

The State Electricity Authority  
Hydrological Survey

Ice Observations in the Lower Reaches of Thjórsa River

(Búrfell - Urriðafoss) Oct. 29 1963 to March 20 1964

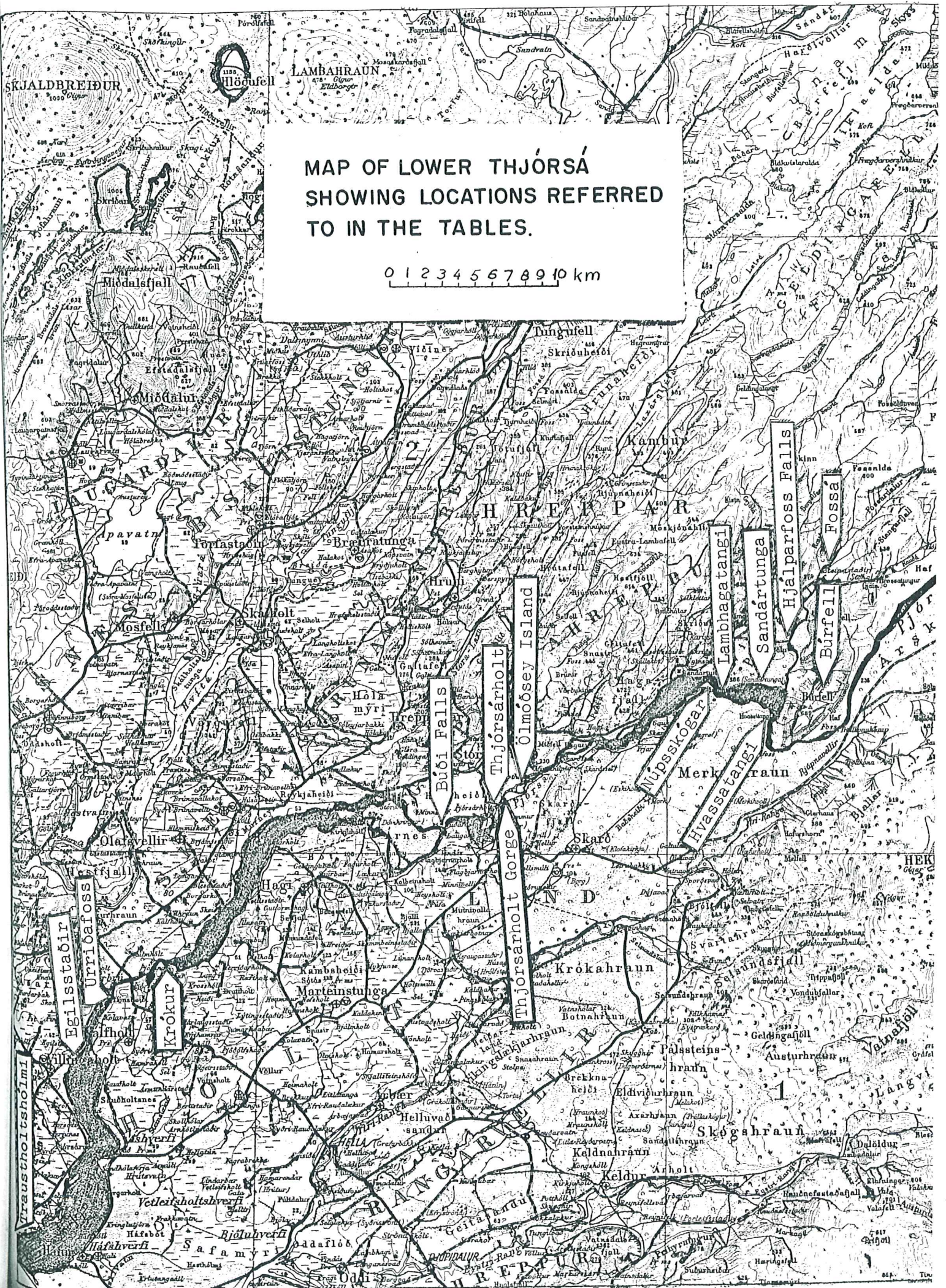
Reykjavik, May 1964

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MAP OF LOWER THJÓRSÁ  
SHOWING LOCATIONS REFERRED  
TO IN THE TABLES.

0 1 2 3 4 5 6 7 8 9 10 km

SKJALDBREIÐUR

Hlóðufell

LAMBAHRAUN  
Ólafur  
Eldborgir

Sandvatn

Sandá

Miðalsfjall

Tungufell

Skríðuhéð

Eftardalsfjall

Viðnes

Kambur

Tomastólfur

Breintunga

Skarð

Mosfell

Hruúfjall

Hvassatangi

Ólafsvellir

Hólmyri

Merkhraun

Urriðafoss

Thjorsarholt

Lambagatangi

Egilstabil

Ólmósey Island

Sandartunga

Krókur

Thjorsarholt Gorge

Burfell

Thjorsarholt

Thjorsarholt

Hjalfarfoss Falls

Shilluhólmur

Kambahéð

Fossa

Shubholtana

Marteinstunga

Skarð

Shyverfi

Helluvad sandur

Krókahraun

Veteifshaltsverfi

Hella

Salandsfjall

Rjúluhverfi

Safamyri

Palasteins-  
hraun

Ólafsvellir

Óddaflóð

Skógshraun

Óddaflóð

Óddaflóð

Skógshraun

I. Oct. 29 1963 - Feb. 12 1964

Month	Day	Year	Observation Post Sandártunga		Observation Post Thjorsárholt		Observation Post Urriðafoss		Observation Post Krókur				Disch. at Búr-fell		Disch. at Urriðá-foss	
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm	kl/s	kl/s
Oct.	29	1963	...	...	...	...	...	...	E3+4°C showers	None	None	None	None	424	478	
	30	"	...	...	...	...	...	...	E2+8°C showers	None	None	None	None	448	572	
	31	"	...	...	...	...	...	...	0+5°C Fog	None	None	None	None	416	504	
Nov.	1	"	...	...	...	...	...	...	N3-5°C	Sludge	Ice debris	None	None	298	368	
	2	"	...	...	...	...	...	...	N4-5°C	Sludge	Border ice	None	None	230	280	
	3	"	...	...	...	...	...	...	N3-6°C	Sludge	Border ice	37	37	209	267	
	4	"	...	...	NE3-8°C	Freezing over in gorge. Considerable sludge.	...	...	NE3-7°C	Sludge	Border ice	None	None	239	273	
	5	"	...	...	NE4-7°C	Considerable sludge	...	...	NE4-6°C	Sludge	Border ice	None	None	204	245	
	6	"	...	...	NE4-7°C	River frozen over below Búði Falls	...	...	NE4-7°C	Sludge	Border ice	43	43	126	198	
	7	"	...	...	NE-8°C	Much sludge. Icejam below Búði rising. Ice in Thjorsárholt. Gorge also rising.	...	...	NE2-8°C	Sludge	Border ice	None	None	102	166	
	8	"	...	...	NE3-10°C	Búði ice jam has risen to top of waterfall (8 metres). Jam in Thjorsárholt. Gorge rising rapidly.	...	...	NE3-6°C	Sludge	Border ice	61	61	122	155	

Month		Observation Post Sandártunga			Observation Post Thjorsárholt			Observation Post Urriðafoss			Observation Post Krökur			at Búr-fell		at Urriðafoss	
Day	Year	Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm	kl/s	kl/s		
Nov. 9	1963	...	...	N2-9° C	Gorge jam has equaled banks in height. Height 7 metres. Jam has reached Ölmóðsey island	...		...		NE3-6° C	Sludge	Border ice	61	138	168		
10	"	...	...	...	No rise in either Búði or Gorge. Ice jam observed after Nov.9. Subsided slightly but remained essentially unchanged till Nov. 22 Thjorsá channel completely ice free by end of November. The great height of Gorge jam, without, however Búði jam reaching that far upstream, is very remarkable, and has not been observed before. Open channel with some sludge remained between Gorge and Búði.	...	Solid ice cover had reached Egilsstaðir Nov.10. Rise in stage at 1 metre. Ice cover very smooth and strong enough to support a man.	...	NE2-6° C	Sludge	Border ice	Border ice	48	157	206		
11	"	...	...	...		...		...	NE4-8° C	Sludge	Border ice	Border ice	None	166	232		
12	"	...	...	...		...		...	NE3-9° C	Sludge	Border ice	Border ice	None	161	234		
13	"	...	...	...		...		...	NE5-7° C	Sludge	Border ice	Border ice	49	159	227		
14	"	...	...	...		...		...	NE4-6° C	Sludge	Border ice	Border ice	None	136	225		
15	"	NE-10-12° C clear	Ground completely snowfree. Some rise in stage of Thjorsá in reach Hvassatangi-Lambhagatangi. Icefree curved channel in middle of river. Stage rise at observation post 0.5 metres. Much floating sludge	...		...		...	NE3-7° C	Sludge	Border ice	Border ice	51	136	221		
16	"	Same Weather	Same ice conditions	...		...		...	NE3-8° C	Sludge	Border ice	Border ice	None	148	221		

Observation Post Sandártunga		Observation Post Thjorsárholt		Observation Post Urriðafoss		Observation Post Krókur				Disch. at				
Month	Day	Year	Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm	at Búr-fell kl/s	Disch. at Urriðafoss kl/s
Nov.	17	1963	Essentially same weather	Essentially same ice conditions	...		...	Nov. 17 the ice had reached the narrows near the power line crossing	NE4-10°C	Sludge	Border ice	56	138	221
	18	"	"	Ice cover across Thjorsá in the sharp bend near Núpsskógar formed in the night between Nov. 17 and 18.	...		...	Sludge disappeared beneath the ice. The ice cover did not proceed farther upstream. Toward the end of Nov. the ice broke off "by and by".	NE3-12°C	Sludge	Border ice	None	126	223
	19	"	"	No floating sludge south of Lambhagi Rise in stage above Núpsskógar 2 metres. Minor border ice on Fossá but some sludge.	...		...		E4-10°C	Sludge	Border ice	None	124	223
	20	"	Less frost	Practically unchanged	...		...		W2-1°C snowfall	Sludge	Border ice	58	124	225
	21	"	Slight frost snow showers	...	...		...		NE2-2°C snow shower	Sludge	Border ice	...	124	225
	22	"	Frost	Fossá practically ice-free at bridge Some border ice and sludge.	...	Open channel with some sludge remained between Gorge and Búði	...		S3-1°C snow shower	Sludge	Border ice	53	126	229

Month	Day	Year	Observation Post Sandártunga		Observation Post Thjórsárholt		Observation Post Urriðafoss		Observation Post Krökur				at Urriða foss kl/s	at kl/s
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm		
Nov.	23	1963	Some frost	Height of Thjórsá ice dam 3.5 metres Is getting higher. Surface is getting rough.	...	Ice	Weather	Ice	SE4-3°C showers	Sludge	Border ice	...	126	227
	24	"	Same weather	Same conditions	...	...	...	...	S3-1°C snow showers	Sludge	Border ice	53	126	229
	25	"	Same weather	Same conditions	...	...	...	...	S3-1°C snow showers	Sludge	Border ice	...	130	232
	26	"	E-wind setting in Temp.above 0°C	Height of ice jam unaltered since Nov. 23. Fossá did not freeze over below Hjalparfoss falls.	...	...	...	...	E4-5°C	Sludge	Border ice	...	177	278
	27	"	...	Flood in Thjórsá	...	...	...	...	E1-2°C rain	Sludge	Border ice	8	288	558
	28	"	...	Flood in Thjórsá and Fossá. Ice breaks up; walls of ice remain, espec. to the east of Fossá. Ice took Fossá bridge to Thjórsá confluence.	...	...	...	...	E2-3°C drizzle rain	Sludge	Border ice	...	212	262
	29	"	...		...	...	...	...	SE6-5°C	Ice floes	Border ice	7	266	452
	30	"	...		...	...	...	...	SW2-1°C snow	Ice floes	Border ice	...	354	485



Month	Day	Year	Observation Post Sandártunga			Observation Post Thjórsárholt			Observation Post Urriðafoss			Observation Post Krökur				Disch. at	Disch. at
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect	cm		
Dec.	1	1963	...	...	...	...	...	...	...	...	SE+1°C	Ice floes	Border ice breaking	39	318	395	
	2	"	...	...	...	...	...	...	...	...	SE+2°C	Ice floes	Border ice	0	251	353	
	3	"	...	...	...	...	...	...	...	...	S1+4°C	Ice floes	Border ice	0	206	285	
	4	"	...	...	...	...	...	...	...	...	S1+5°C	Ice floes	Ice jam	12	190	265	
	5	"	...	...	...	...	...	...	...	...	NW4-1°C	...	...	...	179	242	
	6	"	...	...	...	...	...	...	...	...	N1-3°C	Ice floes	Border ice smaller	7	161	221	
	7	"	...	...	...	...	...	...	...	...	S1-1°C	...	Border ice	...	159	221	
	8	"	...	...	...	...	...	...	...	...	SE2+3°C	...	Border ice	21	159	234	
	9	"	...	...	...	...	...	...	...	...	SE1+2°C	...	Border ice	...	153	216	
	10	"	...	...	...	...	...	...	...	...	SE2+3°C	...	Border ice	...	161	232	
	11	"	...	...	...	...	...	...	...	...	0+2°C	...	Border ice	...	230	302	
	12	"	...	...	...	...	...	...	...	...	0+1°C	...	Border ice	...	245	332	
	13	"	...	...	...	...	...	...	...	...	0+2°C	...	Border ice	4	215	315	

In December the river was completely ice-free. Sludge was observed on a few days only.

Month	Day	Year	Observation Post Sandártunga		Observation Post Thjórshólt		Observation Post Urriðafoss		Observation Post Krökur				at Urríða-foss kl/s	
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm		
Dec.	14	1963	...	...	...	...	...	...	0+1°C	...	Border ice small	...	179	280
	15	"	...	....	...	...	...	...	E3+2°C	...	Border ice small	7	169	260
	16	"	...	...	...	...	...	...	NE1-1°C	...	Border ice small	...	159	242
	17	"	...	....	...	...	...	...	NE2-1°C	...	Border ice small	...	145	232
	18	"	...	....	...	...	...	...	NE3-2°C	...	Border ice	16	122	206
	19	"	...	....	...	...	...	...	SV2-1°C	...	Border ice	...	118	206
	20	"	...	...	...	...	...	...	N1-6°C	Sludge	Border ice	11	124	225
	21	"	...	...	...	...	...	...	E3-1°C	...	Border ice	...	128	232
	22	"	...	....	...	...	...	...	SE3+5°C	...	Border ice	0	161	310
	23	"	...	...	...	...	...	...	NE2-2°C	Sludge	Border ice small	0	166	265
	24	"	...	...	...	...	...	...	E3-1°C snow showers	Sludge	Border ice	0	151	212
	25	"	...	...	...	...	...	...	NE4-4°C snowfall	Sludge	Border ice	7	98	196
	26	"	...	...	...	...	...	...	NE3-5°C snow showers	Sludge	Border ice	...	79	188

Month	Day	Year	Observation Post Sandártunga		Observation Post Thjorsárholt		Observation Post Urriðafoss		Observation Post Krökur				Disch. at Búr-fell kl/s	Disch. at Urriðafoss kl/s
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm		
Dec.	27	1963	...	...	...	...	...	...	E5+3°C showers	Border ice	0	114	192	
	28	"	...	...	...	...	...	...	SE3+1°C showers	Border ice small	0	140	223	
	29	"	...	...	...	...	...	...	E4-1°C	Border ice small	0	136	216	
	30	"	...	...	...	...	...	...	NE3-4°C	Border ice	0	132	196	
	31	"	...	...	...	...	...	...	NE3-1°C	Border ice	0	140	216	
Jan.	1	1964	...	...	...	...	...	...	SE12+5°C showers	Border ice breakening	0	140	237	
	2	"	...	...	...	...	...	...	SW5+2°C snow showers	Ice floes	0	140	216	
	3	"	...	...	...	...	...	...	SW2+3°C showers	None	0	134	208	
	4	"	...	...	...	...	...	...	SE3+1°C showers	...	0	134	208	
	5	"	...	...	...	...	...	...	SW3+2°C showers	...	0	151	268	
	6	"	...	...	...	...	...	...	SW3+3°C showers	...	0	196	338	
	7	"	...	...	...	...	...	...	SW4+0°C snow showers	...	0	269	485	

River completely ice-free in Jan., except the 30th and 31st.

Month	Day	Year	Observation Post Sandártunga		Observation Post Thjorsarholt		Observation Post Urrifafoss		Observation Post Krökur				Disch. at	
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm	Búr-fell kl/s	at Urrifafoss kl/s
	8	1964	...	...	...	...	...	...	...	...	0	272	440	
Jan.	9	"	...	...	...	...	...	...	...	...	0	215	324	
	10	"	...	...	...	...	...	...	...	...	0	227	368	
	11	"	...	...	...	...	...	...	...	...	0	362	592	
	12	"	...	...	...	...	...	...	Sludge	...	0	260	359	
	13	"	...	...	...	...	...	...	Sludge	Border ice small	0	245	307	
	14	"	...	...	...	...	...	...	Sludge	Border ice	...	239	273	
	15	"	...	...	...	...	...	...	Sludge	Border ice	7	230	263	
	16	"	...	...	...	...	...	...	...	Border ice	...	260	347	
	17	"	...	...	...	...	...	...	Ice floes	Border ice	...	335	365	
	18	"	...	...	...	...	...	...	Ice floes	Border ice breakening	0	440	474	
	19	"	...	...	...	...	...	...	...	None	0	795	885	
	20	"	...	...	...	...	...	...	...	...	0	614	931	

Month	Day	Year	Observation Post Sandártunga		Observation Post Thjórsárholt		Observation Post Urriðafoss		Observation Post Krókur				Disch. at Búrfell kl/s	Disch. at Urriðafoss kl/s	
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect cm			
Jan.	21	"	...	...	...	...	...	...	...	SW1+2°C sleet	...	...	0	377	542
	22	"	...	...	...	...	...	...	...	SW3+2°C	...	...	0	373	529
	23	"	...	...	...	...	...	...	...	SW4-4°C	...	...	0	326	478
	24	"	...	...	...	...	...	...	...	0-1°C	...	...	0	278	375
	25	"	...	...	...	...	...	...	...	SE1+2°C rain drizzle	...	...	0	266	356
	26	"	...	...	...	...	...	...	...	S1+2°C	...	...	0	248	382
	27	"	...	...	...	...	...	...	...	S1+2°C	...	...	0	209	288
	28	"	...	...	...	...	...	...	...	SE4+5°C rain	...	...	0	224	302
	29	"	...	...	...	...	...	...	...	SW1-1°C snow showers	...	...	0	245	365
	30	"	N3-11°C clear	Much floating sludge in Thjórsá. First cold day at Búrfell since November. No remnants of ice jam below Fossá visible. All ice disappeared in Jan.	...	...	...	...	Much sludge	SW2-2°C snow showers	...	...	0	190	252

Month	Day	Year	Observation Post Sandártunga		Observation Post Thjórshólt		Observation Post Urriðafoss		Observation Post Krókur			Disch. at Búr-fell	Disch. at Urriðafoss		
			Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect	kl/s	kl/s	
Jan.	31	1964	NE4-5°C	Somewhat less sludge than Jan. 30.	...	...	...	...	Thjórshóltfroze over 0,7 km from mouth	N3-3°C snow shower	Sludge	...	0	163	225
Febr.	1	"	Temp. near zero "Neutral" weather	Very little sludge	...	...	...	...	...	SW3-3°C snow shower	Sludge	...	0	163	221
	2	"	Temp. slightly below zero	Very little sludge	...	...	...	...	...	SW4-6°C snow showers	Sludge	...	36	166	223
	3	"	At 8 hrs.: NW7-10°C At 22 hrs.: N3-17°C	Very dense sludge and rapid formation of border ice	...	Thjórshólt freezes over in Thjórshólt Gorge. Rise in stage 2-3 metres. Floating sludge continues downstream.	...	Ice cover reached Urriðafoss.	NW5-7°C snow shower	Sludge	...	...	...	153	212
	4	"	N4-15°C clear	Ice is narrowing Thjórshólt channel Jam approx. 2 m high. Still an open channel with dense floating sludge.	...	River channel narrowed but no freezing-over except in Gorge. No ice jam formed at Búði.	...	Great amounts of sludge flows down the waterfall and in beneath the ice jam which now is rising rapidly.	NE1-15°C	Much sludge	...	...	...	134	176
	5	"	At 8 hrs.: N3-17°C At 22 hrs.: Temp. - 4°C	Clear weather in morning; cloudy in afternoon. Channel in Thjórshólt hardly more than 30 m	...		...	In the evening the ice jam was 2 m below the top of Urriðafoss waterfall, i. e. its	NE2-17°C	Much sludge	...	74	136	163	

Observation Post Sandártunga		Observation Post Thjórsholt		Observation Post Urriðafoss		Observation Post Krókur				Disch. at Búr-fell	Disch. at Urriðafoss				
Month	Day	Year	Weather	Ice	Weather	Ice	Weather	Ice	Weather	Ice in motion	Stationary ice	Back water effect	cm	kl/s	kl/s
Febr.	5	1964		Thjórská is not freezing over.											
	6	"	...	Thaw. Ice cover falling down.	...	Ice breaking up. River completely ice-free within 2 days.	...	Thaw. Ice jam "Fell down" in the reach between Urriðafoss and power line crossing.	SE4+3°C showers	Ice floes	...	...	...	199	237
	7	"	...	...	...	...	...	Ice is breaking up from Egilsstaðir to river mouth. An ice dam was formed at the mouth. There are now two outlets which is unusual (caused by heavy breakers in Jan.) Rise in Stage 1.2 metres at Traustmetres at Traustholtshólmi an unusually great rise.	SE1+6°C	Ice floes	...	0	...	346	641
	8	"	...	The river completely ice-free. Remnants and ice jam seen on sandbars.	...	...	...	...	S3+4°C	Ice floes	...	0	...	373	554
	9	"	...	...	...	...	...	...	0+3°C	Ice floes	...	0	...	...	781





II. Feb. 13 1964 - March 20 1964

During the whole of this period, the Thjorsa was completely ice-free in the reach from Burfell to mouth.

On March 13, ice observers were sent to the Burfell camp. They stayed there until April 30. The results of their observations will be given in a separate report later, but here it may be noted that they observed some slight frazil ice formations on two or three days only, for a few early morning hours each day. Otherwise, there was not a trace of ice in the Búrfell reach during the time the ice observers stayed there.

The observer at Sandártunga continued his observations until March 20, since by that time ice observers were already stationed at Búrfell, observations at Sandártunga were discontinued. The results of the Sandártunga observations in the period Feb. 13 to March 20 are given below. As there was no ice at all during the entire period, only the weather data are listed. (Wind is given in Beaufort scale; temperature readings are taken at 8:30 a. m., I MT).

Feb.	13	Calm; + 6 °C	Cloudy.	The river stage has risen.
-	14	SE3; + 5 °C	Cloudy	
-	15	Calm; + 6 °C	Cloudy	
-	16	E3; + 4 °C	Cloudiness 4/8.	
-	17	NE3; + 2 °C	Clear.	Slight frost and light wind during night.
-	18	Calm; 0 °C	Clear	
-	19	Calm; 0 °C	Fair	
-	20	E3; 0 °C	Cloudy	
-	21	NE3; + 1 ° to 3 °C	Cloudy	
-	22	E3; + 3 °C	Showers	
-	23	E4; + 4 °C	Light showers	
-	24	NE4; + 4 °C	Cloudy	
-	25	NE4; + 4 °C	Showers	
-	26	S3; + 7 °C	Cloudy	
-	27	E4; + 7 °C	Fair	
-	28	NE3; + 6 °C	Showers	
-	29	E3; + 3 °C	Clear	
March	1	Calm; + 5 °C	Cloudy	
-	2	NE4; + 4 °C	Clear	
-	3	NE3; + 8 °C	Fair	
-	4	NE3; + 5 °C	Showers	
-	5	S3; + 6 °C	Rain	
-	6	S3; + 5 °C	Showers	
-	7	SW4; + 4 °C	Showers	
-	8	SW3; + 6 °C	Overcast	
-	9	SW3; + 6 °C	Cloudy	
-	10	Calm; + 6 °C	Fair	
-	11	NE3; + 7 °C	Cloudy	
-	12	SE7; + 7 °C	Light showers	
-	13	SE3; + 9 °C	Cloudy	
-	14	E4; + 6 °C	Fair	
-	15	E3; + 9 °C	Light showers	
-	16	S3; + 8 °C	Cloudy	
-	17	E3; + 6 °C	Cloudy	
-	18	E4; + 6 °C	Cloudy	
-	19	E3; + 5 °C	Fair	
-	20	Calm; + 5 °C		