

Reykjavík Energy

2023 Annual Report

Appendices



Water utilities and water protection issues



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Cover photo: Íris Eva Einarsdóttir

Reykjavik Energy and subsidiaries' area of operations



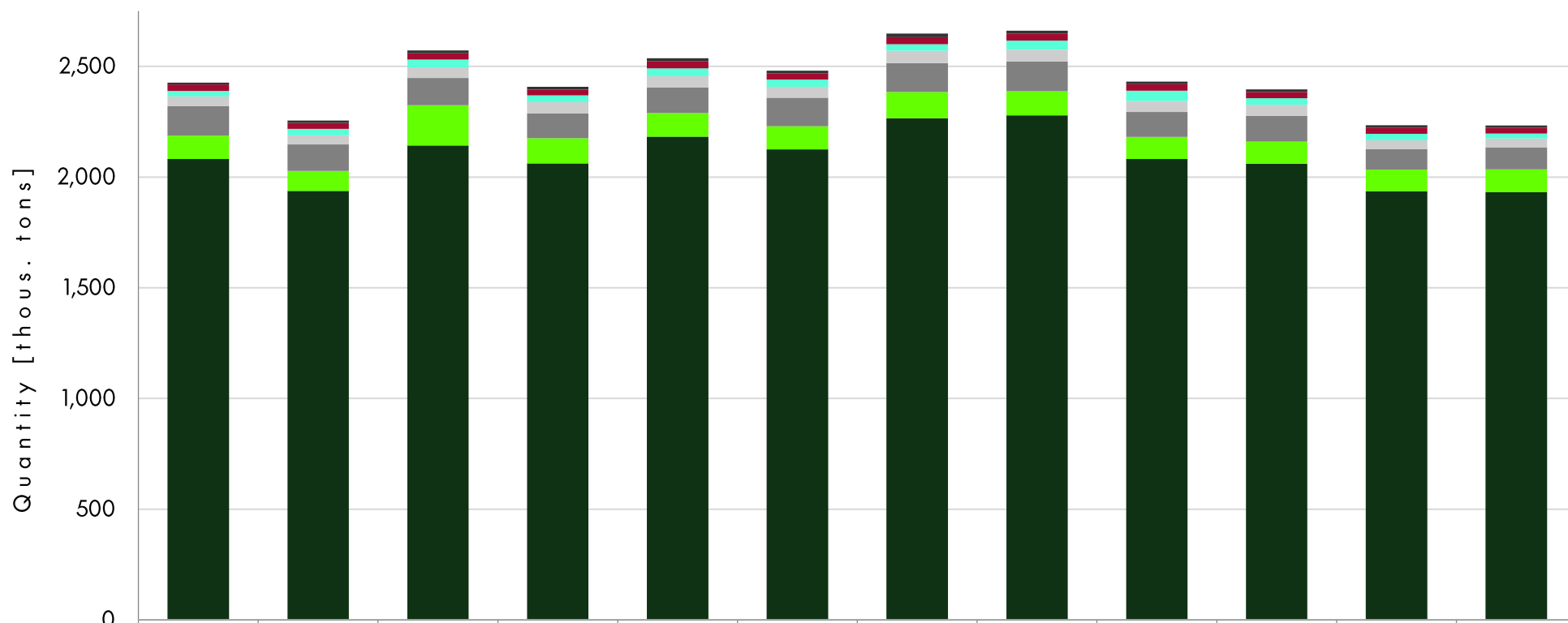
Water utilities of Veitur Utilities and ON Power

The water utilities of Veitur Utilities and ON Power and information on the supervisory procedures applied to the water situation in each area, water volume, comments and improvements.

VEITUR'S WATER UTILITIES							
AREA	UTILITY	WATER SUPPLY	MONITORING METHOD	ANNUAL PRODUCTION		COMMENTS	IMPROVEMENTS
				thous. tons	l/s		
Capital area	Reykjavik Seltjarnanes Mosfellsbaer	Gvendarbrunnar, Myllulaekur and Vatnsendakriki	Well sampling	24,651	782	UV purification of water from Gvendarbrunnar, Jadar area og Myllulaekur.	A chemical surveillance unit monitors chemical concentrations in the water that could increase due to volcanic eruptions on the Reykjanes peninsula or wildfires in Heidmork.
	Alftanes	Vatnsendakriki	Well sampling	433	14	Water purchased from Gardabaer.	
	Akranes	Berjadalur, Slaga and Os utility	Overflow	1,328	42	UV water purification.	Work in progress for improvements in water production
West Iceland	Borgarnes, Bifrost and Munadarnes	Grabrok, Seleyri as back-up for Borgarnes	Well sampling	1,421	45	UV water purification.	Seismic activity on Reykjanes peninsula and intense precipitation- and snow melting events can cause increased turbidity. This issue is being analysed to find ways to improve water quality.
	Grundarfjordur	Grund	Well sampling	382	12	UV water purification.	
	Hvanneyri	Fossamelar	Overflow	51	2		A new UV unit has been purchased and will be installed in a new pumping station under construction.
	Reykholt and Kleppjarnsreykir	Steindorsstadir	Well sampling	366	12	UV water purification. Water level unusually low in January.	
	Stykkisholmur	Svelgsarhraun	Overflow	348	11	UV water purification.	
South Iceland	Hlidarveita	Bjarnarfell	Overflow	144	5	Blaskogabyggd is unable to provide water to OR in case of shortages	
ON POWER'S WATER UTILITIES							
AREA	UTILITY	WATER SUPPLY	MONITORING METHOD	ANNUAL PRODUCTION		COMMENTS	IMPROVEMENTS
				thous. tons	l/s		
Hengill	Hellisheidi Nesjavellir	Engidalur Gramelur	Well sampling Tank sampling	82,624	2,620	Thermal pollution at Nesjavellir	Actions were taken to substantially reduce thermal pollution at Nesjavellir. Awaiting results.

Water extraction per month in the distribution areas of Veitur Utilities in 2023

Granting everyone access to healthy potable water with negligible outages is one of the prerequisites for a healthy population and flourishing economic activity in a modern society, see the sustainable development goals of the United Nations.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
■ Hlid utility	8	11	12	13	13	12	16	14	12	11	11	11
■ Stykkisholmur	30	27	29	26	33	28	32	31	30	29	28	26
■ Grundarfjardur	24	28	35	30	35	33	29	41	47	29	29	22
■ Rural Borgarfjardur	44	41	48	50	50	49	56	53	50	50	41	41
■ Borgarnes	133	120	124	113	116	128	131	135	112	117	92	99
■ Akranes	105	91	181	113	108	105	118	108	100	100	97	104
■ Capital area	2,082	1,937	2,143	2,062	2,182	2,125	2,266	2,279	2,081	2,060	1,937	1,931

Microbes and chemical composition of potable water in the capital area in 2023

Reykjavik's Department of Environment and Planning (RDEP) regularly collects samples to monitor water quality. Samples are also collected for a complete chemical composition analysis.

Microbe analysis

Microbial properties	Unit	Max. recommended value	Lab	Well VK-01, Vatnsenda-krikar	Well V-12, Myllulaekur	Well V-01, Jadar area	Vidines	Well VK-2 Vatnsenda-krikar	Well V-23, Gvendar-brunnar	Well V-04 Jadarvaedi	RDEP microbial samples
Total number of microbes	Number			1	1	1	1	1	1	1	112
Total microbes 22°C	Average	100/ml	MATÍS	0	0	0	0	0	1	0	0.24
	Highest value	100/ml	MATÍS	0	0	0	0	0	1	0	7
	Lowest value	100/ml	MATÍS	0	0	0	0	0	1	0	0
Escherichia coli (E. Coli)	Average	0/100 ml	MATÍS	0	0	0	0	0	0	0	0
	Highest value	0/100 ml	MATÍS	0	0	0	0	0	0	0	0
	Lowest value	0/100 ml	MATÍS	0	0	0	0	0	0	0	0
Enterococci	Average	0/100 ml	MATÍS	0	0	0	0	0	0	0	0.01
	Highest value	0/100 ml	MATÍS	0	0	0	0	0	0	0	1
	Lowest value	0/100 ml	MATÍS	0	0	0	0	0	0	0	0

Chemical composition of potable water

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Well VK-01, Vatnsenda-krikar	Well V-12, Myllulaekur	Well V-01, Jadar area	Vidines	Well VK-2, Vatnsenda-krikar	Well V-23, Gvendar-brunnar	Well V-04, Jadarvaedi
Sample no.					R23-0981-1	R23-0981-2	R23-0981-3	R23-2551-1	R23-2443-1	R23-2443-2	R23-2443-3
Date					9.5.2023	9.5.2023	9.5.2023	30.10.2023	17.10.2023	17.10.2023	17.10.2023
Colour of sample	mgPt/l			ALS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Turbidity	NTU	adequate	(1)	MATÍS	0.5	0.4	0.1	0.3	0.6	0.9	<0.10
Temperature	°C	25		MATÍS	5.1	3.8	4.0	10.3	4.0	3.9	4.2
Acidity (pH)	pH unit			MATÍS	8.8	9.1	9.2	9.2	8.9	8.5	9.1
Conductivity	µS/cm	2,500		MATÍS	85.0	96.0	99.0	95.0	82.0	96.0	96.0
Chloride (Cl)	mg/l	250		ALS	9.6	10.4	11.2	11.5	9.2	12.0	10.9
Sulphate (SO4)	mg/l	250		ALS	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Fluoride (F)	mg/l	1,5		ALS	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Nitrate (NO3)	mg/l	50		ALS	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Nitrite (NO2)	mg/l	0.5		ALS	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ammonium (NH4-N)	mg/l	0.5		ALS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
TOC	mg/l	no abnormal changes		ALS	<0.50	0.7	0.8	<0.50	<0.50	<0.50	<0.50
Calcium (Ca)	mg/l	100	(3)	ALS	5.08	4.95	4.58	5.03	5.15	4.64	4.72
Iron (Fe)	mg/l	0.2		ALS	0.0013	0.000535	<0.0004	0.0418	0.00049	0.00377	0.00222
Potassium (K)	mg/l	12	(3)	ALS	0.448	<0.4	<0.4	<0.4	0.458	0.435	<0.4
Magnesium (Mg)	mg/l	50	(3)	ALS	0.884	0.58	0.767	0.827	0.862	1.21	0.853
Sodium (Na)	mg/l	200		ALS	9.7	12.7	12.9	13.4	10.7	13.4	13.6
Sulphur (S)	mg/l		(4)	ALS	0.71	0.724	0.748	0.843	0.684	0.783	0.727
Silica (Si)	mg/l		(4)	ALS	6.58	6.22	6.41	7.34	6.79	6.61	6.59
Aluminium (Al)	µg/l	200		ALS	21.3	11.3	22.4	16.3	20.5	15.4	21.4
Arsenic (As)	µg/l	10		ALS	0.0521	0.0679	0.075	0.0664	0.0525	<0.05	0.0565
Boron (B)	µg/l	1,000		ALS	<10	<10	<10	<10	<10	<10	<10

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Well VK-01, Vatnsenda-krikar	Well V-12, Myllulaekur	Well V-01, Jadar area	Vidines	Well VK-2, Vatnsenda-krikar	Well V-23, Gvendar-brunnar	Well V-04, Jadarsvaedi
Barium (Ba)	µg/l	700	(3)	ALS	0.138	0.0327	0.0268	0.149	0.0771	0.265	0.0437
Cadmium (Cd)	µg/l	5.0		ALS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cobalt (Co)	µg/l		(4)	ALS	<0.005	<0.005	<0.005	0.0166	<0.005	0.00531	0.00596
Chromium (Cr)	µg/l	50		ALS	0.96	0.988	1.06	0.763	0.971	1.02	1.16
Copper (Cu)	µg/l	2000		ALS	<0.1	<0.1	<0.1	<0.1	<0.1	1.24	0.156
Mercury (Hg)	µg/l	1.0		ALS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (Mn)	µg/l	50		ALS	0.0398	<0.03	0.0432	1.02	0.049	0.0746	0.0852
Molybdenum (Mo)	µg/l		(4)	ALS	0.0906	0.0698	0.0773	0.125	0.0894	0.0992	0.12
Nickel (Ni)	µg/l	20		ALS	0.615	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phosphorus (P)	µg/l	5000	(3)	ALS	23	16.8	16.8	18.5	22.3	17.6	15.7
Lead (Pb)	µg/l	10		ALS	<0.01	<0.01	0.0199	0.0116	0.0157	0.0728	0.0169
Antimon (Sb)	µg/l	5.0		ALS	<0.01	<0.01	<0.01	<0.01	<0.01	0.0107	<0.01
Selen (Se)	µg/l	10		ALS	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Strontium (Sr)	µg/l		(4)	ALS	3.08	<2	2.59	3.58	2.79	5.5	3.27
Sink (Zn)	µg/l	3,000	(3)	ALS	0.886	<0.2	0.798	4.5	<0.2	0.826	0.466
Vanadium (V)	µg/l			ALS	18.2	14.9	16.6	13.3	19	13.8	15.2
Benzene	µg/l	1.0		ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	µg/l			ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	µg/l			ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
m,p-xylene	µg/l			ALS							
o-xylene	µg/l			ALS							
Sum xylene	µg/l			ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichloromethane	µg/l			ALS	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070
1,1 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trans 1,2 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cis 1,2 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Well VK-01, Vatnsenda-krikar	Well V-12, Myllulaekur	Well V-01, Jadar area	Vidines	Well VK-2, Vatnsenda-krikar	Well V-23, Gvendar-brunnar	Well V-04, Jadarvaedi
1,2 - dichloropropane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloromethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloromethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1 - trichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,2 - trichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethane	µg/l	0.1	(5)	ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethane	µg/l	0.1	(5)	ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl chloride	µg/l	0.01		ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1 - dichloroethane	µg/l			ALS	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Naphtalen	µg/l	0.1	(5)	ALS	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Acenaphtylene	µg/l		(5)	ALS	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Acenaphtene	µg/l			ALS	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101
Fluorene	µg/l			ALS	<0.00295	<0.00295	<0.00295	<0.00295	<0.00295	<0.00295	<0.00295
Phenanthrene	µg/l			ALS	<0.00715	<0.00715	<0.00715	<0.00715	<0.00715	<0.00715	<0.00715
Anthracene	µg/l			ALS							
Fluoroathene	µg/l			ALS	<0.00450	<0.00450	<0.00450	<0.00450	<0.00450	<0.00450	<0.00450
Pyrene	µg/l			ALS	<0.00250	<0.00250	<0.00250	<0.00250	<0.00250	<0.00250	<0.00250
Benz(a)anthracene	µg/l			ALS	<0.00310	<0.00310	<0.00310	<0.00310	<0.00310	<0.00310	<0.00310
Chrysene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/l	3		ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)pyrene	µg/l	100		ALS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sum PAH 16 (EPA)	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH cancerogene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Well VK-01, Vatnsenda-krikar	Well V-12, Myllulaekur	Well V-01, Jadar area	Vidines	Well VK-2, Vatnsenda-krikar	Well V-23, Gvendar-brunnar	Well V-04, Jadarstvaedi
Sum PAH other	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH 4	µg/l	10	(2)	ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH L	µg/l	10	(2)	ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH M	µg/l	0.5		ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH H	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tribromomethane	µg/l			ALS	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/l			ALS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Bromodichloromethane	µg/l			ALS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sum trihalomethane	µg/l			ALS	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250
Cyanide (CN total)	µg/l	1.0		ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.005	<0.005

Commentary:

(1) Adequate for consumption and no uncharacteristic changes

(2) Maximum value for sum of trichloroethane and tetrachloroethene

(3) Maximum value in older Icelandic regulations 319/1995 (void)

(4) Maximum value not in Icelandic regulations

(5) Maximum value for the sum of the following substances: benzo(b)fluoranthene, benzo(k) fluoranthene, benzo(ghi)perylene, indeno(123cd)pyrene

Laboratories:

MATÍS: Matís ohf, Research laboratory

ALS: ALS Scandinavia AB (Sweden)

Microbes and chemical composition of potable water in West and South Iceland in 2023

Local health departments in each area regularly collect samples to monitor the quality of water. Samples are also collected for complete chemical composition and microbial analysis.

Microbe analysis

Microbial properties	Unit	Max. recommended value	Lab	Akranes	Seleyri	Hafnarfjall	Hvanneyri	Hellisheidi	Nesjavellir	Uthlid
Total number of microbes	Number			7	4	4	2	2	2	1
Total microbes 22°C	Average	100/ml	MATÍS	0.71	0.5	87.5	0	0	0	0
	Highest value	100/ml	MATÍS	2	1	350	0	0	0	0
	Lowest value	100/ml	MATÍS	0	0	0	0	0	0	0
Escherichia coli (E. Coli)	Average	0/100 ml	MATÍS	0	0	0	0	0	0	0
	Highest value	0/100 ml	MATÍS	0	0	0	0	0	0	0
	Lowest value	0/100 ml	MATÍS	0	0	0	0	0	0	0
Enterococci	Average	0/100 ml	MATÍS	0	0	0	0	0	0	0
	Highest value	0/100 ml	MATÍS	0	0	0	0	0	0	0
	Lowest value	0/100 ml	MATÍS	0	0	0	0	0	0	0

Chemical composition of potable water

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Akranes	Seleyri	Hafnarfjall	Hvanneyri	Hellisheidi	Nesjavellir	Uthlid
Sample no.					R23-0138-1	R23-0138-2	R23-0466-3	R23-0745-1	R23-1967-1	R23-1982-1	R23-2739-1
Date					24.1.2023	24.1.2023	7.3.2023	4.4.2023	29.8.2023	30.8.2023	20.11.2023
Colour of sample	mgPt/l			ALS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Turbidity	NTU	adequate	(1)	MATÍS	0.62	<0.10	0.23	0.12			
Temperature	°C	25		MATÍS	3.70	5.70	3.70	5.70	6.10	7.80	6.50
Acidity (pH)	pH unit			MATÍS	7.40	7.10	8.10	8.40	9.40	8.28	9.33
Conductivity	µS/cm	2,500		MATÍS	124.80	86.20	178.10	142.60	95.80	111.15	111.20
Chloride (Cl)	mg/l	250		ALS	14.9	7.2	10.9	13.6	7.62	6.78	5.75
Sulphate (SO4)	mg/l	250		ALS	<5.00	5.23	11.3	<5.00	<5.00	<5.00	<5.00
Fluoride (F)	mg/l	1,5		ALS	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Nitrate (NO3)	mg/l	50		ALS	0.336	0.146	0.19	1.08	0.212	0.248	0.0443
Nitrite (NO2)	mg/l	0.5		ALS	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ammonium (NH4-N)	mg/l	0.5		ALS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
TOC	mg/l	no abnormal changes		ALS	<0.50	<0.50	<0.50	0.52	<0.50	<0.50	<0.50
Calcium (Ca)	mg/l	100	(3)	ALS	6.47	5.74	20.9	7.87	4.76	5.06	4.96
Iron (Fe)	mg/l	0.2		ALS	0.00211	0.00519	<0.0004	0.00259	<0.0004	0.00106	<0.0004
Potassium (K)	mg/l	12	(3)	ALS	0.421	<0.4	<0.4	0.784	0.852	0.922	0.602
Magnesium (Mg)	mg/l	50	(3)	ALS	2.37	1.62	2.04	3.69	2.63	2.28	0.948
Sodium (Na)	mg/l	200		ALS	12	6.43	8.52	12.2	6.64	10.5	13
Sulphur (S)	mg/l		(4)	ALS	1.23	1.68	4.34	0.772	0.75	1.11	0.736
Silica (Si)	mg/l		(4)	ALS	7.6	4.41	3.2	7.24	10.8	7.78	10.2
Aluminium (Al)	µg/l	200		ALS	1.81	1.42	3.42	8.02	1.02	9.03	13
Arsenic (As)	µg/l	10		ALS	<0.05	<0.05	0.093	<0.05	<0.05	0.215	0.633
Boron (B)	µg/l	1,000		ALS	<10	<10	<10	<10	<10	15.7	<10

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Akranes	Seleyri	Hafnarfjall	Hvanneyri	Hellisheidi	Nesjavellir	Uthlid
Barium (Ba)	µg/l	700	(3)	ALS	0.0542	0.156	0.023	0.198	0.492	0.227	0.0565
Cadmium (Cd)	µg/l	5.0		ALS	<0.002	0.00686	0.00473	<0.002	<0.002	<0.002	<0.002
Cobalt (Co)	µg/l		(4)	ALS	0.00644	0.0106	0.00638	<0.005	0.0051	<0.005	<0.005
Chromium (Cr)	µg/l	50		ALS	0.446	0.0782	0.328	0.443	0.458	0.716	1.07
Copper (Cu)	µg/l	2000		ALS	0.212	0.128	0.326	0.715	0.378	0.876	0.254
Mercury (Hg)	µg/l	1.0		ALS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Manganese (Mn)	µg/l	50		ALS	0.38	0.307	0.0328	0.138	0.0415	0.0463	<0.03
Molybdenum (Mo)	µg/l		(4)	ALS	0.0602	0.234	0.726	0.0733	0.155	0.21	1.38
Nickel (Ni)	µg/l	20		ALS	<0.05	0.378	1.44	0.0743	<0.05	0.0736	0.097
Phosphorus (P)	µg/l	5000	(3)	ALS	21.7	2.88	2.7	23.2	46.4	28.2	25.2
Lead (Pb)	µg/l	10		ALS	<0.01	0.0163	0.0858	0.0203	0.0254	<0.01	0.34
Antimon (Sb)	µg/l	5.0		ALS	0.346	0.258	<0.01	<0.01	<0.01	<0.01	<0.01
Selen (Se)	µg/l	10		ALS	<0.3	<0.3	<3	<0.3	<0.3	<0.3	<0.3
Strontium (Sr)	µg/l		(4)	ALS	2.44	11.8	29	4.05	10.8	7.72	4.9
Sink (Zn)	µg/l	3,000	(3)	ALS	2.57	2.17	8.45	2.86	3.86	4.27	0.393
Vanadium (V)	µg/l			ALS	4.17	0.408	1.59	4.26	7.43	19.3	26.9
Benzene	µg/l	1.0		ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Toluene	µg/l			ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	µg/l			ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
m,p-xylene	µg/l			ALS							
o-xylene	µg/l			ALS							
Sum xylene	µg/l			ALS	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichloromethane	µg/l			ALS	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070	<0.0070
1,1 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trans 1,2 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cis 1,2 - dichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2 - dichloropropane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Akranes	Seleyri	Hafnarfjall	Hvanneyri	Hellisheidi	Nesjavellir	Uthlid
Trichloromethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloromethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,1 - trichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1,2 - trichloroethane	µg/l			ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Trichloroethane	µg/l	0.1	(5)	ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethane	µg/l	0.1	(5)	ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl chloride	µg/l	0.01		ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1 - dichloroethane	µg/l			ALS	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060	<0.00060
Naphtalen	µg/l	0.1	(5)	ALS	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Acenaphtylene	µg/l		(5)	ALS	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Acenaphtene	µg/l			ALS	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101
Fluorene	µg/l			ALS	<0.00295	<0.00295	<0.00295	<0.00295	<0.00295	<0.00295	<0.00295
Phenanthrene	µg/l			ALS	<0.00715	<0.00715	<0.00715	<0.00715	<0.00715	<0.00715	<0.00715
Anthracene	µg/l			ALS							
Fluoroathene	µg/l			ALS	<0.00450	<0.00450	<0.00450	<0.00450	<0.00450	<0.00450	<0.00450
Pyrene	µg/l			ALS	<0.00250	<0.00250	<0.00250	<0.00250	<0.00250	<0.00250	<0.00250
Benz(a)anthracene	µg/l			ALS	<0.00310	<0.00310	<0.00310	<0.00310	<0.00310	<0.00310	<0.00310
Chrysene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	µg/l	3		ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)anthracene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)pyrene	µg/l	100		ALS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sum PAH 16 (EPA)	µg/l			ALS	<0.1	<0.1	<0.1	0.202	<0.1	<0.1	<0.1
Sum PAH cancerogene	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH other	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH 4	µg/l	10	(2)	ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Physiological and chemical properties	Unit	Max. recommended value	Sk.	Lab	Akranes	Seleyri	Hafnarfjall	Hvanneyri	Hellisheidi	Nesjavellir	Uthlid
Sum PAH L	µg/l	10	(2)	ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH M	µg/l	0.5		ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sum PAH H	µg/l			ALS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Tribromomethane	µg/l			ALS	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/l			ALS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Bromodichloromethane	µg/l			ALS	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sum trihalomethane	µg/l			ALS	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250
Cyanide (CN total)	µg/l	1.0		ALS	<0.0010	<0.0010	<0.0010	<0.0010	<0.005	<0.005	<0.005

Commentary:

(1) Adequate for consumption and no uncharacteristic changes

(2) Maximum value for sum of trichloroethane and tetrachloroethene

(3) Maximum value in older Icelandic regulations 319/1995 (void)

(4) Maximum value not in Icelandic regulations

(5) Maximum value for the sum of the following substances: benzo(b)fluoranthene, benzo(k) fluoranthene, benzo(ghi)perylene, indeno(123cd)pyrene

Laboratories:

MATÍS: Matís ohf, Research laboratory

ALS: ALS Scandinavia AB (Sweden)

Transport of hazardous substances

The quantity of gasoline and sludge transported through the capital area's water protection areas under supervision 2019-2022 is marked by *. Quantity of asbestos transported for landfilling in Fíflholt, West Iceland and sludge in West Iceland for Veitur Utilities. Quantity of gasoline, chlorine and sludge transported for ON Power's geothermal power plants in the Hengill area.

Site	Category	Unit	2020	2021	2022	2023
Nesjavellir power plant	Oil	liters	1,300	13,400	2,500	9,700
Hellisheidi power plant	Oil	liters	1,000	2,200		
Bláfjöll, ski area*	Oil	liters	40,000	27,000	93,400	100,000
Ellidavatn, forestry*	Oil	liters	1,400	1,700	2,400	2,200
Vatnsendakrikar*	Oil	liters				
Construction Heidmork	Oil	liters		2,500		1,400
Total oil		liters	43,700	46,800	98,300	113,300
Bláfjöll, ski area*	Gasoline	liters	2,000	2,000	2,000	3,000
Total gasoline		liters	2,000	2,000	2,000	3,000
Hellisheidi power plant	Sludge	liters	36,000	32,000	15,600	18,900
Nesjavellir power plant	Sludge	liters	60,000	76,000	69,000	72,800
West Iceland	Sludge	liters	280,000	161,000	237,500	210,300
Ellidavatn, forestry*	Sludge	liters				
Gvendarbrunnar*	Sludge	liters	2,000	2,000		1,800
Vatnsendakrikar*	Sludge	liters				
Water tank T-4*	Sludge	liters				2,000
Total sludge		liters	378,000	271,000	322,100	305,800
Hellisheidi power plant	Chlorine	liters	12,000	14,000	13,000	24,000
Nesjavellir power plant	Chlorine	liters	2,000	11,000	8,000	14,000
Total chlorine		liters	14,000	25,000	21,000	38,000
West Iceland	Asbestos	kg	554,000	120,000	453,200	289,000
Total asbestos		kg	554,000	120,000	453,200	289,000

* The water protection supervisor escorted 31 transports of hazardous substances in 2023.