Supplementary Material

Title: High content of boron in curative water: From the spa to industrial recovery of borates? (Poland as a case study)

Authors: Katarzyna Chruszcz-Lipska*, Bogumiła Winid, Gabriela Anna Madalska, Jan Macuda, Łukasz Łukańko

Table S1. Curative water and potentially curative water with concentration of boron above determination limit.

Location	Name of water intake	TDS	pH	Type of water	HBO_2 (mg/L)	B (mg/L)	Year od analysis	References
Andrzejówka	A-1	1881.50	6.40	HCO3-Mg-Na-Ca	1.80	0.44	2000	[1]
Andrzejówka	A-2	2850.40	6.50	HCO3-Mg-Na	3.72	0.92	2001	[1]
Andrzejówka	A-5	4933.80	6.20	HCO3-Na-Mg	2.04	0.50	2005	[1]
Andrzejówka	M-3	5837.80	6.50	HCO3-Mg-Ca	2.30	0.57	2003	[1]
Busko Zdrój	B-4b (Aleksander)	14624.00		Cl-Na	24.90	6.15	1991	[2]
Busko Zdrój	B-21 (Piotr)	7165.00	7.30	Cl-Na	7.25	1.79	2000	[2]
Busko	Dobrowoda G-1	14400.00	7.10	Cl-SO4-Na	14.27	3.52	2017	[3]
Busko	C-1	12415.00	7.40	Cl-Na	26.32	6.50	2009	[4]
Busko-Zdrój	B-8a (Michał)	12547.00		Cl-Na	28.40	7.01	1993	[2]
Busko-Zdrój	B-13 (Anna)	12348.00		Cl-Na	28.40	7.01	1993	[2]
Busko	B-20	12819.32	6.97	Cl-Na	17.60	4.35	2000	[5]
Busko-Zdrój	B-16 (Wiesława)	13789.00	7.00	Cl-Na	17.00	4.20	1993	[2]
Busko-Zdrój	B-15 (Henryk	22840.00		Cl-Na	44.60	11.01	1995	[2]
Busko Zdroj	B-19 Małgorzata	71937.00		Cl-Na	39.70	9.80	1999	[4]
Busko-Zdrój	B-17-Ignacy	14626.00		Cl-Na	17.60	4.35	1999	[4]
Busko	B-8b	12962.00		Cl-Na	14.80	3.65	1989	[4]
Busko	B-16a	13937.00		Cl-Na	15.30	3.78	1999	[4]
Ciechocinek	14 (Terma I)	43519.97	6.90	Cl-Na.I	32.45	8.01	2008	[6]

Ciechocinek	16 (Terma II)	65621.10	7.40	Cl-Na	38.90	9.60	1992	[7]
Ciechocinek	19a Krystyna	3277.27	7.05	Cl-Na	4.05	1.00	1975	[8]
Ciechocinek	11-Grzybek	47825.59	7.26	Cl-Na	75.40	18.62	1975	[8]
Cieplice Śląskie	Sobieski (No 2)	1046.51	7.10	HCO3-Cl-Na	0.30	0.07	1963	[9]
Cieplice Śląskie	Wacław	652.34	7.65	SO4-HCO3-Na	1.30	0.32	1963	[9]
Cieplice Śląskie	Basenowe męskie	607.53	7.90	SO4-HCO3-Cl-Na	0.80	0.20	1963	[9]
Cieplice Śląskie	Basenowe damskie	624.70	7.90	SO4-HCO3-Na	0.60	0.15	1963	[9]
Cieplice Śląskie	Nowe (nr 4)	643.83	7.80	SO4-HCO3-Na	0.80	0.20	1963	[9]
Cieplice Śląskie	Marysieńka	697.62	7.90	SO4-HCO3-Cl-Na	0.83	0.21	2018	[10]
Dębowiec	D-2	32398.37	6.72	Cl-Na	110.24	27.22	1975	[8]
Długopole	Emilia	870.04	5.70	HCO3-Ca-Mg	2.00	0.49	1975	[8]
Długopole	Kazimierz	892.48	5.70	HCO3-Ca-Mg	2.00	0.49	1975	[8]
Długopole	Renata	1290.60	5.70	HCO3-Ca-Mg	1.78	0.44	1975	[8]
Głębokie	Kinga 1	3079.20	6.40	HCO3-Na-Ca-Mg	9.20	2.27	2003	[1]
Goczałkowice	GN-1	75500.00	6.76	Cl-Na	12.90	3.19	2014	[11]
Goczałkowice	GN-2	60400.00	6.73	Cl-Na	16.90	4.17	2014	[11]
Goczałkowice	GN-21	79400.00	6.71	Cl-Na	11.90	2.94	2014	[11]
Gołdap	GZ-1	5482.24	7.60	Cl-Na	13.10	3.23	2017	[12]
Gołdap	GZ-2	1205.17	7.70	HCO3-Cl-Na	6.07	1.50	2017	[12]
Iwonicz	Zofia 6	11066.00	7.26	Cl-HCO3-Na	168.00	41.48	2016	[5]
Iwonicz	Klimkówka 27	12246.00	7.14	HCO3-Cl-Na	29.27	7.23	2016	[5]
Iwonicz	Lubatówka 12	19676.00	7.32	Cl-HCO3-Na	157.50	38.89	2016	[5]

Iwonicz	Iwonicz II	5551.52	7.16	Cl-HCO3-Na	93.90	23.19	2016	[5]
Iwonicz	Karol 2	1835.20	7.49	HCO3-Cl-Na	20.68	5.11	2007	[5]
Iwonicz	Lubatówka 15	15717.97	7.62	Cl-HCO3-Na	255.34	63.05	1979	[13]
Iwonicz	Elin 7	5800.97	6.97	Cl-HCO3-Na	94.10	23.23	2016	[5]
Iwonicz	Zofia 3	12263.53	7.60	Cl-HCO3-Na	226.97	56.04	1984	[13]
Iwonicz	Emma	5267.70	6.31	Cl-HCO3-Na	98.54	24.33	2015	[5]
Iwonicz	Klimkówka 25	912.36	7.92	HCO3-Cl-Na	17.83	4.40	1981	[13]
Iwonicz	Iza 19	712.90	7.04	HCO3-Na-Ca	8.91	2.20	2005	[5]
Jastrzębik	Jastrząb	1072.00	6.80	HCO3-Ca-Mg	0.26	0.06	2004	[1]
Jastrzębik	Pod Gruszą	2014.00	6.10	HCO3-Ca	0.24	0.06	2004	[1]
Jastrzębik	Pod Cerkwią	1287.00	6.30	HCO3-Ca	0.20	0.05	2005	[1]
Jastrzębik	G-7	4347.40	6.16	HCO3-Ca	0.97	0.24	2007	[1]
Jastrzębik	G-8	1249.00	5.80	HCO3-Ca-Mg	0.55	0.14	2008	[1]
Jastrzębik	G-10	2988.70	6.00	HCO3-Ca	0.41	0.10	2007	[1]
Jastrzębik	P-15	617.00	6.70	HCO3-Ca-Mg	0.30	0.07	2004	[1]
Kamień Pomorski	Edward III	34072.40	7.95	Cl-Na	26.33	6.50		[14]
Kamień Pomorski	Edward II	35016.54	6.35	Cl-Na	110.24	27.22	1975	[8]
Konstancin	Warszawa IG-1	62030.00	6.90	Cl-Na	34.87	8.61	2005	[15]
Kołobrzeg	Źródło 18	48997.01	6.32	Cl-Na	23.51	5.80	1975	[8]
Kołobrzeg	B-1 (Barnin)	55283.76	7.12	Cl-Na	58.35	14.41	1975	[8]
Krościenko	Stefan	7317.40	9.70	HCO3-Cl-Na	162.80	40.20	2003	[1]
Krościenko	Michalina	8558.50	6.50	HCO3-Cl-Na	233.30	57.60	2012	[1]
Krościenko	Maria	3041.40	6.30	HCO3-Cl- Ca-Na	49.40	12.20	2007	[1]
Krościenko	Dzikie	2600.00	6.20	HCO3-Cl-Ca-Na	32.70	8.07	2007	[1]
Krynica	Zdrój Główny	3434.00	6.00	HCO3-Ca	0.44	0.11	2005	[1]
Krynica	Słotwinka	3925.00	6.40	HCO3-Mg-Na-Ca	2.60	0.64	2007	[1]

Krynica	Pod Szalone	1247.00	5.90	HCO3-Ca-Mg	0.02	0.00	2005	[1]
Krynica	Józef	1115.50	5.80	HCO3-Ca	2.96	0.73	2005	[1]
Krynica	Jan A	604.70	5.90	HCO3-Ca-Mg	0.30	0.07	2007	[1]
Krynica	Jan B	622.20	5.90	HCO3-Ca	0.04	0.01	2008	[1]
Krynica	7	1322.00	6.10	HCO3-Ca-Mg	0.10	0.02	2005	[1]
Krynica	3	3868.00	6.40	HCO3-Ca-Mg	0.22	0.05	2007	[1]
Krynica	Mieczysław	4278.10	6.33	HCO3-Ca-Mg-Na	3.90	0.96	2005	[1]
Krynica	ST-1	4106.00	6.40	HCO3-Ca	0.25	0.06	2004	[1]
Krynica	P-12	3630.00	6.20	HCO3-Ca-Mg	1.90	0.47	2002	[1]
Krynica	P-13	1872.00	6.90	HCO3-Ca	0.64	0.16	2003	[1]
Krynica	Zuber I	22619.00	7.10	HCO3-Na	13.10	3.23	2007	[1]
Krynica	Zuber II	21045.00	6.90	HCO3-Na-Mg	13.00	3.21	2005	[1]
Krynica	Zuber III	25372.00	7,00	HCO3-Na	11.80	2.91	2007	[1]
Krynica	Zuber IV	27218.00	6.90	HCO3-Na	4.30	1.06	2005	[1]
Krynica	K-9	7573.50	9.50	HCO3-Mg-Na	9.10	2.25	2008	[1]
Krynica	źr. Wiaderko	1019.80	7.30	HCO3-Ca-Mg	0.17	0.04	2011	[1]
Krynica Morska	Krynica Morska IG-1	38252.77	7.50	Cl-Na	21.00	5.19	2016	[16]
Krzeszowice	Zdrój Główny_Ksz	2954.00	6.97	SO4-Ca-Mg	1.20	0.30	1999	[17]
Krzeszowice	Krzeszowice _R2	2677.00	6.90	SO4-Ca	0.73	0.18	1999	[17]
Krzeszowice	Krzeszowice _S2	2910.00		Cl-SO4-Na	5.10	1.26	1999	[17]
Kudowa-Zdrój	Moniuszko (2)	3057.63	6.10	HCO3-Ca	8.75	2.16	1975	[8]
Kudowa-Zdrój	Marchlewski (3)	1322.93	5.90	HCO3-Ca	4.05	1.00	1975	[8]
Kudowa-Zdrój	18	3501.09	6.30	HCO3-Ca	9.15	2.26	1975	[8]
Kudowa-Zdrój	K-200	3435.29	6.10	HCO3-Ca	8.18	2.02	1975	[8]
Las Winiarski	LW1	11000.00	7.26	Cl-Na	18.55	4.58	2006	[2]
Las Winiarski	LW 2	14067.00	6.80	Cl-Na	22.27	5.50	2011	[2]

Marusza	Grudziąc IG-1	79398.63	6.50	Cl-Na	73.60	18.17	2002	[18]
Mateczny	M-4	2845.09	7.25	SO4-Cl-Na-Ca-Mg	3.90	0.96	1996	([5])
Mateczny	M-3	3583.70	7.29	SO4-Cl-Na-Ca-Mg	5.09	1.26	1996	([5])
Mateczny	Geo-2A	1921.90	7.47	SO4-Cl-HCO3-Na	3.29	0.81	1996	([5])
Milik	K-1	7196.00	6.30	HCO3-Mg-Ca	4.46	1.10	2001	[1]
Milik	M-2	3612.00	6.20	HCO3-Mg-Ca	1.72	0.42	2004	[1]
Milik	M-4	3205.00	7.10	HCO3-Mg-Ca	1.80	0.44	2008	[1]
Milik	M-6	3751.00	6.20	HCO3-Ca-Mg	0.54	0.13	2004	[1]
Milik	M-9	3889.00	6.20	HCO3-Ca-Mg	0.67	0.17	2004	[1]
Milik	O-1	2362.80	6.10	HCO3-Ca-Mg	0.90	0.22	2009	[1]
Milik	źr Kazimierz	1020.00	6.50	HCO3-Ca	0.23	0.06	2005	[1]
Muszyna	P-1	615.00	6.20	HCO3-Ca-Mg	0.40	0.10	2008	[1]
Muszyna	P-2	1845.00	6.60	HCO3-Mg-Ca	2.00	0.49	2008	[1]
Muszyna	P-3	6040.00	6.30	HCO3-Mg-Ca	6.90	1.70	2003	[1]
Muszyna	Stanisław	2733.00	6.20	HCO3-Ca	0.53	0.13	2008	[1]
Muszyna	Józef	1202.00	6.30	HCO3-Ca-Mg	0.50	0.12	2008	[1]
Muszyna	Piotr	2744.00	6.30	HCO3-Ca-Mg	1.40	0.35	2002	[1]
Muszyna	Milusia	2921.00	6.30	HCO3-Mg-Ca-Na	2.40	0.59	2004	[1]
Muszyna	Anna	1667.00	5.80	HCO3-Ca-Mg	0.30	0.07	2005	[1]
Muszyna	W-1	1669.00	6.00	HCO3-Ca-Mg	1.50	0.37	2001	[1]
Muszyna	W-3	2305.00	6.50	HCO3-Mg-Ca	2.30	0.57	2001	[1]
Muszyna	IN-1	5164.00	6.60	HCO3-Mg-Na	2.30	0.57	2001	[1]
Muszyna	IN-2	5840.00	6.50	HCO3-Mg-Ca-Na	4.40	1.09	2001	[1]
Muszyna	IN-3	3509.00	6.70	HCO3-Mg-Ca	3.30	0.81	2003	[1]
Muszyna	Łukasz	722.70	6.40	HCO3-Ca-Mg	0.50	0.12	2008	[1]
Muszyna	Antoni	8245.00	6.30	HCO3-Mg	8.00	1.98	2002	[1]
Muszyna	WK+1	4106.00	6.40	HCO3-Ca-Mg	0.73	0.18	2005	[1]

Nałęczów	Miłość	674.79	7.14	HCO3-Ca	0.29	0.07	1975	[8]
Nałęczów	Nadzieja	585.96	7.20	HCO3-Ca	0.24	0.06	1975	[8]
Nałęczów	Celińskiego (Żelaziste)	710.65	6.99	HCO3-Ca-Mg	0.18	0.04	1975	[8]
Piwniczna	P-1	1940.80	6.00	HCO3-Ca-Mg	2.00	0.49	2005	[1]
Piwniczna	P-2	2903.50	5.90	HCO3-Ca-Mg	4.20	1.04	2005	[1]
Piwniczna	P-5	1240.22	6.40	HCO3-Ca-Mg	0.70	0.17	2007	[1]
Piwniczna	P-6	1151.90	6.50	HCO3-Ca-Mg	0.80	0.20	2007	[1]
Piwniczna	P-7	5360.80	6.50	HCO3-Mg-Na-Ca	5.50	1.36	2005	[1]
Piwniczna	P-8	6612.80	6.50	HCO3-Na-Mg	5.30	1.31	2007	[1]
Piwniczna	P-9	2858.80	6.20	HCO3-Ca-Na-Mg	2.30	0.57	2005	[1]
Piwniczna	P-11	1181.30	6.70	HCO3-Ca-Mg	0.90	0.22	2007	[1]
Piwniczna	P-14	978.30	6.35	HCO3-Ca	0.71	0.18	2009	[1]
Piwniczna	P-16	2416.00	6.30	HCO3-Mg-Na-Ca	2.50	0.62	2011	[1]
Piwniczna	P-17	1888.20	6.05	HCO3-Ca-Mg-Na	3.00	0.74	2012	[1]
Piwniczna	P-18	3160.00	6.23	HCO3-Ca-Na-Mg	2.86	0.71	2012	[1]
Piwniczna	Studnia Jakuba	2591.50	6.60	HCO3-Ca-Mg-Na	1.90	0.47	2004	[1]
Polańczyk	IG-I	2245.37	8.42	HCO3-Na.	11.81	2.92	2015	[5]
Polańczyk	IG-2	9025.73	7.66	Cl-HCO3-Na.	35.34	8.73	2015	[5]
Połczyn	IG-1	75468.99	7.15	Cl-Na	62.00	15.31	1975	[8]
Powroźnik	G-1	2049.00	6.00	HCO3-Ca	1.00	0.25	2004	[1]
Powroźnik	G-2A	2515.00	5.90	HCO3-Ca-Na-Mg	2.60	0.64	2004	[1]
Powroźnik	G-3	2560.00	6.00	HCO3-Ca-Mg-Na	4.00	0.99	2004	[1]
Powroźnik	P-I	2432.00	6.10	HCO3-Ca	1.50	0.37	2008	[1]
Powroźnik	P-III	225.00	6.20	HCO3-Ca	1.10	0.27	2008	[1]
Powroźnik	P-16	2177.30	7.30	HCO3-Ca	0.73	0.18	2003	[1]
Powroźnik	P-9	5662.00	6.80	HCO3-Na-Ca-Mg	6.60	1.63	2001	[1]
Powroźnik	P-10	5059.00	7.00	HCO3-Ca-Mg-Na	3.80	0.94	2001	[1]

Powroźnik	P-Via	87.00	6.60	HCO3-Mg-Ca	0.66	0.16	2005	[1]
Powroźnik	P-VIIIa	1703.00	6.40	HCO3-Ca-Mg-Na	2.50	0.62	2005	[1]
Powroźnik	źr Trzech Króli	1587.00	5.90	HCO3-Ca-Mg	1.30	0.32	2003	[1]
Rabe	IG-1	3531.83	6.55	HCO3-Cl-Na	55.51	13.71	2001	[5]
Rabe	Rabe 1	5002.95	6.68	HCO3-Cl-Na	91.69	22.64	2010	[5]
Rabe	źr. Anna	1732.07	6.44	HCO3-Cl-Na.	20.72	5.12	2001	[5]
Rabe	źr. Ignacy	1000.00	6.30	HCO3-Cl-Na	16.90	4.17	1998	[1]
Rabka	Krakus	24806.64	7.53	Cl-Na	418.07	103.23	2011	[19]
Rabka	Rafaela	24138.00	6.60	Cl-Na	522.80	129.09	2011	[19]
Rabka	Warzelnia	9101.54	7.81	Cl-Na	195.90	48.37	2008	[5]
Rabka	Bolesław	23219.00	6.50	Cl-Na	483.90	119.48	2011	[19]
Rabka	Helena	17924.17	8.46	Cl-Na	133.17	32.88	2008	[5]
Rabka	Rabka 18	25504.95	7.40	Cl-Na	440.78	108.83	2008	[5]
Rabka	Rabka 19	19765.74	7.85	Cl-Na	210.37	51.94	2008	[5]
Rabka	Rabka IG-1	21993.20	6.50	Cl-Na	339.20	83.75	2011	[19]
Rabka	Rabka IG-II	25596.12	7.50	Cl-Na	547.43	135.17	2008	[5]
Rabka	Rabka 16	17314.41		Cl-Na	55.51	13.71	1963	[20]
Rymanów	RZ-1	22643.00	7.11	Cl-Na	208.10	51.38	2007	[5]
Rymanów	RZ-5	6152.00	7.61	HCO3-Cl-Na	97.80	24.15	2018	[5]
Rymanów	Jan	1714.00	7.10	HCO3-Cl-Na-Ca	32.68	8.07	2016	[5]
Rymanów	RZ-2	927.00	7.52	HCO3-Cl-Na	128.10	31.63	2017	[5]
Rymanów	Ignacy	4312.00	6.95	Cl-HCO3-Na	101.82	25.14	2018	[5]
Rymanów	RZ-4 (IG-1)	6466.00	7.14	Cl-HCO3-Na	126.60	31.26	2018	[5]
Rymanów	RZ6	6126.00	6.95	Cl-HCO3-Na	102.71	25.36	2017	[5]
Rymanów	RZ-7	2678.77	6.96	Cl-HCO3-Na	58.39	14.42	2015	[5]
Rymanów	Celestyna	8207.00	6.67	Cl-HCO3-Na	162.67	40.17	2018	[5]
Rymanów	Klaudia	7724.00	6.44	Cl-HCO3-Na	157.42	38.87	2018	[5]

Rymanów	Tytus	7981.00	6.42	Cl-HCO3-Na	146.43	36.16	2017	[5]
Rymanów	Basenowe	7446.00	6.38	Cl-HCO3-Na	140.38	34.66	2011	[5]
Solec - Zdrój	Szyb Solecki	20346.58	7.05	Cl-Na	16.20	4.00	1975	[8]
Solec - Zdrój	Solec II Karol	17840.86	7.33	Cl-SO4-Na	17.35	4.28	1975	[8]
Solec	Solec 2-B	16574.00		Cl-SO4-Na	15.00	3.70	1975	[21]
Sopot	Sopot IG 1	42500.00		Cl-Na	59.10	14.59	before 1974	[22]
Swoszowice	źródło Główne	2635.00	6.69	SO4-HCO3-Ca-Mg	1.50	0.37	1996	[5]
Swoszowice	Napoleon	2757.68	6.7	SO4-HCO3-Ca-Mg	2.02	0.50	1975	[8]
Szczawa	Szczawa I	17287.00	6.63	HCO3-Cl-Na	494.00	121.98	2006	[5]
Szczawa	Szczawa II	22227.00	6.73	HCO3-Cl-Na	459.00	113.33	2006	[5]
Szczawa	Dziedzilla	5135.70	6.3	HCO3-Cl-Na	145.00	35.80	2007	[1]
Szczawa	Hanna	5460.00	6	HCO3-Cl-Na	190.90	47.14	2007	[1]
Szczawa	Krystyna	12691.00	6.7	HCO3-Cl-Na	227.00	56.05	1983	[1]
Szczawa	Tereska	3394.40	6.9	HCO3-Cl-Na-Ca	61.70	15.23	2003	[1]
Szczawa	Gardonie	1206.4	6.9	HCO3-Cl-Na	11.50	2.84	2003	[1]
Szczawnica	Eskulap	1492.00	6.83	HCO3-Cl-Ca-Na	11.44	2.82	2001	[5]
Szczawnica	Magdalena	25849.00	6.79	HCO3-Cl-Na	599.30	147.98	2006	[5]
Szczawnica	Szymon	2462.00	6	HCO3-Cl-Na-Ca	41.90	10.35	2006	[5]
Szczawnica	Wanda (d. Helena)	6707.00	6.49	HCO3-Cl-Na	144.00	35.56	2005	[5]
Szczawnica	Stefan	3873.00	6.13	HCO3-Cl-Na-Ca	61.80	15.26	2005	[5]
Szczawnica	Stefan II (d.Dzikie)	6913.00	6.09	HCO3-Cl-Na	192.00	47.41	1975	[8]
Szczawnica	Józefina	4404.04	6.49	HCO3-Cl-Na	61.27	15.13	1998	[5]
Szczawnica	Józef (B-4)	11722.00	6.3	HCO3-Cl-Na	268.20	66.22	2006	[5]
Szczawnica	Jan	4182.00	6.22	HCO3-Cl-Na	96.00	23.70	2005	[5]
Szczawnica	Pitoniakówka BCDG	2222.00	6.12	HCO3-Cl-Na	44.10	10.89	2005	[5]

Szczawnica	Pitoniakówka F	3107.00	5.97	HCO3-Cl-Na	77.20	19.06	2005	[5]
Szczawnica	PD-4	1256.00	6.91	HCO3-Na-Ca	19.00	4.69	1998	[5]
Szczawnica	Wójcikowka	3929.70	6.7	HCO3-Cl-Na	93.40	23.06	2007	[1]
Szczawnik	Źr za Cerkwią	2390.00	6.2	HCO3-Na-Ca	3.10	0.77	2008	[1]
Szczawnik	CS-1 Karol	1705.00	6.2	HCO3-Ca-Mg	2.50	0.62	2003	[1]
Szczawnik	SL-3	1273.00	6.3	HCO3-Ca-Mg	1.50	0.37	2005	[1]
Szczawno-Zdrój	Mieszko	3203.19	7.1	HCO3-Na	2.19	0.54	1975	[8]
Szczawno-Zdrój	Dąbrówka	2126.77	6.9	HCO3-Na	2.67	0.66	1975	[8]
Szczawno-Zdrój	Marta	2573.54	6.5	HCO3-Na	3.06	0.76	1975	[8]
Szczawno-Zdrój	Młynarz	2409.58	7.3	HCO3-Na	2.35	0.58	1975	[8]
Świeradów	Górne zbiorcze	612.30	5.3	HCO3-Ca-Mg	2.67	0.66	1975	[8]
Świeradów	Zofia	1000.67	5.4	HCO3-Ca-Mg	1.62	0.40	1975	[8]
Świnoujscie	Jantar (nr 5)	41555.20	7.35	Cl-Na	14.34	3.54	1975	[8]
Świnoujscie	nr 6 (Teresa)	44565.28	7.6	Cl-Na	13.36	3.30	1975	[8]
Tylicz	Zdrój Główny	2665.00	6.1	HCO3-Ca-Mg	1.60	0.40	2007	[1]
Tylicz	Lisa	1112.90	6	HCO3-Ca-Mg	0.36	0.09	2011	[1]
Tylicz	Bradowiec	2912.00	6.2	HCO3-Ca	1.90	0.47	2005	[1]
Tylicz	Syhowne	3010.00	6.3	HCO3-Ca	1.20	0.30	2004	[1]
Ustka	Ustka IGH-1	34349.71	7.1	Cl-Na	16.8	4.15	2008	[23]
Wieliczka	WVII-16	220115.02	6.87	Cl-Na	14.7	3.63	2000	[24]
Wieliczka	WVI-32	65725.08	6.89	Cl-Na	23.09	5.70	2000	[24]
Wieniec Zdród	3E	3600.00	6.83	SO4-Cl-Ca-Na	3.50	0.86	1975	[8]
Wojkowa	S-4	3440.00	6.2	HCO3-Na-Mg-Ca	10.50	2.59	2010	[1]

Wysowa	Bronisław	2581.00	5.94	HCO3-Cl-Na	43.90	10.84	2011	[5]
Wysowa	Aleksandra	23751.00	6.89	HCO3-Cl-Na	760.00	187.65	2017	[5]
Wysowa	Józef I	2276.00	6.06	HCO3-Cl-Na-Ca	55.10	13.60	2011	[5]
Wysowa	W-24	2167.00	5.86	HCO3-Cl-Na	38.84	9.59	2016	[5]
Wysowa	Słone	1703.00	5.79	HCO3-Na-Ca	37.60	9.28	2011	[5]
Wysowa	W12 Władysław	4104.00	6.14	HCO3-Cl-Na-Ca	89.90	22.20	2016	[5]
Wysowa	Józef II	4991.00	6.23	HCO3-Cl-Na	150.60	37.19	2011	[5]
Wysowa	W11_Henryk	5225.00	6.46	HCO3-Cl-Na	177.70	43.88	2011	[5]
Wysowa	W-15	6166.00	6.34	HCO3-Cl-Na	197.00	48.64	2011	[5]
Wysowa	W-13 Anna	11715.00	6.53	HCO3-Cl-Na	367.00	90.62	2011	[5]
Wysowa	W-14 (Franciszek)	14448.00	6.72	HCO3-Cl-Na	448.50	110.74	2017	[5]
Wysowa	W-16	6523.00	7.2	HCO3-Cl-Na	170.10	42.00	2008	[5]
Wysowa	R-3	6325.90	6.42	HCO3-Ca	8.11	2.00	2008	[5]
Wysowa	R-4	1845.05	7.8	HCO3-Cl-Na	65.29	16.12	2002	[5]
Zabłocie	Korona	43560.43	6.75	Cl-Na	87.54	21.61	1975	[8]
Złockie	Oddech Diabła	1127.90	5.9	HCO3-Ca	0.19	0.02	2005	[1]
Złockie	Na Mokradłach	1174.00	6	HCO3-Ca-Mg	1.40	0.35	2004	[1]
Złockie	Bulgotka	1196.00	6	HCO3-Ca	0.02	0.00	2005	[1]
Złockie	Zatopione	1982.00	6	HCO3-Ca	0.60	0.15	2005	[1]
Złockie	Złockie 6	20598	6.9	HCO3-Mg-Na	36.50	9.01	2001	[1]
Złockie	Złockie 8	1128.00	5.9	HCO3-Ca-Mg	1.30	0.32	2008	[1]
Złockie	Złockie 9	25008.00	6.9	HCO3-Na-Mg	56.70	14.00	1972	[1]
Zubrzyk	Z-2	1873.00	6.1	HCO3-Ca-Mg-Na	2.54	0.63	2008	[1]
Zubrzyk	Z-3	13245.00	6.67	HCO3-Na-Mg	43.30	10.69	2012	[1]
Żegiestów	Anna	2568.10	6.1	HCO3-Ca-Mg	0.41	0.10	2008	[1]
Żegiestów	Zofia II	5136.00	6.3	HCO3-Na-Mg-Ca	7.00	1.73	2008	[1]

1. Rajchel, L. *Carbonated waters and waters containing carbon dioxide of the Polish Carpathians* **2012.** Wydawnictwa AGH, Kraków. [in Polish]
2. Lisik R. (ed). *Sulphide waters in the Busko-Zdrój region*. 2010, Wydawnictwo XYZ [in Polish]
3. CCHP- Certificate confirming healing properties of waters Dobrowoda G-1 http://wlokniarz.pl/opis-wody-leczniczej] [3.11.2020]
4. Lisik R., Szczepański A. (ed) *Sulphide curative waters in a part of the Carpathian Foredeep*, 2014, Wyd. POSTERIS, Kielce
5. Lewkiewicz- Małysa A., Roszczynialska K., Physico-chemical analyzes of curative waters from Busko, Iwonicz, Mateczny (Kraków), Polańczyk, Rabe, Rabka, Rymanów, Szczawa, Szczawnica, Wysowa (unpublished).
6. CCHP- Certificate confirming healing properties of waters Ciechocinek 14 http://www.sanatoriumchemik.pl/solanka.htmlv[3.11.2020]
7. Paczyński, B., Płochniewski, Z. *Mineral and curative waters of Poland*. 1996. Państwowy Instytut Geologiczny, Warszawa. [in Polish]
8. Jarocka, A. (ed.). Physical and chemical analyzes of curative waters, table waters and therapetic mud. *Problemy Uzdrowiskowe* **1976**, 9/12, 31–429. [in Polish]
9. Szmytówna, M. (ed.). *Balneochemistry - chemistry of mineral waters and peloids in Poland* 1970. Państwowy Zakład Wydawnictw Lekarskich, Warszawa. [in Polish]
10. CCHP- Certificate confirming healing properties of waters :Marysieńka Available online: URL https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwi8_cXksufsAhXBwosKHRpaArwQFjAAegQIAhAC&url=http%3A%2F%2Fbip.jeleniagora.pl%2Fattachments%2Fdownload%2F17112&usg=AOvVaw3WBbybH5cH7-w5Ask1jZtU [3.11.2020]
11. Dembska-Sięka, P. Therapeutic waters in Goczałkowice-Zdrój spa – its occurrence and usage, *Przegląd Geologiczny***, 2015**, 63(10/1), 672-677.[in Polish with English abstract]
12. CCHP- Certificate confirming healing properties of waters –Gołdap (unpublished)
13. Spa archives of Iwonicz-Zdrój (unpublished),
14. Rasała, M., Krawiec, A. Changes of chemical composition and genesis of the healing waters of Kamień Pomorski in the perspective of multi-year. *Biuletyn Państwowego Instytutu Geologicznego* **2011**, 445, 561–572. [in Polish with English abstract]
15. Dowgiałło, J., Kaczor, D., Porowsk,i A. Thermal Brines of the Polish Lowlands in the Light of Latest Investigations. In: Szczepański, A., Kmiecik, E., Żurek, A. (ed.), *Współczesne Problemy Hydrogeologii* 2007., XIII(1) 52-63. [in Polish with English abstract]
16. CCHP- Certificate confirming healing properties of waters Krynica Morska IG-1. Available online: URL http://www.krynicamorska.tv/media/imgs/podstrony/file/pliki_do_pobrania/2016/swiadectwa/swiadectwo_wody.pdf [3.11.2020]
17. Motyka, J., Porwisz, B., Rajchel, L., Zuber, A.. Mineral waters of Krzeszowice. In: Piekarek, Jankowska, H., Jaworska-Szulc, B. (ed.), *Współczesne Problemy Hydrogeologii*, 2003,XI, 1., Gdańsk, 129–135. [in Polish with English abstract]
18. Grudziądz IG 1, Profiles of Deep Boreholes 129, 2011, PIG, [in Polish]
19. Rajchel, L., Czop, M., Hydrogeochemical mod el ling of chloride mineral water from Rabka spa (Carpathian Mountains, Poland), *Geological Quaterly*, **2012**, 56(4), 681–690.
20. Dowgiałło, J., Karski, A., Potock, I. *Geology of balneological resources*. 1969. Wydawnictwa Geologiczne, Warszawa.
21. Zuber, A., Weise, S.M., Osenbrück, K., Mateńko T. Origin and age of saline waters in Busko Spa (Southern Poland) determined by isotope, noble gas and hydrochemical methods: evidence of interglacial and pre-Quaternary warm climate recharges. *Applied Geochemistry*. **1997**, 12, 643-660.
22. Płochniewski, Z. Mineral waters in Sopot. *Przegląd Geologiczny* **1974**.22(7), 315–318. [in Polish with English abstract]
23. CCHP (Ustka) - Certificate confirming healing properties of waters. Available online: URL http://www.ustka.pl/pl/artykul/27/160/operat-uzdrowiska-ustka [2.11.2020]
24. Winid B., 2003. Brine leaks related to the salt deposits and the importance of the analysis of their parameters in observation hydrogeological conditions on the example of Wieliczka Salt Mine. Ph.D. thesis, Department of Drilling, Oil and Gas. AGH, Kraków, 255 pp. [in Polish]