safe
53.	Al-Masafi	BWX-76	Safe	Safe
54.	Al-Habib	BWX-77	Safe	Safe
55.	Orion	BWX-78	Safe	Safe

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56.	Jel	BWX-79	Safe	Safe
57.	Miracle	BWX-82	Safe	Safe
58.	Crystal Maya	BWX-83	Safe	Safe
59.	Snow Drop	BWX-84	Safe	Safe

PCRWR TESTING: UNSAFE BRANDS

Sr. No	Brand Name	Code	Address/ Manufacturer	Quality (Safe/Unsafe)	
				Chemical	Microbiological
1.	Elixir	BWX-07	Hussain Enterprises 95-km Multan Road Lahore	Safe	Unsafe
2.	Natur Aqua	BWX-08	Bhatti Industries G.T Road Shahdra Lahore	Unsafe	Safe
3.	Aqua Safe	BWX-09	Aqua Safe Pakistan (Pvt)Ltd 96-Mcleod Road Lahore Pakistan	Unsafe	Safe
4.	Best Nation	BWX-15	Hamza Brothers 9-km G.T Road Rachna Town Shahdara Lahore	Unsafe	Safe
5.	AI-SANA	BWX-17	AL-Sana Foods and Beverages, 2-Shamas Block Yezman Garden Jalo Park Road Lahore	Unsafe	Safe
6.	Active	BWX-19	Ali Enterprises 50-E,Sabzazar Lahore	Unsafe	Safe
7.	Aqua National	BWX-20	Milli Brothers 8-km,G.T Road Shahdra Lahore	Unsafe	Safe
8.	Oxigzyer	BWX-21	Industrial Area College Road Lahore E-Mail:info@oxigzyer.com, 042-35146280	Unsafe	Safe
9.	Lock	BWX-23	Ali Enterprises Pakistan(Pvt)Ltd Multan Road 50-E Sabzazar Lahore	Unsafe	Safe
10.	Premier	BWX-24	Zafir Industries 19-km Near Highnoon Laboratories Multan Road Lahore	Unsafe	Safe
11.	Kallan Water	BWX-28	Help Line# 042-37490404 , 0323-4304302 Lahore	Unsafe	Safe
12.	Pan Pura	BWX-30	Pan Pura(Pvt)Ltd Tufailabad 253-E.B.Burewala	Unsafe	Safe
13.	Kalash Pure Water	BWX-34	Al-Rehman Enterprises Ali Hijwari Arcade,Kutchery Road Multan	Unsafe	Safe
14.	Safi Mineral Water	BWX-35	Chashma Mineral Water Near Grid Station D.I.Khan	Unsafe	Unsafe
15.	Cool	BWX-37	M.T Mineral Water Co Lahore Pakistan	Unsafe	Safe
16.	Sunlay	BWX-43	27/1 Sunlay Nazimabad #1 Patel Industries Karachi	Safe	Unsafe
17.	NN Welfare	BWX-52	27/1 Sunlay Nazimabad #1 Patel Industries Karachi	Unsafe	Safe
18.	Aqua Royal	BWX-55	J&M Enterprises 38-B,Small Industrial Estate Jhelum Pakistan	Safe	Unsafe
19.	Berg	BWX-58	M-1851/2,St#12 Iqbal Pura(Mitter Pura)Rawalpindi	Safe	Unsafe
20.	Water Empire	BWX-59	E-Mail:info@waterempire.com.pk	Safe	Unsafe
21.	Lite Wave	BWX-62	LITE WAVE Ph# 051-2517193	Safe	Unsafe
22.	Water Plus	BWX-65	Bottled by ABS , I/9 Industrial Area Islamabad, Customer Care 051-2543795	Safe	Unsafe
23.	OSLO	BWX-74	Oslo International 14 Ramzan Chamber Dr.Bill meria Street Chundrigar Raod Karachi	Unsafe	Safe
24.	Zindagi	BWX-80	Zindagi International 021-34522035	Unsafe	Safe
25.	Mathar	BWX-81	Ahmed Enterprises Contact#0323-2441785	Safe	Unsafe
26.	Best Water	BWX-85	4/33,Sector 21,Korangi Industrial Area Karachi	Unsafe	Safe
27.	Sea Breeze	BWX-86	Seabreeze water@yahoo.com	Safe	Unsafe

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MARKET CONSISTENCY IN TWO NEIGHBORING QUARTERS

Sr. No	Consistent Brands	New Brands	Unavailable Brands
1.	Nectar	Elixir	Hydra
2.	Water Plus	Natur Aqua	Verbena
3.	Aqua Sky Drop	Aqua Safe	Venora
4.	Atlantis Water	Jami Water	Splash Dew
5.	Aqua 7	Mashmoom Aqua	Valley
6.	Lite Aqua	Classic	Deosai
7.	Pan Pura	Best Nation	Italian Crystal
8.	Blu Water	Bliss Water	Atlantis Premium Water
9.	Kalash Pure Water	Al-SANA	A-One
10.	Springley	Qaswa	Hydr8
11.	Murree Sparklets	Lock	Fresh Life
12.	Oxigzyer	Natural Dew	Al-Saudia (Water Pack)
13.	Gourmet	Pineo	Tripple Five
14.	Kalan Water	Panee	Himalaya Cool
15.	Nestle	Safi Mineral Water	Mr. Water
16.	Doce	Bless	Sufi
17.	Aquafina	Cool	Zindagi Pani
18.	Aqua National	Ultra Pak	Fresco Healthy Water
19.	Kinley	Al- Saudia	Unique Water
20.	Active	Super Natural	Oriel
21.	Aqua RO 7	Aqua Classic	Premier
22.	Water Empire	NN Welfare Hospital	High Fresh
23.	Vey	Sip	Nation
24.	Isberg	Indus Water	Crystal Pure Water
25.	Rise Water	Aqua Royal	Aqua Cool
26.	Vina	Aquafina(A)	Sparkle
27.	Eco Water	Berg	A-Cool
28.	Aqua Save	New Nestle	Al-Shifa Water
29.	Ather	Lite Wave	Aqua Safe
30.	NEBRASAKA	Abr-e-Rehmat	Sparkling
31.	Natural Aqwah	Masafi	Mezban
32.	Moya Mineral Water	Arrow Head	Ripple
33.	Aquatic Fresh	Evian	Healthy Water
34.	Aqua Splash	Volvic	Danni Pure Water
35.	Orion	Kirrk Land	Standard
36.	Sunlay	Via	Noble
37.	OSLO	Al- Habib	Aqua Hygienic
38.	Snow Drop	Zindagi	Sujo Natural
39.	Al-Masafi	Matrah	Vividle
40.	Crystal Maya	Miracle	Aqua Sure
41.	Jel	Sea Breeze	Rhine Blue
42.	Best Water		Blue Danube
43.	Premier Pure Water		Dolphin
44.			Prime Pani
45.			Excellent Water



DISEASE POTENTIAL FROM CONTAMINATED BOTTLED WATER

Sr. No	Contaminant	Diseases Impacts
1.	Bacteriological Contamination	Cholera, Diarrhea, Dysentery, Hepatitis, Typhoid
2.	Arsenic	Cancer (lungs, bladder, skin, prostate, kidney, nose and liver), diabetes kidney diseases, hypertension, heart diseases, birth defects, black foot diseases.
3.	Sodium	Hypertension
4.	Potassium	Hyperkalemia
5.	Fluoride	Dental and skeleton fluorosis

CONCLUSIONS

Sr. No	Item	Conclusion	
		No.	% age
1.	Total No. of Brands Collected	86	-
2.	Overall safe brands	59	69
3.	No. of overall unsafe brands	27	31
4.	No. of Chemically safe brands	68	79
5.	No. of Chemically unsafe brands	18	21
6.	No. of Microbiologically safe brands	76	88
7.	No. of Microbiologically unsafe brands	10	12
8.	No. of Consistent brands in Market	43	50
9.	No. of brands disappeared from market	45	52
10.	No. of new brands	41	48

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

PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



Annexure-1

Chemical and Microbiological Quality of Bottled/Mineral Water Brands

Brand Name	Brand Code	Turbidity	pH	EC	TDS	Ca	Mg	Hard	HCO ₃	CO ₃	Cl	Na	F	PO ₄	Fe	K	NO ₃	SO ₄	As	* Microbiological Contaminants	
PSQCA Bottled Water Standards	-	0.5	6.5 - 8.5	NGVS	500	100	50	NGVS	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	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	ppm	ppb	MPN /100ml	MPN /100ml
NEBRASKA	BWX-01	BDL	7.52	380	209	34	13	140	20	Nil	74	12	0.11	0.03	BDL	BDL	1	30	0.7	Nil	Nil
Natural Aqwah	BWX-02	BDL	7.72	444	244	60	10	190	165	Nil	8	15	0.38	BDL	BDL	1.4	5	40	1	Nil	Nil
Moya Mineral	BWX-03	BDL	7.49	230	127	32	7	110	60	Nil	30	6	0.23	BDL	BDL	0.4	1.7	16	0.6	Nil	Nil
Aquatic Fresh	BWX-04	BDL	7.52	235	129	20	15	110	75	Nil	15	6	0.09	BDL	BDL	0.6	3	21	1	Nil	Nil
Aqua Splash	BWX-05	BDL	7.4	235	129	20	13	105	25	Nil	45	9	BDL	0.04	BDL	0.2	2	24	0.5	Nil	Nil
Aqua RO7	BWX-06	BDL	7.10	360	198	40	9	135	40	Nil	70	21	BDL	BDL	BDL		BDL	37	5	Nil	Nil
Elixir	BWX-07	BDL	7.25	218	120	18	9	80	8	Nil	42	13	0.14	BDL	BDL	0.2	BDL	41	1	12	Nil
Natur Aqua	BWX-08	BDL	7.32	758	417	60	19	230	210	Nil	44	70	0.10	BDL	BDL	3.7	BDL	125	35	Nil	Nil
Aqua Safe	BWX-09	BDL	7.20	475	261	36	15	150	90	Nil	50	44	BDL	BDL	BDL	1.8	BDL	78	15	Nil	Nil
Jami Water	BWX-10	BDL	7.12	280	154	30	9	110	50	Nil	28	16	BDL	BDL	BDL		BDL	55	1	Nil	Nil
Nestle	BWX-11	BDL	7.25	352	194	20	19	130	40	Nil	75	13	0.48	BDL	BDL	0.2	BDL	25	3	Nil	Nil
Doce	BWX-12	BDL	7.48	412	227	20	22	140	70	Nil	61	30	0.14	BDL	BDL	0.2	BDL	50	1	Nil	Nil
Mashmoom Aqua	BWX-13	BDL	7.73	454	250	40	15	160	230	Nil	7	16	0.25	0.04	BDL	1.2	3	20	1	Nil	Nil
Classic	BWX-14	BDL	7.21	362	199	28	10	110	85	Nil	43	35	0.15	BDL	BDL	1.2	BDL	42	3	Nil	Nil
Best Nation	BWX-15	BDL	7.75	480	264	20	19	130	205	Nil	8	68	0.30	BDL	BDL	3	BDL	38	44	Nil	Nil

The highlighted results indicate the concentration level beyond the PSQCA Bottled Water Standards.

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Bliss Water	BWX-16	BDL	6.68	380	209	40	17	170	40	Nil	80	7	BDL	BDL	BDL	BDL	BDL	36	2	Nil	Nil
AI-SANA	BWX-17	BDL	7.50	870	479	44	17	180	430	Nil	7	150	1.19	BDL	BDL	8	3	53	6	Nil	Nil
Qaswa	BWX-18	BDL	7.15	288	158	40	7	130	40	Nil	45	7	BDL	BDL	BDL	BDL	BDL	45	2	Nil	Nil
Active	BWX-19	BDL	6.81	306	168	36	7	130	140	Nil	6	20	BDL	BDL	BDL	2.7	BDL	25	35	Nil	Nil
Aqua National	BWX-20	BDL	6.88	260	143	32	10	120	120	Nil	5	10	0.07	BDL	BDL	2.2	BDL	30	44	Nil	Nil
Oxigzyzer	BWX-21	BDL	7.38	328	180	36	15	150	155	Nil	9	23	0.19	BDL	BDL	3.8	BDL	20	17	Nil	Nil
Gourmet Water	BWX-22	BDL	7.20	378	208	32	13	135	35	Nil	76	22	BDL	0.04	BDL	0.5	BDL	26	1	Nil	Nil
Lock	BWX-23	BDL	7.40	323	178	26	18	140	145	Nil	9	24	0.24	0.03	BDL	2.8	BDL	28	17	Nil	Nil
Premier Pure Water	BWX-24	BDL	8.29	812	447	20	22	140	235	Nil	58	160	BDL	BDL	BDL	4.4	BDL	115	27	Nil	Nil
Natural Dew	BWX-25	BDL	7.40	403	222	20	15	110	60	Nil	71	30	BDL	BDL	BDL	0.2	BDL	33	1	Nil	Nil
Aquafina	BWX-26	BDL	7.58	199	349	18	6	70	15	Nil	22	17	BDL	BDL	BDL	1.2	BDL	61	0.5	Nil	Nil
Kinley	BWX-27	BDL	7.09	516	284	40	15	160	20	Nil	131	39	BDL	BDL	BDL	2.3	BDL	38	0.2	Nil	Nil
Kallan Water	BWX-28	BDL	7.80	340	187	20	18	125	130	Nil	9	22	BDL	BDL	BDL	3.4	BDL	37	18	Nil	Nil
Blu Water	BWX-29	BDL	7.75	262	144	20	19	130	25	Nil	51	13	BDL	BDL	BDL	0.4	BDL	50	1	Nil	Nil
Pan Pura	BWX-30	BDL	7.54	270	149	24	9	95	80	Nil	25	23	BDL	BDL	BDL	1.5	BDL	43	16	Nil	Nil
Springley	BWX-31	BDL	6.85	530	292	40	12	150	110	Nil	22	23	0.03	0.03	BDL	1.3	3	31	0.5	Nil	Nil
Pineo	BWX-32	BDL	7.05	326	179	40	7	130	125	Nil	22	22	BDL	BDL	BDL	2.3	BDL	28	4	Nil	Nil
Panee	BWX-33	BDL	6.95	309	170	36	7	120	45	Nil	60	16	BDL	BDL	BDL	1.3	BDL	24	0.3	Nil	Nil
Kalash Pure Water	BWX-34	BDL	6.95	760	418	60	19	230	120	Nil	30	39	0.12	BDL	BDL	4.4	BDL	195	23	Nil	Nil
Safi Mineral Water	BWX-35	BDL	6.95	425	234	45	10	150	95	Nil	58	20	0.97	BDL	BDL	1.4	0.5	42	1	07	Nil
Bless	BWX-36	BDL	7.16	420	231	30	15	140	40	Nil	92	17	0.09	BDL	BDL	0.5	BDL	24	0.2	Nil	Nil
Cool	BWX-37	BDL	7.95	495	272	38	22	185	225	Nil	26	46	0.33	BDL	BDL	5.1	0.1	16	34	Nil	Nil
Ultra Pak	BWX-38	BDL	7.51	328	180	32	5	100	55	Nil	64	25	0.06	BDL	BDL	0.4	BDL	15	1	Nil	Nil
Atlantis Water	BWX-39	BDL	7.49	280	154	36	2	100	40	Nil	59	25	BDL	BDL	BDL	0.2	BDL	12	0.3	Nil	Nil

The highlighted results indicate the concentration level beyond the PSQCA Bottled Water Standards.

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Al-Saudia	BWX-40	BDL	7.02	434	239	40	5	120	35	Nil	15	48	BDL	0.04	BDL	0.6	0.9	3	BDL	Nil	Nil
Super Natural	BWX-41	BDL	6.90	268	147	20	12	100	20	Nil	67	21	BDL	BDL	BDL	0.6	1	15	BDL	Nil	Nil
Aqua Classic	BWX-42	BDL	7.12	292	161	32	10	120	30	Nil	61	17	BDL	BDL	BDL	0.4	BDL	24	0.2	Nil	Nil
Sunlay	BWX-43	BDL	7.16	294	162	40	2	110	37	Nil	65	32	0.53	BDL	BDL	1.0	BDL	35	0.5	06	Nil
Aqua Save	BWX-44	BDL	6.98	302	166	40	10	140	15	Nil	75	BDL	BDL	BDL	BDL	2.9	BDL	20	BDL	Nil	Nil
ECO	BWX-45	BDL	7.35	497	273	40	22	190	235	Nil	22	31	0.22	BDL	BDL	3.0	BDL	13	1	Nil	Nil
Isberg	BWX-46	BDL	7.52	292	161	32	10	120	80	Nil	36	9	0.22	BDL	BDL	3.1	BDL	26	4	Nil	Nil
Vina	BWX-47	BDL	7	274	151	28	4	85	60	Nil	35	25	BDL	BDL	BDL	1.0	BDL	17	0.3	Nil	Nil
Rise Water	BWX-48	BDL	7.39	344	189	40	10	140	45	Nil	60	12	0.32	BDL	BDL	0.3	BDL	24	2	Nil	Nil
Athar	BWX-49	BDL	7.49	378	208	24	15	120	115	Nil	53	47	0.17	BDL	BDL	1.8	BDL	24	3	Nil	Nil
Lite Aqua	BWX-50	BDL	7.51	378	208	36	7	120	70	Nil	25	34	0.12	BDL	BDL	2.5	BDL	71	2	Nil	Nil
Aqua 7	BWX-51	BDL	7.40	444	244	40	10	140	30	Nil	93	24	BDL	BDL	BDL	1.0	BDL	46	0.4	Nil	Nil
NN Welfare	BWX-52	BDL	7.58	472	260	32	5	100	150	Nil	47	58	BDL	0.04	BDL	0.2	BDL	36	1	Nil	Nil
Sip	BWX-53	BDL	7.30	452	249	60	7	180	20	Nil	120	2	BDL	0.03	BDL	0.2	BDL	9	BDL	Nil	Nil
Indus Water	BWX-54	BDL	7.52	322	177	40	9	135	135	Nil	7	12	0.13	BDL	BDL	3.5	BDL	37	1	Nil	Nil
Aqua Royal	BWX-55	BDL	6.56	338	186	24	12	110	50	Nil	42	22	0.62	BDL	BDL	0.4	2.4	53	0.6	4	Nil
Murree Sparkletts	BWX-56	BDL	6.92	400	220	40	19	180	190	Nil	4	14	0.56	BDL	BDL	0.7	2.5	23	0.4	Nil	Nil
Aquafina	BWX-57	BDL	6.55	207	114	8	17	90	15	Nil	26	14	0.35	BDL	BDL	1.1	BDL	65	BDL	Nil	Nil
Berg	BWX-58	BDL	6.90	550	303	40	24	200	130	Nil	71	27	0.68	BDL	BDL	1.1	5.1	38	0.3	2	Nil
Water Empire	BWX-59	BDL	6.79	360	198	40	15	160	40	Nil	72	13	0.21	0.04	BDL	0.2	2.6	41	0.3	2	Nil
New Nestle	BWX-60	BDL	6.52	340	187	40	12	150	25	Nil	80	8	0.09	BDL	BDL	BDL	0.1	33	3	Nil	Nil
Nectar	BWX-61	BDL	7.10	328	180	48	7	150	115	Nil	21	15	0.30	BDL	BDL	0.7	BDL	28	0.6	Nil	Nil
LITE WAVE	BWX-62	BDL	6.99	404	222	56	17	210	170	Nil	17	19	0.28	BDL	BDL	0.8	4.1	31	1	26	Nil
Abr-e-Rehmat	BWX-63	BDL	6.51	406	223	36	10	130	15	Nil	105	34	0.09	BDL	BDL	BDL	3.4	39	0.3	Nil	Nil
Aqua Sky Drop	BWX-64	BDL	6.58	360	198	40	12	150	70	Nil	59	13	0.15	BDL	BDL	0.5	BDL	39	0.3	Nil	Nil
Water Plus	BWX-65	BDL	6.96	364	218	48	12	170	150	Nil	12	23	0.32	BDL	BDL	1.3	1	27	0.5	2	Nil
Springley	BWX-66	BDL	7.05	514	283	60	19	230	240	Nil	10	26	0.39	BDL	BDL	1.5	2.5	33	0.5	Nil	Nil

The highlighted results indicate the concentration level beyond the PSQCA Bottled Water Standards.

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PCRWR QUARTERLY REPORT-BOTTLED WATER QUALITY



Kinley	BWX-67	BDL	6.50	550	303	40	22	190	25	Nil	141	28	0.21	0.05	BDL	1.6	BDL	45	BDL	Nil	Nil
Masafi	BWX-68	BDL	6.69	270	149	12	22	120	30	Nil	63	17	0.18	0.03	BDL	0.8	BDL	24	BDL	Nil	Nil
ARROW HEAD	BWX-69	BDL	7.59	368	202	30	34	215	150	Nil	7	6	0.15	BDL	BDL	2.1	1	42	BDL	Nil	Nil
Evian	BWX-70	BDL	7.09	601	331	65	27	250	270	Nil	10	6	0.31	BDL	BDL	0.8	0.7	28	0.4	Nil	Nil
Volvic	BWX-71	BDL	6.82	190	105	14	7	60	65	Nil	11	13	0.30	BDL	BDL	6.3	1.5	23	3	Nil	Nil
KIRRK LAND	BWX-72	BDL	6.91	78	43	12	7	80	50	Nil	3	4	0.20	BDL	BDL	7.6	BDL	18	1	Nil	Nil
Vey	BWX-73	BDL	6.72	290	160	16	19	130	20	Nil	62	9	0.17	BDL	BDL	9	0.2	38	BDL	Nil	Nil
OSLO	BWX-74	BDL	6.89	420	231	20	13	105	50	Nil	72	58	0.18	BDL	BDL	7.5	3.7	48	0.3	Nil	Nil
Via	BWX-75	BDL	6.59	265	146	16	12	90	25	Nil	52	21	0.10	BDL	BDL	3	1	40	BDL	Nil	Nil
Al-Masafi	BWX-76	BDL	6.88	350	193	20	17	120	35	Nil	84	16	0.04	BDL	BDL	3.5	2	BDL	BDL	Nil	Nil
Al-habib	BWX-77	BDL	6.98	410	226	24	10	100	65	Nil	60	48	0.08	0.04	BDL	2.0	4	32	BDL	Nil	Nil
Orion	BWX-78	BDL	6.93	228	125	16	2	50	35	Nil	43	36	BDL	BDL	BDL	1.5	3	9	BDL	Nil	Nil
Jel	BWX-79	BDL	6.69	290	160	28	7	100	45	Nil	65	28	0.10	BDL	BDL	1.4	2	5	BDL	Nil	Nil
Zindagi	BWX-80	BDL	6.68	534	294	36	12	140	40	Nil	89	47	0.10	BDL	BDL	19	BDL	70	BDL	Nil	Nil
Matrah	BWX-81	BDL	6.58	355	195	40	10	140	30	Nil	81	9	BDL	BDL	BDL	2.7	2	16	BDL	2	Nil
Miracle	BWX-82	BDL	7.08	352	194	28	7	100	70	Nil	52	28	0.15	BDL	BDL	5.4	1	30	BDL	Nil	Nil
Crystal Maya	BWX-83	BDL	6.99	322	177	16	23	135	25	Nil	12	12	0.09	BDL	BDL	1.7	2	97	BDL	Nil	Nil
Snow Drop	BWX-84	BDL	6.59	330	182	40	5	120	40	Nil	45	8	0.05	BDL	BDL	0.6	1	18	BDL	Nil	Nil
Best Water	BWX-85	BDL	6.65	573	315	28	19	150	110	Nil	72	58	0.13	BDL	BDL	4.8	BDL	49	0.4	Nil	Nil
Sea Breeze	BWX-86	BDL	6.59	365	201	40	10	140	40	Nil	71	19	BDL	BDL	BDL	1.7	2	18	BDL	30	Nil

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.

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