



Ground Water Quality Analysis Report- Post Monsoon (October 2024)																				Annexure-I														
Parameters	Date of Monitoring	Colour	Odour	Weather	Temp. (°C)	pH	Total Dissolved Solids (mg/L)	Electrical Conductivity(us/cm)	Chemical Oxygen Demand(mg/L)	Total Hardness(mg/L)	Calcium Hardness(mg/L)	Magnesium Hardness (mg/L)	Total Alkalinity(mg/L)	Chloride (mg/L)	Fluoride(mg/L)	Nitrate - N(mg/L)	Nitrite - N(mg/L)	Sulphate (mg/L)	Phosphate(mg/L)	Sodium(mg/L)	Potassium(mg/L)	Sodium Adsorption Ratio	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	Arsenic (mg/L)	Nickel (mg/L)	Copper (mg/L)	Mercury (mg/L)	Chromium (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Lead (mg/L)	Iron (mg/L)	
																																		Acceptable limit as per BIS IS 10500:2012
						6.5-8.5	500	N/A	N/A	200	75	30	200	250	1.00	45.00	N/A	200	N/A	N/A	N/A	N/A	NR	NR	0.01	0.02	0.05	0.001	N/A	0.003	5.00	0.01	0.30	
						NR	2000	N/A	N/A	600	200	100	600	1000	1.50	NR	N/A	400	N/A	N/A	N/A	N/A	NR	NR	0.05	NR	1.5	NR	N/A	NR	15	NR	NR	
						2.00	10 mg/l	05 µs/cm	05 mg/l	10 mg/l	5 mg/l	4 mg/l	5 mg/l	5 mg/l	0.2 mg/l	0.3 mg/l	0.02 mg/l	5 mg/l	0.2 mg/l	5 mg/l	1 mg/l	N/A	1.80	1.80	0.01	0.10	0.03	0.001	0.06	0.02	0.01	0.10	0.06	
S.No	Monitoring Location																																	
1	Handpump, near patrol pump,Joshimath	10/8/2024	Clear	Odourfree	Clear	19	7.56	88	140	BDL	62	49	13	78	14	BDL	BDL	BDL	7.99	BDL	10.12	2.69	0.56	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.18
2	Handpump, near Gopinath mandir, Gopeshwar	10/7/2024	Clear	Odourfree	Clear	20	7.10	140	217	BDL	99	78	21	90	21	0.20	BDL	0.14	8.36	BDL	19.89	8.90	0.87	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.26
District - Rudraprayag																																		
3	Handpump, near Mandhakini ghat,Auguestmuni	10/4/2024	Clear	Odourfree	Clear	21	7.35	69	104	BDL	111	97	14	119	12	0.26	BDL	BDL	8.20	BDL	5.00	1.16	0.2	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.35
4	Handpump, near Bus Stand, Rudraprayag town	10/3/2024	Clear	Odourfree	Clear	21	7.56	123	181	BDL	134	106	28	115	16	BDL	BDL	BDL	6.25	BDL	7.86	2.05	0.29	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.41
District - Uttarkashi																																		
5	Handpump near market,Chinyalisaur	10/10/2024	Clear	Odourfree	Clear	21	7.20	137	210	BDL	199	178	21	189	29	0.22	BDL	BDL	29.78	BDL	15.84	2.86	0.49	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.44
6	Handpump near market, Uttarkashi	10/9/2024	clear	Odourfree	Clear	20	7.56	145	223	BDL	125	111	14	126	24	BDL	BDL	0.21	49.88	0.20	14.90	5.20	0.58	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.51
District- Tehri																																		
7	Handpump, Bhagirathipurum, Tehri	10/14/2024	clear	Odourfree	Clear	21	7.48	182	273	BDL	153	140	13	146	16	BDL	BDL	BDL	13.79	BDL	20.96	3.57	0.73	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.33	0.35
8	Handpump, near Chamund, New tehri	10/14/2024	Clear	Odourfree	Clear	20	7.65	46	89	BDL	38	33	05	39	08	BDL	BDL	BDL	7.98	BDL	5.10	BDL	0.36	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.23
District - Pauri Garhwal																																		
9	Handpump near Devi Mandir, Kotdwar	10/19/2024	clear	Odourfree	Clear	21	7.52	281	419	5.20	250	225	25	258	29	0.28	BDL	BDL	16.76	BDL	13.94	1.48	0.38	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.40	BDL	0.71

S.No	Monitoring Location	Date of Monitoring	Colour	Odour	Weather	Temp. (°C)	pH	Total Dissolved Solids (mg/L)	Electrical Conductivity(us/cm)	Chemical Oxygen Demand(mg/L)	Total Hardness(mg/L)	Calcium Hardness(mg/L)	Magnesium Hardness (mg/L)	Total Alkalinity(mg/L)	Chloride (mg/L)	Fluoride(mg/L)	Nitrate - N(mg/L)	Nitrite - N(mg/L)	Sulphate (mg/L)	Phosphate(mg/L)	Sodium(mg/L)	Potassium(mg/L)	Sodium Adsorption Ratio	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	Arsenic (mg/L)	Nickel (mg/L)	Copper (mg/L)	Mercury (mg/L)	Chromium (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Lead (mg/L)	Iron (mg/L)	
10	Handpump near Hanuman Mandhir, Siggadi Industrial Area, Kotdwar	10/19/2024	clear	Odourfree	Clear	19	7.30	263	395	5.20	284	261	23	290	26	0.3	BDL	BDL	27.13	BDL	16.90	2.00	0.43	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.35	BDL	0.65	
District - Dehradun																																			
11	Handpump near Rusan Pharma, Pharma city, Selaqui,Dehradun	10/5/2024	clear	Odourfree	Clear	20	6.68	68	109	5.20	96	78	18	69	22	0.27	BDL	BDL	23.56	BDL	9.20	1.76	0.41	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.55
12	Handpump near Old Police Station, Selaqui, Industrial Area-1	10/5/2024	Clear	Odourfree	Clear	20	6.59	157	240	BDL	101	84	17	88	21	0.28	BDL	BDL	17.23	BDL	8.55	2.14	0.37	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.59
13	Handpump near Honeywell Pvt. Ltd., Selaqui, Industrial Area-2	10/5/2024	clear	Odourfree	Clear	21	6.96	56	93	BDL	91	76	15	71	29	0.26	BDL	BDL	16.88	BDL	9.23	2.68	0.42	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.63
14	MSW Landfill site, Sisambada,Dehradun-1 ,North side	10/5/2024	Clear	Odourfree	Clear	20	6.98	123	186	BDL	108	86	22	100	11	0.23	BDL	BDL	5.96	BDL	8.89	1.40	0.37	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.57
15	MSW Landfill site, Sisambada,Dehradun-1 ,South side	10/5/2024	Clear	Odourfree	Clear	20	6.85	124	184	5.20	115	91	24	120	13	0.28	BDL	BDL	6.16	BDL	9.56	1.53	0.39	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.63
District - Haridwar																																			
16	Handpump at CHC, Bhagwanpur Industrial Area - 1	10/21/2024	Clear	Odourfree	Clear	22.8	7.30	210	329	7	150	84	66	198	8	0.40	0.30	0.11	9.16	0.11	26.8	6.0	0.95	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.23	BDL	1.05
17	Handpump at Sikendarpur, Lakeshwari, Bhagwanpur Industrial Area- 2	10/21/2024	clear	Odourfree	Clear	22.5	7.66	199	312	6	178	90	88	200	5	0.20	0.38	0.12	8.96	0.22	22.8	4.5	0.74	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.16	BDL	0.91
18	Handpump at Ramnagar Roorkee Industrial Area -1	10/21/2024	Clear	Odourfree	Clear	23.4	7.14	186	292	6	198	118	80	220	10	0.24	0.1	0.06	8.10	0.32	21.9	6.2	0.68	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.23	BDL	0.84
19	Handpump at Village Sunhera, Roorkee Industrial Area - 2	10/21/2024	Clear	Odourfree	Clear	22.8	7.12	199	312	9	180	94	86	211	7	0.29	0.12	0.09	10.12	0.29	20.8	6.9	0.67	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.20	BDL	0.88
20	Handpump at Roshnabad, Collectorate, SIDCUL, Industrial Area - 1	10/21/2024	Clear	Odourfree	Clear	22.5	7.46	198	310	6	230	131	99	270	9	0.32	0.2	0.11	16.46	0.30	26.1	7.9	0.75	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.18	BDL	0.93
21	Handpump at Saleempur Mahdood Chowk, SIDCUL Industrial Area - 2	10/21/2024	Clear	Odourfree	Clear	23.5	7.18	206	322	9	198	103	95	250	9	0.29	0.41	0.22	12.61	0.29	20.5	8.5	0.63	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.16	BDL	1.03
22	Handpump near Municipal Solid Waste Landfill Site, Near Model Primary School, Sarai, Jawalapur Haridwar	10/21/2024	Clear	Odourfree	Clear	23.9	7.66	194	304	5	234	122	112	340	12	0.26	0.98	0.35	22.69	0.66	22.8	6.9	0.65	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.23	BDL	1.07

S.No	Monitoring Location	Date of Monitoring	Colour	Odour	Weather	Temp. (°C)	pH	Total Dissolved Solids (mg/L)	Electrical Conductivity(us/cm)	Chemical Oxygen Demand(mg/L)	Total Hardness(mg/L)	Calcium Hardness(mg/L)	Magnesium Hardness (mg/L)	Total Alkalinity(mg/L)	Chloride (mg/L)	Fluoride(mg/L)	Nitrate - N(mg/L)	Nitrite - N(mg/L)	Sulphate (mg/L)	Phosphate(mg/L)	Sodium(mg/L)	Potassium(mg/L)	Sodium Adsorption Ratio	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	Arsenic (mg/L)	Nickel (mg/L)	Copper (mg/L)	Mercury (mg/L)	Chromium (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Lead (mg/L)	Iron (mg/L)
23	Handpump near Municipal Solid Waste Landfill Site, Near Jhanda Chowk,Sarai, Jawalapur Haridwar	10/21/2024	Clear	Odourfree	Clear	22.5	7.82	249	390	10	250	132	118	310	10	0.35	1.09	0.55	23.66	0.58	21.8	9.6	0.60	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.20	BDL	1.07
District - Udham Singh Nagar																																		
24	Handpump at Santipuri Kiccha - 1, U.S. Nagar	10/8/2024	Clear	Odourless	Clear	27	6.98	251	419	BDL	192	127	65	185	12	0.54	0.78	0.01	25.89	0.19	4.2	0.5	0.13	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.35	BDL	0.90
25	Handpump at Santipuri Kiccha - 2, U.S. Nagar	10/8/2024	Clear	Odourless	Clear	26	7.36	210	348	BDL	188	144	44	135	19	0.46	0.87	0.01	22.17	0.20	5.4	0.8	0.17	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.16	BDL	0.86
26	Handpump at Pantnagar Industrial Area - 1, U.S. Nagar	10/8/2024	Clear	Odourless	Clear	26	7.14	258	428	BDL	205	162	43	215	13	0.39	0.24	0.00	13.35	0.20	5.8	1.2	0.18	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.13	BDL	0.78
27	Handpump at Pantnagar Industrial Area - 2, U.S. Nagar	10/8/2024	Clear	Odourless	Clear	26	7.17	228	381	BDL	198	139	59	145	21	0.58	0.92	0.01	17.06	0.25	8.3	1.1	0.26	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.19	BDL	0.93
28	Handpump near Sitarganj Industrial Area - 1, U.S. Nagar	10/8/2024	Clear	Odourless	Clear	27	6.77	498	823	BDL	318	247	71	265	48	0.44	ND	0.03	38.21	0.22	18.6	0.4	0.45	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.12	BDL	1.10
29	Handpump at Sitarganj Industrial Area - 2, U.S. Nagar	10/8/2024	Clear	Odourless	Clear	27	7.04	543	905	BDL	294	176	118	285	55	0.42	ND	0.01	56.95	0.66	55.8	8.2	1.41	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.36	BDL	0.91
30	Handpump near Gurudwara, Muradabad Road-1, Kashipur, U.S. Nagar	10/9/2024	Clear	Odourless	Clear	27	7.04	543	905	BDL	294	176	118	285	55	0.42	ND	0.01	56.95	0.66	55.8	8.2	1.41	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.82	BDL	0.88
31	Handpump near Govt Primary School, Muradabad Road-2 Kashipur, U.S. Nagar	10/9/2024	Clear	Odourless	Clear	26.00	7.48	352	582	BDL	122	95	27	245	7	0.48	ND	0.01	21.77	0.28	6.8	1.9	0.27	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.06	BDL	1.06
32	Handpump near I.G.L Lagoon, Chamalida (Damauda), Kashipur, U.S. Nagar	10/9/2024	Clear	Odourless	Clear	26	7.45	195	330	BDL	132	98	34	155	9	0.58	0.36	0.24	52.64	0.44	8.4	1.4	0.32	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.11	BDL	0.87
33	Handpump near Kendriya Vidyalaya, Bazpur Road-1, Kashipur, U.S. Nagar	10/9/2024	Clear	Odourless	Clear	27	7.37	235	387	BDL	184	128	56	190	13	0.51	0.42	ND	8.06	0.40	9.1	1.5	0.29	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.16	BDL	0.92
34	Handpump at Chaiti Chauraha, Bajpur Road-2, Kashipur, U.S. Nagar	10/9/2024	Clear	Odourless	Clear	28	7.10	390	642	BDL	268	196	72	275	17	0.32	0.45	0.08	17.38	0.21	21.5	1.8	0.57	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.46	BDL	0.64
35	Handpump at Industrial Area, Mahuakheraganj, Kashipur, U.S. Nagar	10/9/2024	Clear	Odourless	Clear	27	7.27	282	468	BDL	184	144	40	210	08	0.42	ND	0.01	8.48	0.41	22.5	1.6	0.72	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.08	BDL	0.83
36	Handpump near old Industrial Area, Kashipur near IGL, U.S. Nagar.	10/9/2024	Clear	Odourless	Clear	26	7.28	298	498	BDL	212	151	61	195	23	0.61	0.21	0.06	32.22	0.26	10.8	1.9	0.32	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.06	BDL	0.75
District - Pithoragarh																																		
37	Handpump at Pithoragarh Town near Chandrabhaga, Pithoragarh	10/22/2024	Handpump was dry																															
38	Handpump at Pithoragarh Town near Pithoragarh fort, Pithoragarh	10/22/2024	Handpump was dry																															
District - Almora																																		

S.No	Monitoring Location	Date of Monitoring	Colour	Odour	Weather	Temp. (°C)	pH	Total Dissolved Solids (mg/L)	Electrical Conductivity(µs/cm)	Chemical Oxygen Demand(mg/L)	Total Hardness(mg/L)	Calcium Hardness(mg/L)	Magnesium Hardness (mg/L)	Total Alkalinity(mg/L)	Chloride (mg/L)	Fluoride(mg/L)	Nitrate - N(mg/L)	Nitrite - N(mg/L)	Sulphate (mg/L)	Phosphate(mg/L)	Sodium(mg/L)	Potassium(mg/L)	Sodium Adsorption Ratio	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	Arsenic (mg/L)	Nickel (mg/L)	Copper (mg/L)	Mercury (mg/L)	Chromium (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Lead (mg/L)	Iron (mg/L)
39	Handpump near jai shri college, Khatyari, Almora	10/21/2024	Clear	Odourless	Clear	15	7.34	109	160	BDL	114	74	40	108	9	BDL	BDL	BDL	18.69	BDL	6.10	BDL	0.25	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.99	BDL	0.96
40	Handpump near Pataldevi, Almora	10/21/2024	Clear	Odourless	Clear	15	7.18	131	190	BDL	160	92	68	120	15	0.24	BDL	0.02	21.88	BDL	8.79	3.44	0.30	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.96	BDL	0.90
District - Nainital																																		
41	Handpump at Ramnagar Town near Govt PG College, Ramnagar	10/22/2024	Clear	Odourless	Clear	17	6.90	169	250	BDL	196	112	84	136	17	BDL	BDL	BDL	23.11	BDL	6.47	2.09	0.20	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.72	BDL	0.89
42	Handpump at Nainital Town near Sariyatal	10/22/2024	Clear	Odourless	Clear	14	7.37	135	190	BDL	116	70	46	90	11	BDL	BDL	BDL	23.89	BDL	14.96	6.49	0.60	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.68	BDL	0.83
District - Bageshwar																																		
43	Handpump near Kafilgair, Bageshwar	10/21/2024	Clear	Odourless	Clear	15	7.25	150	220	BDL	130	72	58	110	14	BDL	BDL	0.03	24.88	BDL	12.96	4.21	0.49	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.74	BDL	0.96
44	Handpump at Bageshwar Town - 2 near Roadways station, District-Bageshwar	10/21/2024	Clear	Odourless	Clear	16	7.78	121	180	BDL	92	60	32	84	10	0.24	BDL	BDL	18.14	BDL	10.11	2.50	0.45	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.99	BDL	0.93
District - Champawat																																		
45	Handpump near Shivmandir, Champawat	10/22/2024	Clear	Odourless	Clear	14	7.60	144	210	BDL	136	84	52	114	9	0.24	BDL	BDL	21.96	BDL	7.99	4.85	0.30	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.86	BDL	1.03
46	Handpump near Gas Station Lohaghat, Champawat	10/22/2024	Clear	Odourless	Clear	15	7.33	125	180	BDL	112	68	44	102	11	BDL	BDL	BDL	24.37	BDL	8.03	3.22	0.33	<1.8	<1.8	BDL	BDL	BDL	BDL	BDL	BDL	0.90	BDL	0.86

Note:

1. All values are in mg/L except Colour, Odour, Weather, Temperature(°C), pH, EC(µs/cm), SAR and TC, FC, FS (MPN Per 100 ml).
2. From Serial No 1 to 15 all parameters are tested/ analysed by Central Laboratory, Dehradun.
3. From serial no. 16 to 36, all the parameters (except Metal and Microbiological parameters)are tested/analysed by Regional OfficeRoorkee(Serial No. 16 to 23) and Kashipur Laboratories (Serial No. 24 to 36) .
4. From Serial no. 37 to 46 are all the parameters are tested/analysed by Regional Office Haldwani Laboratories except Spectrophotometer parameters, Microbial parameters and Metals parameters which are tested/analysed by Central Laboratory, Dehradun.

Abbreviations-

N/A= Not Applicable
BDL= Below Detection Limit

ND= Not Detected
NR= No Relaxation

NSL= No Specified Limit

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