甲. No. 3750

Hot Spring Analysis Report

(Analysis results by mineral spring analysis test)

1. Applicant:
Address: 2-4-1, Nishi-Shinjuku, Shinjuku City, Tokyo
Name: Kojun Nishima, Representative Director, Sumitomo Realty & Development Co., Ltd.

2. Source name and spring location:
Source name: Ariake Izumi Tenku Hot Spring
Spring location: 2-1-203, Ariake, Koto City, Tokyo
Water sample location: Water sampled at source

3, Examination and test results at spring site
(1) Examiner and tester name: Hideo Takizawa, JHRC: Hot Spring Research Center, Japan
(2) Date of examination and test: January 20, 2020
(3) Spring temperature: 28.6ºC (Air Temperature During Inspection) 13 ºC
(4) Amount of water flow: 150 L/min (drilling, power pumping)
(5) Perceptual test: Light brown color, clear with strong saltiness, slight smell of mineral oil, gas foam and gas forming
(6) pH value: 7.5
(7) Electrical conductivity. 4.48 S/m (25 ºC)
(8) Radon (Rn): -- Bq/kg(-- $\times 10^{-10}$Ci/kg, -- Mache)

4. Laboratory test results:
(1) Person responsible for testing: Hideo Takizawa, JHRC: Hot Spring Research Center, Japan
(2) Analysis completion date: January 27, 2020
(3) Perceptual test: Light brown color, clear with strong saltiness, mostly no smell (8 hours after sample collection)
(4) Density: 1.019 g/cm^3(20ºC /4ºC)
(5) pH value: 7.55
(6) Evaporation residue: 29.69 g/kg (180 ºC)

5. Components within 1kg sample: Quantity and composition

(1) Cation

Component name		Milligram	Millibar	Millibar %
Sodium ion	(Na^+)	10310	448.5	89.98
Potassium ion	(K^+)	319.0	8.16	1.64
Ammonium ion	(NH_4^+)	149.0	8.26	1.66
Magnesium ion	(Mg^{2+})	218.0	17.94	3.60
Calcium ion	(Ca^{2+})	303.2	15.13	3.04
Aluminum ion	(Al^{3+})	<0.1	--	--
Manganese (II) ion	(Mn^{2+})	0.3	0.01	0.00
Iron (II) ion	(Fe^{2+})	11.3	0.40	0.08
Zinc ion	(Zn^{2+})	0.6	0.02	0.00
Total cation ions		11310	498.4	100.00

(2) Anion

Component name		Milligram	Millibar	Millibar %
Fluoride ion	F^-	< 0.1	--	--
Chloride ion	Cl^-	17530	494.5	97.58
Bromide ion	Br^-	92.8	1.16	0.23
Iodide ion	I^-	43.1	0.34	0.07
Hydrogen sulfide ion	HS^-	< 0.1	--	--
Thiosulfate ion	$S_2O_3^{2-}$	< 0.1	--	--
Sulfate ion	SO_4^{2-}	17.4	0.36	0.07
Hydrogen carbonate ion	HCO_3^-	632.7	10.37	2.05
Carbonate ion	Co_3^{2-}	0.9	0.03	0.01
Total anion ions		18320	506.8	100

(3) Free components

Non-dissociated components		Milligram	Millimole
Metasilicic acid	(H_2SiO_3)	151.7	1.94
Metaboric acid	(HBO_2)	17.1	0.39
Total non-dissociated components		168.8	2.33

Dissolved gas components		Milligram	Millimole
Free carbon dioxide	(CO_2)	38.3	0.87
Free hydrogen sulfide	(H_2S)	<0.1	--
Total dissolved gas components		38.3	0.87

Total dissolved matter (excluding gases) 29.80 g

Total components 29.84 g

(4) Other trace components (mg)

Total mercury	(Hg)	under 0.0005	Total arsenic	(As)	under 0.005
Copper	(Cu)	under 0.05	Cadmium	(Cd)	under 0.01
Lead	(Pb)	under 0.05			

6. Spring quality:
Iodine-containing high sodium chloride hot spring (hypertonic, slightly alkaline, low-temperature hot spring)

7. Contraindications, indications, etc. : Listed in Item 5 of Hot Spring Analysis Sheet Appendix

January 28, 2020

Registration: 14 健地衛 No.1
Hideyuki Nagashima, Chairman (sealed)
JHRC: Hot Spring Research Center, Japan
3-56-9, Takinogawa, Kita City, Tokyo

甲 No. 3750

Hot Spring Analysis Sheet Appendix

1. Source name: Ariake Izumi Tenku Hot Spring

2. Source location: 2-1-203, Ariake, Koto City, Tokyo

3. Applicant for Hot Spring Analysis: Kojun Nishima, Representative Director, Sumitomo Realty & Development Co., Ltd.
2-4-1, Nishi-Shinjuku, Shinjuku City, Tokyo

4. Spring Quality: Iodine-containing high sodium chloride hot spring (hypertonic, slightly alkaline, low-temperature hot spring)

5. Contraindications, indications, etc. based on the spring quality of the therapeutic spring classification are as follows according to Notice by Ministry of Environment, Director General of Nature Conservation Bureau (July 1 2014) 環自総発 No. 1407012 :

[Contraindications for bathing]

General contraindications	Active illness (especially with fever), active tuberculosis, advanced malignancy or severe anemia, serious heart or lung disease that makes it difficult to breathe after slight movement, serious kidney diseases with swelling, gastrointestinal bleeding, visible bleeding, and acute exacerbation of a chronic illness.
Indications by spring quality type	No corresponding item

[Indications for bathing]

General indications	Chronic pain or stiffness of muscles or joints (rheumatoid arthritis, osteoarthritis, lumbago, neuralgia, frozen shoulder, bruise, sprain, etc.), muscle stiffness in motor paralysis, decreased gastrointestinal function (upset stomach, gas in intestines, etc.), mild hypertension, abnormal glucose tolerance (diabetes), mild hypercholesterolemia, mild asthma or emphysema, hemorrhoid pain, autonomic instability, stress-related symptoms (sleep disorders, etc.), recovery from illness, fatigue, health promotion
Indications by spring quality type	Cuts, peripheral circulatory disturbance, sensitivity to cold, depression, dry skin

Precautions for bathing

Methods and precautions for bathing

Bathing in the hot spring must be done while observing the following points.

A. Precautions before bathing

(a) Avoid bathing immediately before or after eating or drinking alcohol. Bathing while intoxicated should be especially avoided.
(b) Rest the body when excessively fatigued.
(c) Rest the body for about 30 minutes after exercise.
(d) Elderly persons, children, and physically disabled persons should avoid bathing alone.
(e) Before entering the bathing area, rinse the body by pouring hot water over the limbs to get used to the temperature.
(f) When taking a bath, especially immediately after waking up, hydrate yourself in advance by drinking a glass of water in order to avoid dehydration.

B. Bathing method

(a) Bathing temperature: Elderly persons, persons with hypertension or heart disease, and persons who have experienced a stroke should avoid bathing at temperatures higher than 42°C.
(b) Form of bathing: Half-body or partial-body bathing is preferable to full-body bathing for those with impaired cardiopulmonary functions.
(c) Bathing frequency: During the first few days of bathing, the frequency should be once or twice a day, and may be increased to two or three times a day as the person becomes accustomed to it.
(d) Bathing time: The duration of each bath should be 3 to 10 minutes at first, depending on the temperature of the bath, and may be extended to 15 to 20 minutes as the person becomes accustomed to the bath.

C. Precautions while bathing

(a) Except for exercise baths, bathing should be done quietly, with only light movement of arms and legs.
(b) When getting out of the bathtub, exit slowly so as not to stagger.
(c) If experiencing dizziness or an unwell feeling, ask for help from someone nearby, get out of the bathing area slowly, keeping the head low, and lie down and wait to recover.

D. Cautions after bathing

(a) Do not rinse off hot spring ingredients adhering to the body with warm water, but wipe off the moisture with a towel, keep warm and rest for about 30 minutes after dressing. (However, people with sensitive skin should rinse off hot spring ingredients with warm water as necessary if the spring has a highly irritating quality, [e.g., acidic or sulfuric springs] or if chlorine disinfection is used).
(b) To avoid dehydration, drink a glass of water.

E. Hot-spring bath symptoms caused by prolonged bathing

Hot-spring bath symptoms such as discomfort, insomnia, gastrointestinal symptoms, or dermatitis may appear approximately 3 days to 1 week after the start of hot-spring therapy. While such symptoms are present, the patient should discontinue bathing or reduce the frequency of bathing and wait to recover from such symptoms.

F. Other.

In order to maintain the cleanliness of the bath water, no towels shall be placed in the bathing area.

(Note) This Appendix serves as reference material required for posting in accordance with Article 18 of the Hot Springs Act.

January 28, 2020

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