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## Vesturland 2001

### Arnbjargarlækur (26-7-2001)

Profile Arnbjargarlækur			
Depth [cm]	Horizon	Color	
0 – 12	A1	7.5 YR 3/4 dark brown	Loamy sand (gravel). Very weak fine and medium granular structure. Very friable. Few fine roots. No mottles. Abrupt wavy boundary to:
12 – 23	A2	5 YR 3/4 dark reddish brown	Sandy loam. Very weak fine and medium granular and subangular blocky structure. Friable. Few fine roots. No mottles. Abrupt wavy boundary to:
23 – 39	Bw1	5 YR 4/4 reddish brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. Moderately few very fine and fine roots. No mottles. Clear wavy boundary to:
39 – 50	Bw2	7.5 YR 3/2 dark brown	Loamy sand (gravel). Very weak fine subangular blocky structure. Very friable. Very few very fine and fine roots. No mottles. Abrupt wavy boundary to:
50+	R		

Profile taken at slight slope towards river, surrounded by basaltic and rhyolitic intrusions

Location: 6 km from 'main' road

Vegetation: poor heath vegetation (molendi?)

Erosion: wind erosion and grazing of sheep and horses

Drainage: somewhat poorly drained

Parent material: glacial deposits

Remark(s): no tephra visible. At the location could have been a glacial lake that deposited fine material. After the glacier retreated a glacial river was developed and deposited coarser material.

Arnbjargarlækur



## Árnes (27-6-2001)

Profile Árnes			
Depth [cm]	Horizon	Color	
0 – 3	O	10 YR 3/2 very dark grayish brown	Silt loam. Very weak granular structure. Friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
3 – 19	A1	10 YR 3/2 very dark grayish brown	Silt loam. Very weak medium granular structure. Friable. Common fine to medium roots. No mottles. Clear wavy boundary to:
19 - 30	A2	10 YR 3/1 very dark gray	Silt loam. Very weak medium granular and subangular blocky structure, platy probably due to compaction. Friable. Few fine and medium roots. Clear wavy boundary to:
30 – 47	Bw1	7.5 YR 3/2 dark brown	Silt loam. Very weak medium subangular blocky structure. Friable. Few medium and coarse roots. No mottles. Abrupt wavy boundary to:
47 – 51	Bw2	7.5 YR 4/4 tephra brown/ dark brown	Sand. Structure less. Loose.
		5 YR 3/3 soil dark reddish brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. Very few coarse roots. Abrupt wavy boundary to:
51- 62	2C	5 YR 2.5/1 black	Gravel. Structure less. Loose. No roots. 0.2-3cm! 1693? Abrupt wavy boundary to:
62 – 92	3Bw1	5 YR 2.5/1 tephra black	**
		7.5 YR 4/4 soil brown/ dark brown	Silt loam. Very weak subangular blocky structure. Very friable. Very few fine to medium roots. Abrupt wavy boundary to:
92 – 102	4C	5 YR 2.5/1 black	Loamy sand. Very firm. No roots. Abrupt wavy boundary to:
102 – 132	5Bw1	7.5 YR 4/4 brown/ dark brown	Silt loam. Very weak medium subangular blocky structure. Firm. No roots. Faint traces of 2/3 tephra layers. At bottom a light colored tephra layer 4cm H1?, loamy sand, very firm, not sampled. Abrupt wavy boundary to:
132 – 160+	5Bw2	5 YR 3/4 dark reddish brown	Silt loam. Very weak medium subangular blocky structure. Very friable. No roots. Bottom at 190cm than gravel.

\*\* Layered horizon:

tephra	2cm, sandy, black, coarse, light material at bottom
soil	6cm
tephra	4.5cm, sandy loam, firm
soil	9cm
tephra	2cm, loam, grayish
soil	7cm



Profile taken at soil and gravel pit at Stoú-Núpu near Árnæs.

Location: N 64°03'27.1"  
W 020°11'14.0"

Altitude: 116m? h.y.s. (GPS)

Vegetation: grassland (20%) with *Galum*, *Equisedum*, *Polygonum*. Half wet.

Erosion: slightly grazing erosion

Drainage: well drained

Parent material: eolian materials and tephra overlying lava 'Þjòrsárhraun' 8000 years old.

Remarks: Gravel pit new 50\*50 circular. Note very thick (5-10cm) very coarse tephra layer H1693? 0.2-3cm! Need date. Thick tephra layer disappears at tops. Shows how eolian and tephra is smoothing out the surface. Pedon taken half way down. Lava plain.

Árnæs



## Glaumbær (2-7-2001)

Profile Glaumbær			
Depth [cm]	Horizon	Color	
0 – 14	A1	7.5 YR 3/2 dark brown	Silt loam. Very weak fine and medium granular structure. Very friable. Many fine roots. No mottles. Clear wavy boundary to:
14 – 24	A2	7.5 YR 4/2 dark brown	Silt loam. Very weak fine granular and very weak medium subangular blocky structure. Friable. Common fine roots. No mottles. Abrupt wavy boundary to:
24 – 40	Bw1	10 YR 3/1 (black ash) very dark gray and, 10 YR 5/3 (light ash) brown	Silt loam. Very weak medium subangular blocky structure. Very friable. Moderate few fine roots. No mottles. Tephra layer, H4? Abrupt wavy boundary to:
40 – 58	Bw2	7.5 YR 4/2 dark brown	Clay loam. Very weak medium subangular blocky structure. Very friable. Moderate few fine roots. No mottles. Abrupt wavy boundary to:
58 – 79	Bw3	7.5 YR 4/2 dark brown	Clay loam. Very weak medium subangular blocky structure. Very friable. Very few fine roots. No mottles. Clear wavy boundary to:
79 – 120+	Bw4/2C	10 YR 3/1 very dark gray	Silt loam and gravel. Very weak medium subangular blocky structure. Very friable. No roots. 5% faint to distinct coarse mottles, 2.5 YR 3/4, dark reddish brown.

Profile taken at manmade ditch for pipeline.

Location: N 65°35'35.1"  
W 19°30'14.4"

Altitude: 61m GPS

Vegetation: Grassland.

Erosion: Naturally and possibly man disturbed (erosion - .. making).

Drainage: somewhat poorly drained

Parent material:

Remarks: Description and samples very quickly taken! H3 and H1 mixing, but still natural. A horizon on top is missing, sample taken from other site.



Glaumbær



## Hestur (2-8-2001)

Profile Hestur			
Depth [cm]	Horizon	Color	
0 – 15	A1	7.5 YR 4/4 brown/ dark brown	Silt loam. Very weak fine and medium granular structure. Very friable. Many very fine and fine roots. No mottles. Abrupt wavy boundary to:
15 – 40	A2	7.5 YR 5/6 strong brown	Silt loam. Very weak fine and medium granular structure. Very friable. Many very fine and fine roots. No mottles. Abrupt wavy boundary to:
40 – 57	Bw1	7.5 YR 4/4 brown/ dark brown	Silt loam. Very weak fine and medium granular and subangular blocky structure. Very friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
57 – 72	Bw2	5 YR 3/2 dark reddish brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. Common very fine roots. No mottles. Abrupt wavy boundary to:
72 – 79	Bw3	10 YR 3/2 very dark grayish brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. Few very fine roots. Few faint small to medium reddish mottles. Abrupt wavy boundary to:
79 - 240	Bw4	5 YR 3/2 dark reddish brown	Silt loam. Weak fine and medium subangular blocky and thin platy structure. Friable. Few very fine roots. Common distinct small reddish mottles.

Profile taken at side of incised stream, situated in valley

Location: N: 64°34'28.8"

W: 21°35'40.8"

Altitude: 53m GPS

Vegetation: hummocky grassland

Erosion: no erosion

Drainage: well drained

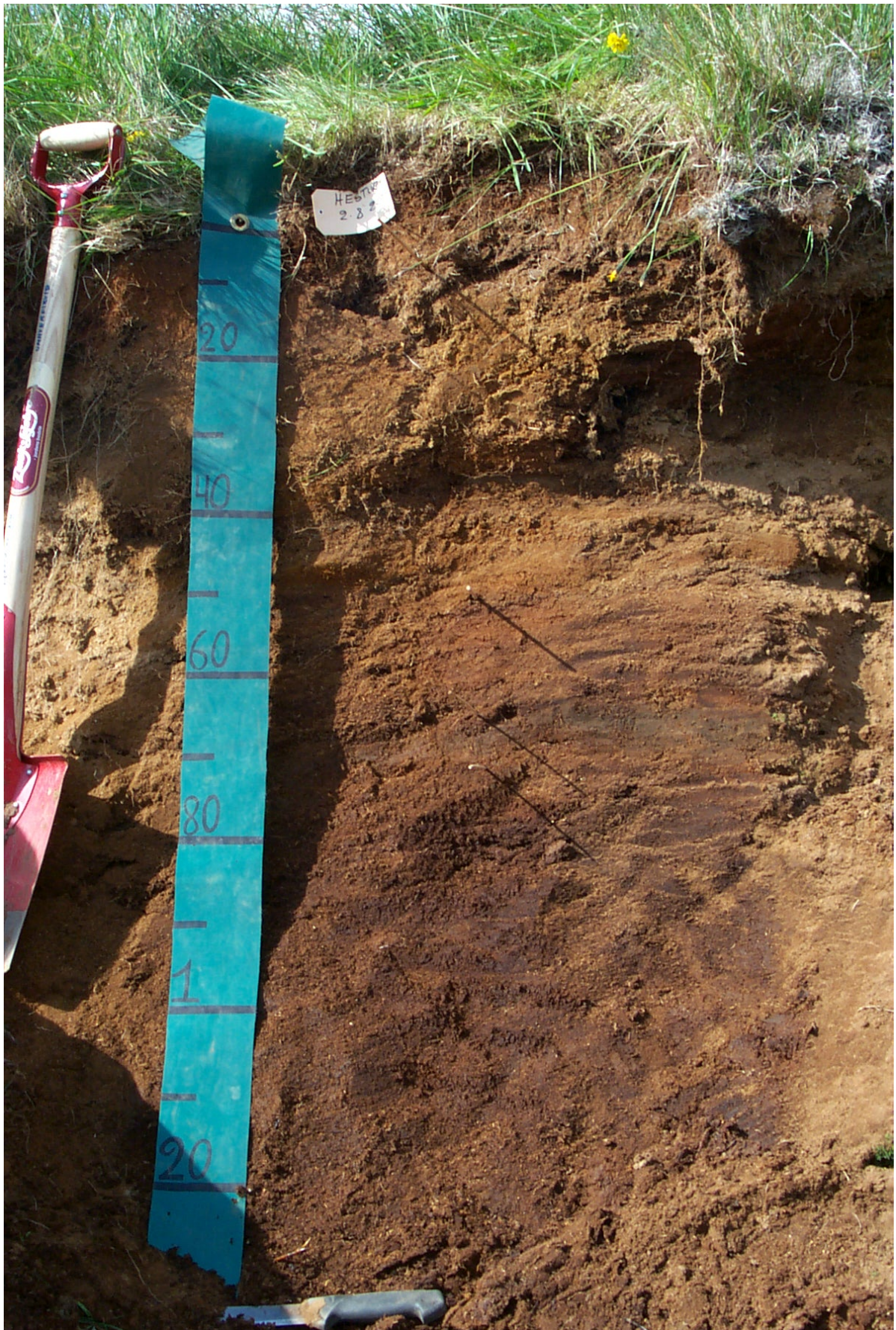
Parent material: not reached  $\geq 2.50$ m, probably glacial

Remark(s): no tephra layers seen

Lower B-horizons might be O horizons due to high C amount, analysis will determine.



Hestur





## Hlíð (30-6-2001)

Profile Hlíð			
Depth [cm]	Horizon	Color	
0 – 6	A1	10 YR 4/2 dark grayish brown	Silt loam. Very weak medium granular structure. Very friable. Many very fine and fine roots. No mottles. Clear wavy boundary to:
6 – 26	A2	7.5 YR 3/2 dark brown	Silt loam. Very weak fine and medium granular and very weak medium subangular blocky. Friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
26 – 54	A3	T: 5 YR 2.5/1 black S: 10 YR 3/3 dark brown	Silt loam. Very weak fine and medium granular and very weak medium subangular blocky. Friable. Moderate few very fine and fine roots. No mottles. On top 2cm black tephra layer, 1693? (coarse sand, structure less, loose). Clear wavy boundary to:
54 – 60	Bw1	Grey: 5 YR 3/2 dark reddish brown Red: 2.5 YR 3/6 dark red	Silt loam. Very weak medium subangular blocky structure. Friable. Very few very fine and fine roots. 20% distinct, medium mottles in slightly reduced grayish matrix. At bottom distinct tongues of tephra layers up to 15 cm, not sampled. Clear irregular boundary to:
60 – 91	Bw2	10 YR 3/2 very dark grayish brown	Silt loam. Very weak medium subangular blocky structure. Friable. Very few very fine and fine roots. No mottles. Clear wavy boundary to:
91 – 98	Bw3	10 YR 4/4 dark yellowish brown	Clay loam. Very weak medium subangular blocky structure. Friable. No roots. No mottles. Coarse tephra layer on top (H3?), very iron stained, sampled together soil and tephra. Abrupt wavy boundary to:
98 – 110	2Bw1	10 YR 3/1 very dark gray	Sandy loam. Structure less. Very firm tephra layer. No roots. No mottles. Abrupt wavy boundary to:
110 – 119	2Bw2	10 YR 4/4 dark yellowish brown	Clay loam. Very weak fine and medium subangular blocky structure. Very friable. No roots. No mottles. Continuous 2cm yellowish and black tephra layer (H1 settlement?), not sampled. Abrupt wavy boundary to:
119 – 129	2Bw3	10 YR 3/2 very dark grayish brown	Sandy loam. Structure less. Extremely firm tephra layer. Also see**. Abrupt wavy boundary to:
129 – 138	2Bw4	7.5 YR 3/2 dark brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. No roots. No mottles. Abrupt wavy boundary to:
138 – 151	3Bw1	10 YR 3/2 very dark grayish brown	Loamy sand. Structure less. Very friable. No roots. No mottles. At bottom 2 tephra layers, top black and bottom 2cm yellowish, H3? Abrupt wavy boundary to:
151 – 190+30	3Bw2	10 YR 3/3 dark brown	Layers of silt loam and clay loam. Very weak fine and medium subangular blocky structure. Friable. No roots. No mottles. Composite sample.

\*\* 2Bw3 is iron saturated tephra. Basaltic and andesitic. The texture of the tephra varies from coarse sand to sandy loam within 1m is up to 7cm thick. When coarse it is structure less and loose (as opposed to very firm!)

Profile taken at manmade ditch for pipeline.

Location: N 64°16'11.6"  
W 20°22'46.1"

Altitude: 123m GPS

Vegetation: Grass land (pure).

Erosion: Site most likely disturbed!

Drainage: well drained

Parent material:

Remarks: On boundary between dryland and wetland. 2% slope. Old horse path.  
Missing about 0.5m of soil on top. With general A horizon properties (C cont.) for C calculations. Had problems dating tephra layers. Still think we have tephra layers reasonably right.

Hlíð





## Hörðudalur (1-8-2001)

Profile Hörðudalur			
Depth [cm]	Horizon	Color	
0 – 17	O	7.5 YR 4/4 brown/ dark brown	Organic material. Structureless. Friable. Many very fine and fine roots. No mottles. Abrupt wavy boundary to:
17 – 55	A	5 YR 3/2 dark reddish brown	Clay loam. Weak thin platy. Friable. Many very fine to medium roots. No mottles. Little stratified with lighter organic material layers. 1cm wood trunk remnants. Abrupt wavy boundary to:
55 – 61	Bw1	7.5 YR 3/2 dark brown	Clay loam. Very weak fine and medium subangular blocky structure. Friable. Many very fine and fine roots. No mottles. Abrupt wavy boundary to:
61 – 96	2A	5 YR 3/2 dark reddish brown	Clay loam. Weak fine platy. Friable. Common very fine to medium roots. No mottles. Faint stratified lighter layers of organic material. 1cm wood trunk remnants. Abrupt wavy boundary to:
96 – 130	2Bw1	10 YR 3/3 dark brown	Clay loam. Very weak fine and medium subangular blocky structure. Friable. Few very fine and fine roots. Few distinct small to medium yellowish mottles (could be diatoms).

Profile taken at side of incised little stream.

Location: N: 65°01'09.5"  
W: 22°03'16.8"

Altitude: 83m GPS

Vegetation: slightly hummocky grassland

Erosion: no erosion

Drainage: moderately well drained

Parent material: glacial lake deposits

Remarks: Bw1 could be tephra, but totally weathered. The little stream is reddish coloured, that might mean that there is a lot of iron present.

Horðudalur



### Klettur (3-8-2001)

Profile Klettur			
Depth [cm]	Horizon	Color	
0 – 12	A1	7.5 YR 4/4 brown/ dark brown	Silt loam. Very weak fine granular structure. Very friable. Many very fine and fine roots. No mottles. Abrupt wavy boundary to:
12 – 34	Bw1	5 YR 3/4 dark reddish brown	Silt loam. Veryweak fine and medium subangular blocky structure. Friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
34 – 57	Bw2	7.5 YR 3/2 dark brown	Silt loam. Weak fine and medium subangular blocky structure. Friable. Common very fine roots. No mottles. Organic rich lighter layer in middle. Abrupt wavy boundary to:
57 – 72	Bw3	5 YR 3/2 dark reddish brown	Silt loam. Weak fine and medium subangular blocky structure. Friable. Few very fine and fine roots. No mottles. Organic rich horizon. Abrupt wavy boundary to:
72 - 170	Bw4	7.5 YR 3/2 dark brown	Silt loam. Weak fine and medium subangular blocky structure. Friable. Very few very fine and fine roots. No mottles. Organic rich horizon. Large root remnants.

Profile taken at side of incised stream.

Location: N: 64°38'59.4"  
W: 21°29'29.3"

Altitude: 35m GPS

Vegetation: hummocky grassland

Erosion: no erosion

Drainage: moderately well drained

Parent material: not reached

Remarks: birch forest at 70m. The lower B horizon might be O horizon due to high C amount, analysis will determine. The stream has a reddish colour, so perhaps the site is iron rich. Eolian andic histic profile till 170cm.



### Korpa I (22-6-2001)

Profile Korpa I			
Depth [cm]	Horizon	Colour	
0 – 17	A	7.5 YR 3/2 dark brown	Silt loam. Very weak medium granular structure and very weak subangular blocky. Friable. Many fine and very fine roots. 2% medium faint mottles. Abrupt wavy boundary to:
17 – 23	2O	5 YR 2.5/2 dark reddish brown	Silt loam/ medium decomposed organic matter. 2% medium faint mottles. Wavy horizon of 3 cm. Top of old surface with hummocky relief. Abrupt wavy boundary to:
23 – 53	2A	5 YR 3/4 dark reddish brown	Silt loam. Very weak medium subangular blocky. Common fine roots. 5% distinct medium and coarse mottles (2.5 YR 3/6). Thin reddish (2.5 YR 3/6) oxidized layer at lower boundary. Clear wavy boundary to:
53 – 77	2Bw1	5 YR 3/4 dark reddish brown	Silt loam. Very weak medium subangular blocky. Moderate few fine roots. 5% distinct mottles (10 YR 3/6) at 56 cm K1357 (?), black loamy sand. Clear wavy boundary to:
77 – 120	2Bw2	10 YR 2/2 very dark <i>greyish</i> brown	Clay loam. Very weak medium subangular blocky. Few fine roots. 2% white diatoms (10 YR 7/3). Gradual wavy boundary to:
120 – 165+	3O	10 YR 3/2 very dark <i>greyish</i> brown	Clay loam. Very friable. Medium subangular blocky. Many fine and very fine roots. Continuous layers of 1-2cm of diatoms (10 YR 5/3) at least in the general section of 120cm. Lower part (>1m) later birch period → 3cm thick old trunks.

Profile taken at research station of RALA.



Korpa I



## Korpa II (22-6-2001)

Profile Korpa II			
Depth [cm]	Horizon	Colour	
0 – 15	A1	5 YR 4/2 dark reddish grey	Silt loam. Very weak medium granular and subangular blocky structure. Very friable. Many fine roots. Abrupt wavy boundary to:
15 – 36	A2	7.5 YR 4/4 brown/dark brown	Silt loam. Very weak medium and coarse subangular blocky structure. Friable. Common fine roots. 10% distinct fine and medium red mottles. Abrupt wavy boundary to:
36 – 50	Bw1	7.5 YR 4/4 brown/ dark brown and 10 YR 5/2 greyish brown	Clay loam. Very weak medium and coarse subangular blocky structure. Friable. Few fine roots. 10% distinct fine and medium red mottles. Abrupt wavy boundary to:
50 – 80	Bw2	5 YR 4/4 reddish brown and 10 YR 5/1 grey (diatoms)	Clay loam and clay. Very weak medium and coarse subangular blocky structure. Friable. Very few fine roots. 1% fine and medium mottles. **. Abrupt wavy boundary to:
80 – 95	2Bw1	5 YR 4/4 reddish brown	Sandy loam. Very weak medium and coarse subangular blocky structure. Very friable. Very few fine roots. 80% fine and medium red mottles. 15% 0.2-5cm gravel. Clear wavy boundary to:
95 – 120+	2Bw2	5 YR 4/6 yellowish red and 10 YR 5/3 brown	Sand loam. Very weak medium and coarse subangular blocky structure. Very friable. No roots. 50% fine and medium red mottles. 40% 0.2-10cm gravel. ...coarse fragments.

\*\*3 layers of grey material and 2 layers of reddish material:

1. 4cm grey
2. 10cm reddish
3. 4cm grey
4. 7cm reddish
5. 5cm grey

Profile taken at research station of RALA



Korpa II



### Möðruvellir I (2-7-2001)

Profile Möðruvellir I			
Depth [cm]	Horizon	Color	
0 – 20	A1		Loam. Very weak fine and medium granular structure. Very friable. Many fine and medium roots. No mottles. Clear wavy boundary to:
20 - 35	A2		Loam. Very weak medium granular and very weak fine and medium subangular blocky structure. Very friable. Common fine and medium roots. No mottles. Clear wavy boundary to:
35 – 43	Bw1		Silt loam. Very weak medium subangular blocky structure. Very friable. Common fine and medium roots. Tephra layer of 1cm thick. Abrupt wavy boundary to:
43 – 50	Bw2		Loam. Very weak medium subangular blocky structure. Very friable. Common fine and medium roots. No mottles. Rhyolitic tephra layer, H1/H3?. Clear signs of cryoturbation with horizon tonguing down in to the next horizon. Abrupt wavy boundary to:
50 – 71	Bw3		Silt loam. Very weak medium subangular blocky structure. Friable. Moderate few fine and medium roots. No mottles. Tephra layer at bottom, 2cm thick, faint, yellowish. Abrupt wavy boundary to:
71 – 100	Bw4		Silt loam. Very weak medium subangular blocky structure. Friable. Very few fine roots. 10% 0.2-5cm coarse fragments. Abrupt wavy boundary to:
100 – 110+	Bw5/2C		Silt loam. Very weak medium subangular blocky structure. Friable. Very few fine roots. No mottles.

Profile taken on an escarpment (man made) above a large gravel pit.

Location: N 65°45'46.0"  
W 18°14'50.6"

Altitude: 85m GPS

Vegetation: Grassland. Grasses > 90%.

Erosion: Could be disturbed.

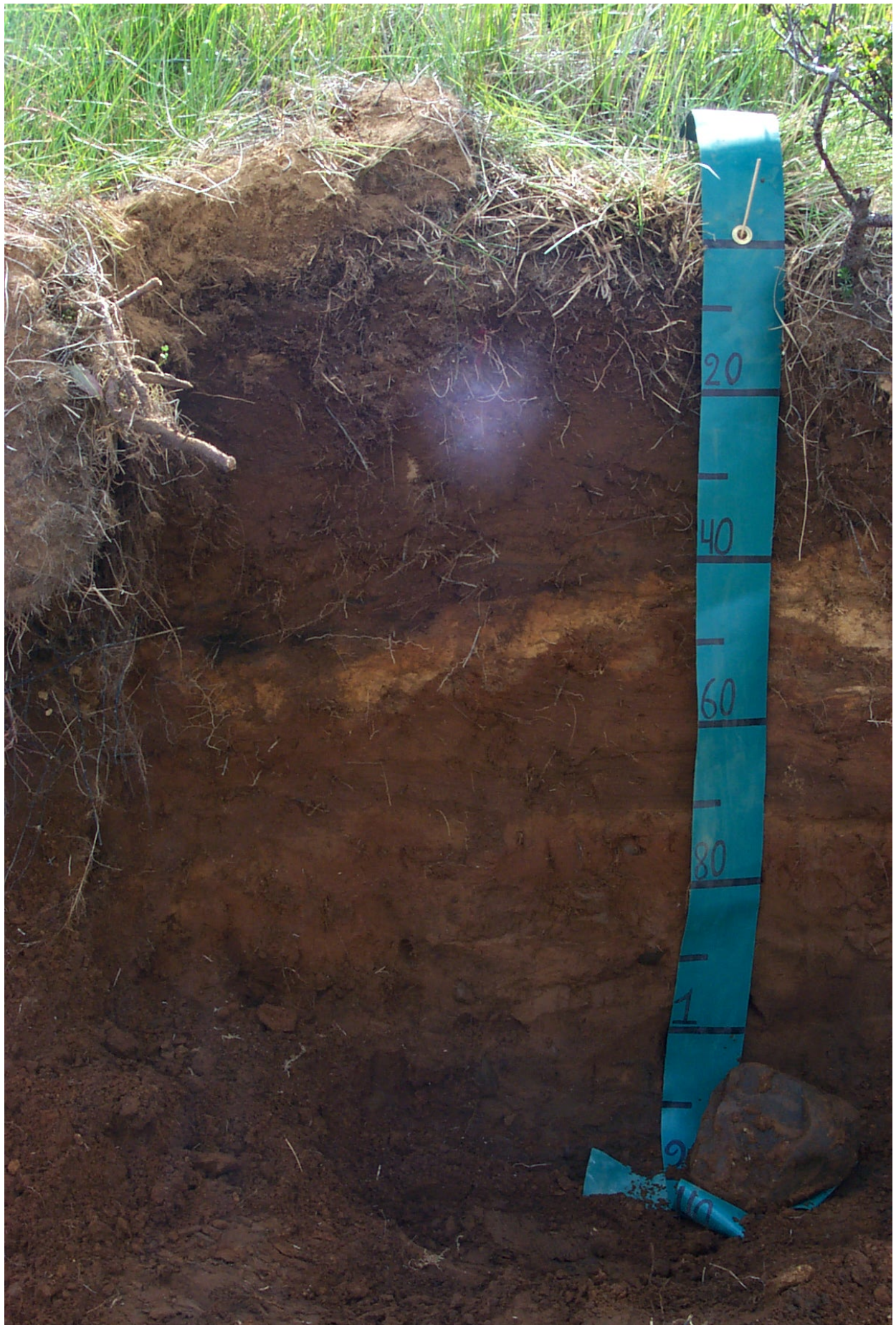
Drainage: Well drained.

Parent material: Eolian and tephra materials above alluvial-late glaciation form deposits.

Remarks: Level land. Next to hayfield (other side of the fence). Could have fertilizer influence from hayfield.



Möðruvellir I



## Mörðuvellir II (2-7-2001)

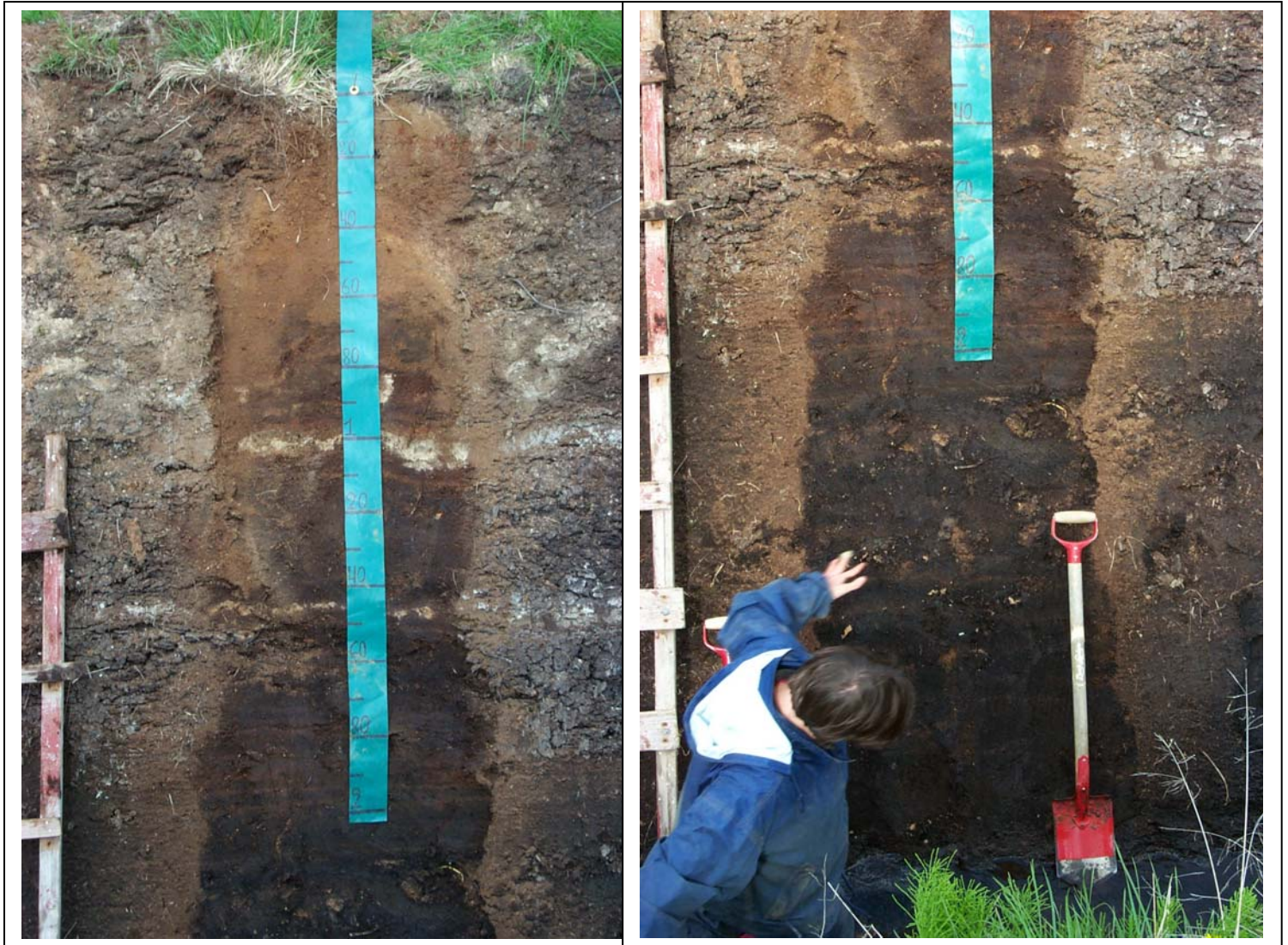
Profile Möðruvellir II			
Depth [cm]	Horizon	Color	
0 – 30	A1	7.5 YR 5/6 strong brown	Loam. Very weak fine granular structure. Very friable. Many very fine to medium roots. No mottles. Abrupt wavy boundary to:
30 – 55	2O1	10 YR 4/3 brown/ dark brown	Loam. Very weak thin platy structure. Friable. Many very fine and fine roots. No mottles. Abrupt wavy boundary to:
55 – 83	2O2	5 YR 3/2 dark reddish brown	Silt loam. Weak fine and medium subangular blocky structure. Friable. Many very fine and fine roots. No mottles. Stratification visible with different colors. Clear wavy boundary to:
83 – 98	2O3	5 YR 2.5/2 dark reddish brown	Silt loam. Very weak thin platy and very weak fine and medium subangular blocky structure. Friable. Yellowish undecomposed organic matter. No mottles. Abrupt wavy boundary to:
98 – 104	3C	10 YR 7/4 very pale brown	Sandy loam. Very weak subangular blocky structure. Firm. Very few fine roots. Few faint mottles. Tephra layer H3. Clear wavy boundary to:
104 – 145	4O1	10 YR 2.5/1 black	Very weak thin platy and weak fine subangular blocky structure. Few very fine and fine roots. Tephra layer in bottom, 1-2cm, 10 YR 6/4, light reddish brown. Abrupt wavy boundary to:
145 – 180	4O2	5 YR 2.5/1 black	Weak thin platy structure. Few very fine and fine roots. Abrupt wavy boundary to:
180 – 200	4O3	5 YR 2.5/1 black and 5 YR 4/4 reddish brown	Weak thin platy and weak medium subangular blocky structure. Very few very fine and fine roots. Faint reddish mottles around roots (oxidized). Abrupt wavy boundary to:
200 – 260	4O4	5 YR 2.5/1 black	Weak thin platy and weak medium subangular blocky. Very few very fine roots. Up to 2cm stems. Clear wavy boundary to:
260 – 300	4O5	5 YR 2.5/1 black	Very weak thin platy and very weak medium subangular blocky structure. Very few very fine roots. Up to 6cm stems. No mottles. Abrupt wavy boundary to:
300 – 350+	4O6	5 YR 2.5/1 black	Very weak thin platy and very weak medium subangular blocky structure. Very few very fine roots. Up to 6cm stems. No mottles. Abrupt wavy boundary to:

Profile taken at side of manmade ditch

Location: N 65°45'49.2"  
W 18°14'31.7"  
Altitude: 24m GPS  
Vegetation: grassland  
Erosion: Surface slightly disturbed.  
Drainage: presently somewhat poorly drained, formerly very poorly drained  
Parent material: The thickest profile on properly peat.  
Remarks:



## Möðruvellir II



### Snorrastaðir (2-8-2001)

Profile Snorrastaðir			
Depth [cm]	Horizon	Color	
0 – 26	A1	7.5 YR 4/4 brown/ dark brown	Silt loam. Weak fine and medium granular structure. Very friable. Many very fine to medium roots. No mottles. Abrupt wavy boundary to:
26 – 40	A2	5 YR 3/2 dark reddish brown	Silt loam. Weak fine and medium granular and subangular blocky structure. Friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
40 – 57	Bw1	10 YR 3/3 dark brown	Loam. Very weak fine and medium subangular blocky structure. Friable. Few very fine roots. No mottles. Abrupt wavy boundary to:
57 – 80	Bw2	10 YR 2.5/1 black	Loam. Weak fine and medium subangular blocky structure. Friable. Few very fine and fine roots. No mottles. Organic rich layer. Shiny surfaces. Abrupt wavy boundary to:
80 – 100	Bw3	5 YR 3/3 dark reddish brown	Loam. Weak fine and medium subangular blocky structure. Friable. Very few very fine roots. No mottles. Abrupt wavy boundary to:
100 – 117	Bw4	5 YR 3/2 dark reddish brown	Loam. Weak fine and medium subangular blocky structure. Friable. Moderately few very fine roots. Few faint small to medium reddish mottles. Faint stratification. Abrupt wavy boundary to:
117 – 121	Bw5	10 YR 3/3 dark brown	Loamy sand. Structureless. Very friable. No roots. No mottles. Tephra or riverbed. Organic remnants. Abrupt wavy boundary to:
121 – 133	Bw6	7.5 YR 3/2 dark brown	Loam. Very weak fine and medium subangular blocky structure. Friable. No roots. No mottles. Red layer in middle of horizon (clay, f+m sbk, friable, sampled). Abrupt wavy boundary to:
133 – 147	2C	7.5 YR 4/2 brown/ dark brown	Loamy sand with medium gravel. Weak fine and medium subangular blocky structure (where lot of gravel structureless). Friable. No roots. No mottles. Abrupt wavy boundary to:
147 – 200+	3Bw1	10 YR 3/1 very dark gray	Sandy loam. Very weak fine and medium subangular blocky structure. Friable. No roots. 15% common distinct fine and medium reddish mottles.



Profile taken at side of incised stream.

Location: N: 64°46'15.4"  
W: 22°17'53.0"

Altitude: 26m GPS

Vegetation: hummocky grassland

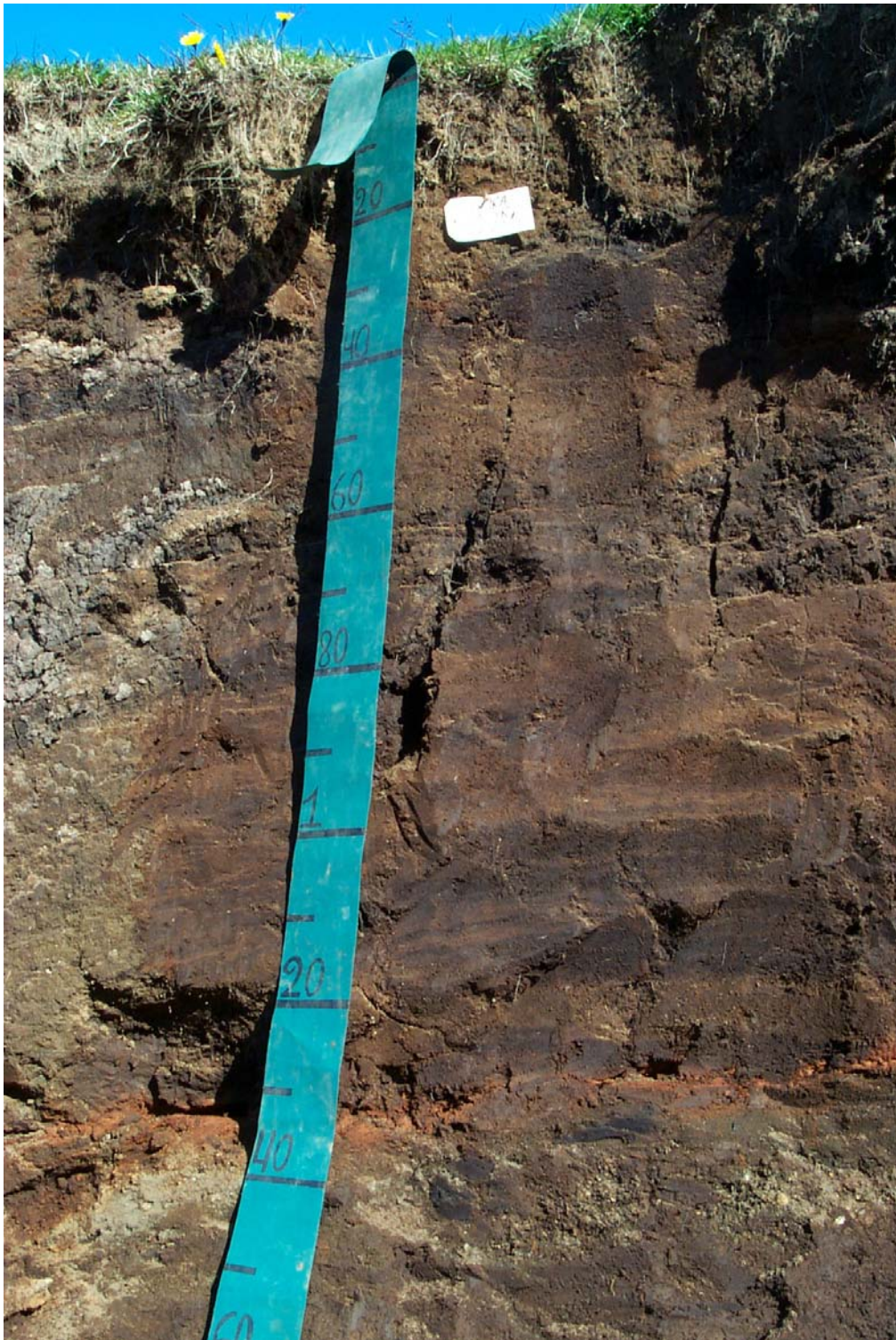
Erosion: no erosion

Drainage: well drained

Parent material: fluvioglacial deposits

Remarks: no tephra seen. River used to be wider. Upper B-horizons are cracked with ½cm horizontal cracks and wider (to 3cm) vertical cracks. The material is hard when dry it is formed into 3 to 6cm blocks.

Snorrastaðir





## Stóra Ármót (27-6-2001)

Profile Stóra Ármót			
Depth [cm]	Horizon	Color	
0 – 17	A1	7.5 YR 3/2 dark brown	Silt loam. Weak fine granular structure. Very friable. Many very fine and fine roots. No mottles. Clear wavy boundary to:
17 – 31	A2	10 YR 3/2 very dark grayish brown	Silt loam. Weak medium granular structure. Friable. Many very fine and fine roots. Not mottles. Clear wavy boundary to:
31 – 50	Bw1	10 YR 3/3 dark brown	Silt loam. Very weak coarse subangular blocky structure. Friable. 1% coarse fragments. Few very fine and fine roots. No mottles. Clear wavy boundary to:
50 – 65	Bw2	10 YR 4/4 dark yellowish brown	Clay loam. Very weak coarse subangular blocky structure. Friable. 2% few medium distinct mottles. Few fine roots. Faint layers of reddish and blackish color slightly stratified. Abrupt wavy boundary to:
65 – 90	Bw3	5 YR 3/4 dark reddish brown	Silt loam. Very weak coarse subangular blocky structure. Friable. 20% distinct mottles (2.5 YR 3/6). Soil may show evidence of rhyolitic and basaltic tephra. Abrupt irregular boundary to:
90+	R		No description

Profile taken in fresh pit.

Location: N 63°59'12.1"  
W 020°56'10.0"

Altitude: 30m

Vegetation: Ryr mòr (poor heath)  
50% Rarhomeds + 20% gras + Carex

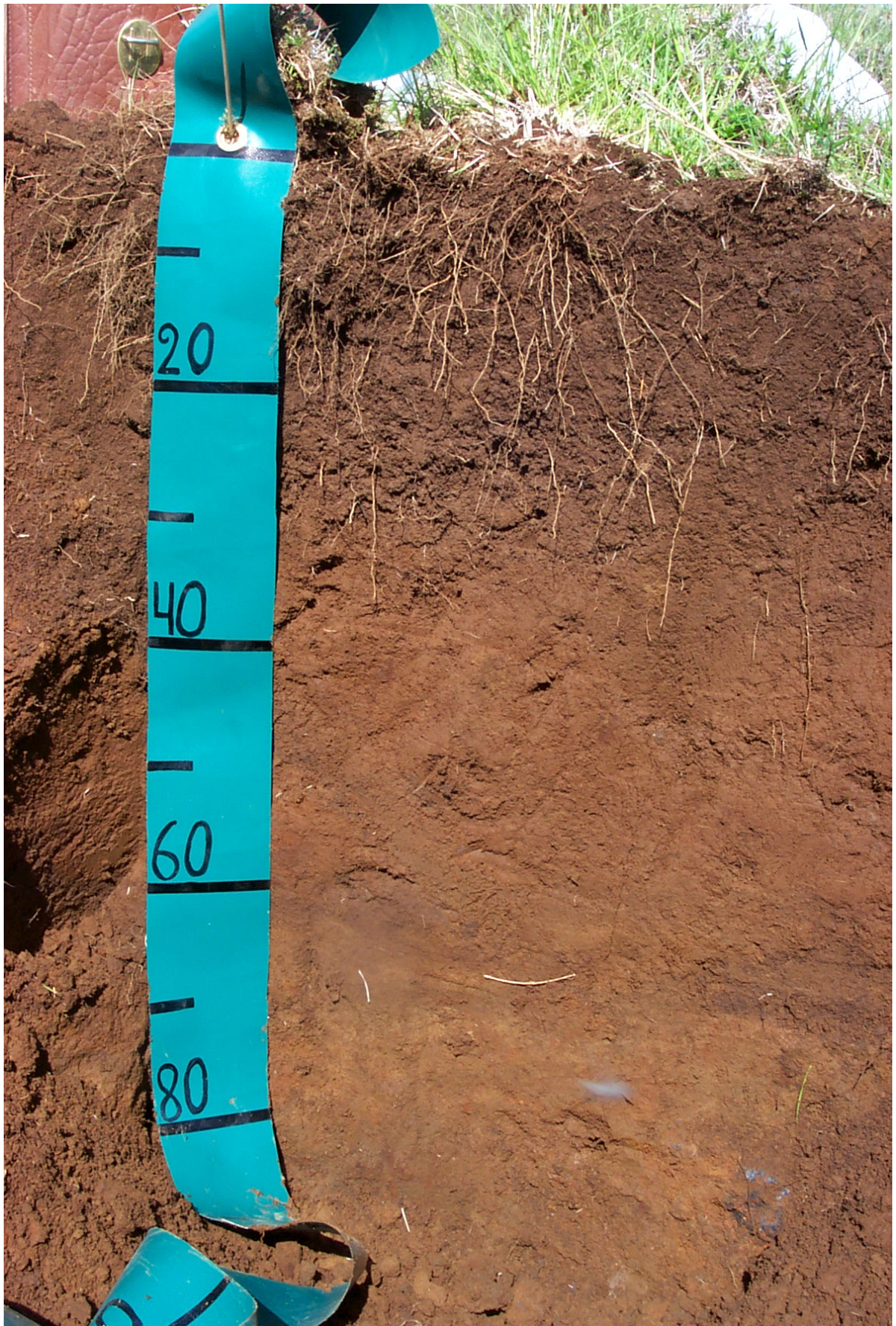
Erosion: slightly grazed

Drainage: moderate well drained

Parent material: eolian and tephra materials deposited on top of about 8000 y old lava (Thorsàrkraun)

Remarks: Level to 1% N slope. Plain. Hummocky 40cm average 1m<sup>2</sup> earth

Stóra Ármót





## Stórhóll (1-8-2001)

Profile Stórhóll			
Depth [cm]	Horizon	Color	
0 – 21	A1	7.5 YR 3/2 dark brown	Silt loam. Very weak fine granular structure. Very friable. Many very fine and fine roots. No mottles. Faint continuous 1cm thick black tephra layer at bottom. Abrupt wavy boundary to:
21 – 36	A2	5 YR 3/3 dark reddish brown	Silt loam. Very weak fine and medium granular structure. Friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
36 – 40	Bw1	10 YR 4/3 brown/ dark brown 5 YR 2.5/2 dark reddish brown	Loamy sand. Very weak fine and medium subangular blocky structure. Friable. Few very fine and fine roots. No mottles. Yellowish tephra on top and blackish tephra on bottom of horizon. Abrupt wavy boundary to:
40 – 78	Bw2	5 YR 3/2 dark reddish brown	Clay loam. Very weak fine and medium subangular blocky and thin platy structure. Friable. Common very fine and fine roots. No mottles. Stratification and lots of organic matter. Abrupt wavy boundary to:
78 – 89	2O	5 YR 3/4 dark reddish brown	Organic material. Structureless. Friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
89 – 118	2Bw1	5 YR 3/2 dark reddish brown	Clay loam. Very weak fine and medium subangular blocky structure. Friable. Common very fine and fine roots. No mottles. Faint stratification like Bw2. discontinuous organic matter spot in middle. Abrupt wavy boundary to:
118 – 128	3O	5 YR 2.5/2 dark reddish brown	Peaty. Thin platy. Friable. Few very fine and fine roots. No mottles. 1cm wood sticks. Abrupt wavy boundary to:
128 – 139	4C	7.5 YR 2.5/0 black	Loamy sand. Very weak fine and medium subangular blocky structure. Friable. Moderately few very fine roots. No mottles. Abrupt wavy boundary to:
139 – 172	5Bw1	10 YR 3/1 very dark gray	Clay loam + medium and coarse gravel. Very weak fine and medium subangular blocky structure. Friable. No roots. 2% few distinct reddish mottles around former roots (oxidized, 2.5 YR 3/4, dark reddish brown). Clear wavy boundary to:
172 – 200	5Bw2	2.5 YR 3/0 very dark gray	Loamy sand + fine and medium gravel. Very weak fine and medium subangular blocky structure. Friable. No roots. No mottles (totally reduced).



Profile taken at side of manmade ditch

Location: N: 65°21'13.7"

W: 20°42'57.6"

Altitude: 112m GPS

Vegetation: slightly hummocky grassland

Erosion: no erosion

Drainage: somewhat poorly drained

Parent material: fluvioglacial deposits

Remarks: large tephra layer on top of gravel. Stratification in Bw1 horizon might be eolian deposited.

Stórhóll



## Víðihlíð (31-7-2001)

Profile Víðihlíð			
Depth [cm]	Horizon	Color	
0 – 7	A1	7.5 YR 4/4 brown/ dark brown	Silt loam + few coarse fragments. Very weak fine and medium granular and subangular blocky structure. Friable. Few fine roots. No mottles. Abrupt wavy boundary to:
7 – 29	A2	7.5 YR 3/2 dark brown	Silt loam. Weak fine and medium subangular blocky structure. Friable. Few fine and medium roots. No mottles. Abrupt wavy boundary to:
29 – 55	Bw1	7.5 YR 3/2 dark brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. Very few very fine and fine roots. 15% common medium and coarse distinct red mottles, 2.5 YR 3/4, dark reddish brown. Faint discontinuous light and black tephra layer. Clear wavy boundary to:
55 – 71	Bw2	7.5 YR 3/2 dark brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. Moderately few very fine roots. No mottles. Distinct continuous black tephra layer at top. Abrupt wavy boundary to:
71 – 76	2C	10 YR 5/4 yellowish brown	Sandy loam. Weak fine and medium subangular blocky structure. Friable. No roots. No mottles. Abrupt wavy boundary to:
76 – 78	3Bw1	7.5 YR 3/2 dark brown	Loam. Very weak fine subangular blocky structure. Friable. Moderately few very fine and fine roots. No mottles. Abrupt wavy boundary to:
78 – 81	4C	2.5 YR 2.5/2 very dusky red	Loamy sand + gravel. Very weak fine subangular blocky to loose structure. Very friable. Common very fine and fine roots. No mottles. Abrupt wavy boundary to:
81 – 88	5Bw1	**	Clay loam. Very weak fine and medium subangular blocky structure. Friable. Very few very fine roots. No mottles. Stratified horizon. Abrupt wavy boundary to:
88 – 97	5Bw2	10 YR 4/3 brown/ dark brown	Silt loam. Very weak fine and medium subangular blocky structure. Friable. Moderately few very fine roots. 5% common faint fine and medium reddish mottles (iron concretions). Abrupt wavy boundary to:
98 – 170	5Bw3	10 YR 3/1 very dark gray	Loamy sand. Very weak fine and medium subangular blocky structure. Friable. Moderately few very fine roots. 15% common faint medium to coarse reddish mottles (iron concretions).

\*\* 2.5 YR 3/4 dark reddish brown  
 10 YR 3/3 dark brown  
 10 YR 3/2 very dark grayish brown



Profile taken at manmade ditch, slightly slope

Location: N: 65°22'54.8"

W: 20°38'34.2"

Altitude: 92m GPS

Vegetation: slightly hummocky grassland

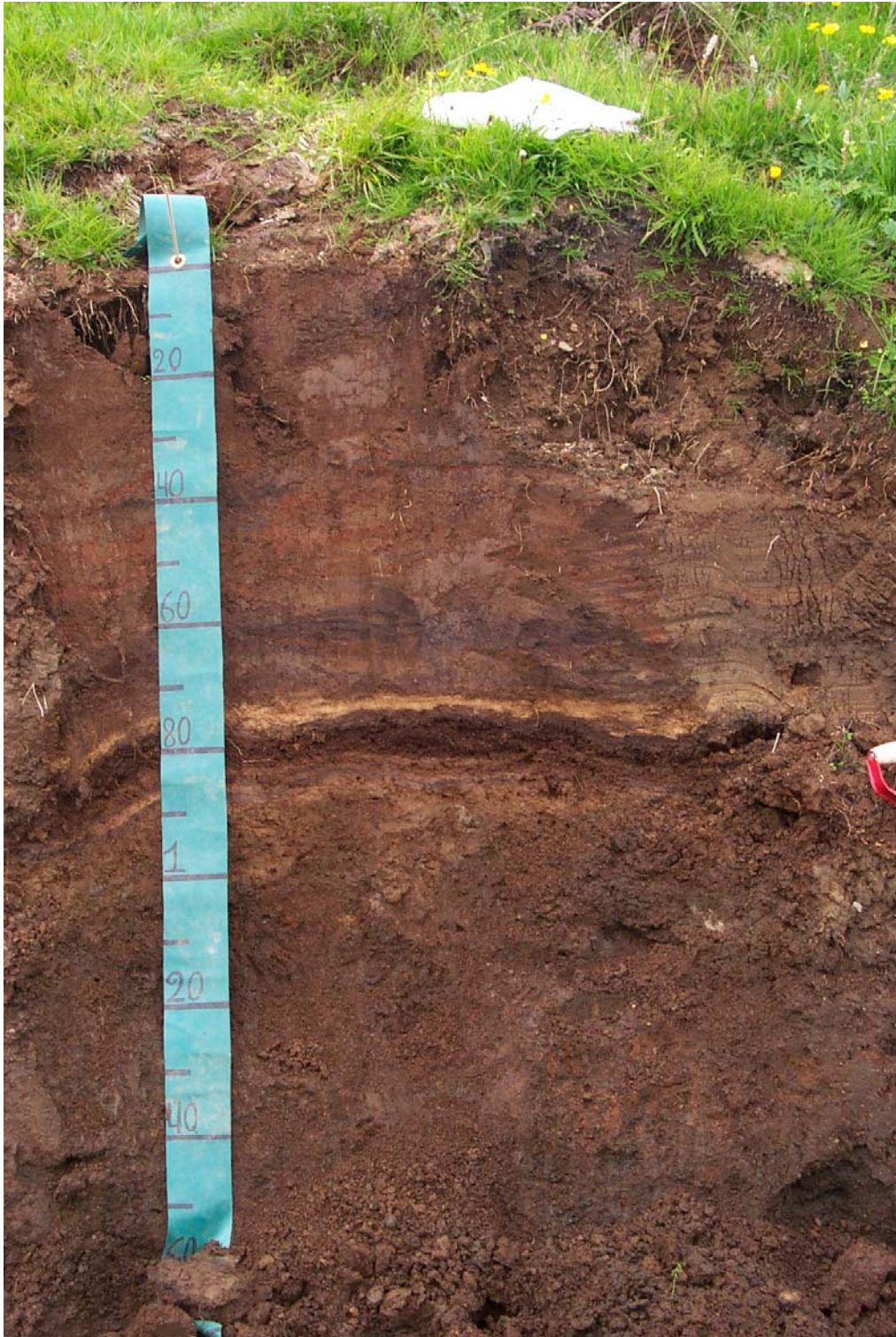
Erosion: little grazing erosion

Drainage: somewhat poorly drained

Parent material: glacial deposits

Remarks: profile might be disturbed, as it is located about 20m from highway 1. Tephra layers are present.

Víðihlið





## Vogar (1-7-2001)

Profile Vogar			
Depth [cm]	Horizon	Color	
0 – 10	A1		Sandy loam. Very weak fine and medium granular structure. Very friable. Many fine to coarse roots. No mottles. Abrupt wavy boundary to:
10 – 20	2C		Loamy sand. Very weak medium subangular blocky structure. Very friable. Common fine and medium roots. No mottles. Thick pocket (9 to 23cm), structure less and loose, a 1480? Abrupt wavy boundary to:
20 – 35	3Bw1		Silt loam. Very weak medium subangular blocky structure. Very friable. Moderate few fine and medium roots. No mottles. Abrupt wavy boundary to:
35 – 50	3Bw2		Silt loam. Very weak medium subangular blocky structure. Very few fine roots. No mottles. Thick rhyolitic layer (0-14cm), sometimes separated in 2 layers (H3), cryoturbation. Abrupt wavy boundary to:
50 – 55	3Bw3		Silt loam. Very weak medium subangular blocky structure. Very friable. Very few fine roots. No mottles. Abrupt wavy boundary to:
55 – 60	3Bw4		Silt loam. Very weak medium subangular blocky structure. Very friable. Very few fine roots. No mottles. Rhyolitic tephra layer (H4). Abrupt wavy boundary to:
60 – 75	3Bw5		Silt loam (has little more clay than 3Bw4). Very weak medium subangular blocky structure. Friable. Very few fine roots. Not mottles. Abrupt wavy boundary to:
75+	R		

Profile taken at fresh pit.

Location: N 66°05'05.7"  
W 16°49'10.8" + 2.5m east

Altitude: 47m GPS, 25m Oli

Vegetation: heath vegetation

Erosion: more erosion closer to sea, northerly winds, periodic erosion events on top of hummocks.

Drainage: well drained

Parent material:

Remarks: Top above 'a' is therefore abnormally thin. Should add 20cm for carbon balance for the area, except for just 2km. The profile is very cryoturbated with tephra, varying from 0 – 23cm. H5 is faint in the middle of 3Bw5. Very hummocky aligned N-S (1.5 by 3m and 0.5 – 1.5m high). 3% A slope

Vogar



## Ýdalir (1-7-2001)

Profile Ýdalir			
Depth [cm]	Horizon	Color	
0 – 16	A1	10 YR 3/2 very dark grayish brown	Sandy loam. Very weak fine and medium granular structure. Very friable. Common fine roots. No mottles. Abrupt wavy boundary to:
16 – 19	Bw1	7.5 YR 3/2 dark brown	Silt loam. Very weak medium subangular blocky structure. Friable. Many fine roots. No mottles. Abrupt wavy boundary to:
19 – 39	Bw2	7.5 YR 3/2 dark brown	Sandy loam. Very weak medium subangular blocky structure. Very friable. Moderate few fine roots. No mottles. Clear wavy boundary to:
39 – 57	Bw3	10 YR 3/2 very dark grayish brown	Sandy loam. Very weak medium subangular blocky structure. Very friable. Moderate few fine roots. No mottles. Clear wavy boundary to:
57 – 75	Bw4	10 YR 3/1 very dark gray	Sandy loam. Very weak medium subangular blocky structure. Very friable. Few fine roots. No mottles. Clear wavy boundary to:
75 – 89	Bw5	10 YR 4/1 dark gray	Sandy loam. Very weak medium subangular blocky structure. Very friable. Very few fine roots. Grayish colored because of water stagnation on 2Bw1 = reduced. Abrupt wavy boundary to:
89 – 108	2Bw1	S: 10 YR 3/1 very dark gray **	Clay. Very weak fine and medium subangular blocky and very weak fine platy structure. Friable. Very few fine roots. 15 % prominent coarse red mottles, 25% distinct yellowish matrix tonguing into 2Bw2 between gray matrix. Cryoturbation. Tongues and pockets of black sand, 3cm. Gradual wavy boundary to:
108 – 142	2Bw2	idem	Clay loam. Very weak fine and medium subangular blocky and very weak fine platy structure. Friable and firm. Very few fine roots. 10% medium and coarse prominent red mottles, 40% yellowish matrix tonguing in gray matrix. Gradual wavy boundary to:
142 – 175	2Bw3	Idem	Clay loam. Very weak fine and medium subangular blocky and very weak fine platy structure. Very firm. Very few fine roots. 22% prominent medium and coarse red mottles, 20% distinct yellowish medium and coarse mottles. Pockets of firm black sand. Abrupt wavy boundary to:
175+	R	10 YR 4/2 dark grayish brown	

\*\* reddish: 2.5 YR 3/6 dark red  
yellowish: 10 YR 5/6 yellowish brown  
grayish: 10 YR 5/2 grayish brown



Profile taken at fresh pit.

Location: N 65°52'13.6"  
W 17°25'17.6"

Altitude: 44m GPS

Vegetation: Much heath (grós, empetrum....)

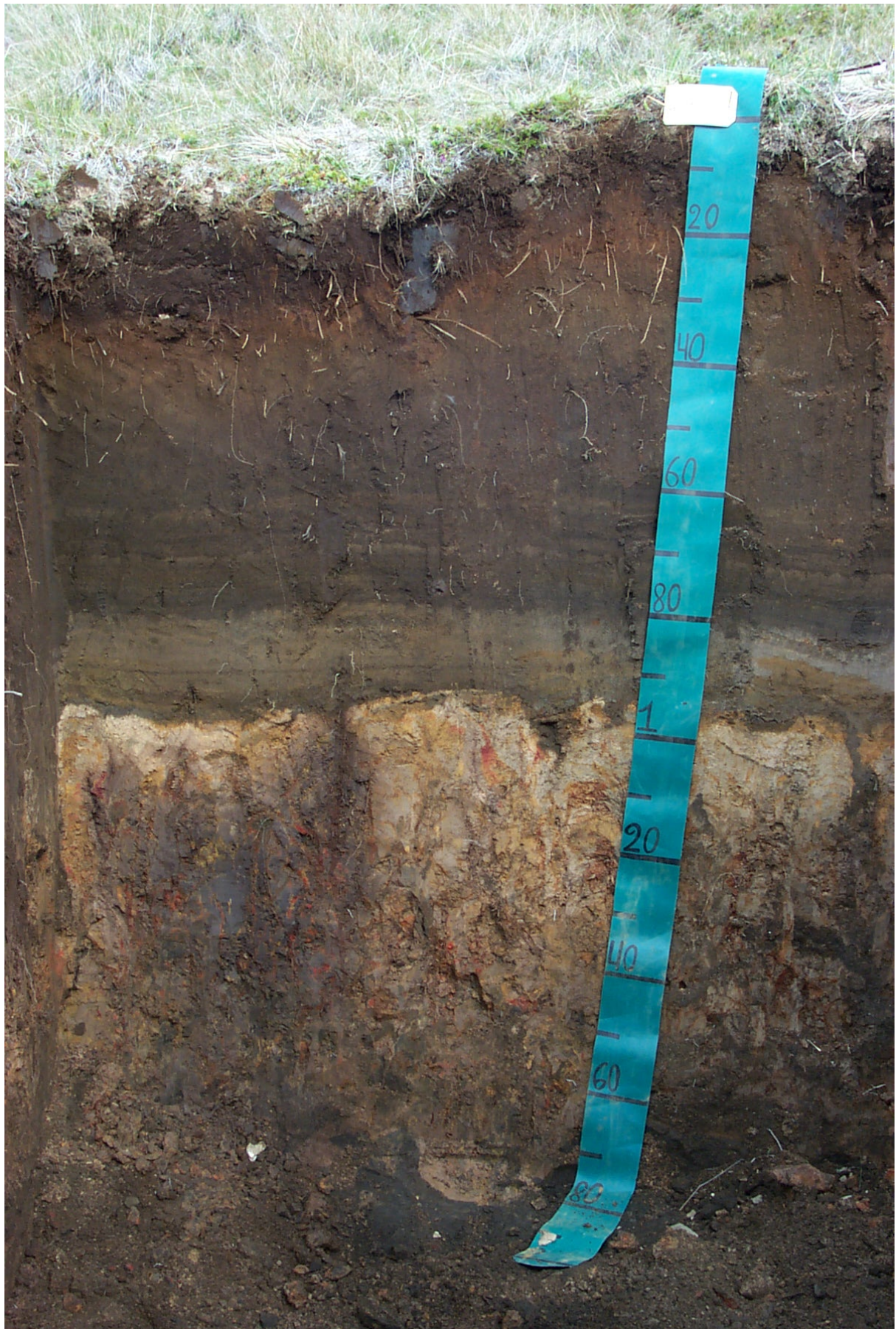
Erosion: Hummocky with low hummocks (20cm)

Drainage: Well drained

Parent material:

Remarks: Dryland heath above lava (Laxondals hraun). Silica diatoms  
Not clear the reason for the reduced and what appears to be rich in Si-diatoms  
as no clear reason found for impoundment. Could be windblown.  
NB the to 10-15cm was disturbed in plow but only slightly at the sampling  
site.

Ýdalir



## Austfirðir 2002

### Breiðdalur (12-6-2002)

Profile: Breiðdalur			
Depth	Horizon	Color	
0-11cm	O/A1?	5 YR 3/2	Silt loam. Weak medium granular structure. Very friable. Boundary wavy.
11-26 cm	A	5 YR 3/2	Silt loam. Very weak medium sub angular blocky. Parting 2: very weak medium granular structure. Very friable. Common fine and very fine roots. Crio. Tephra layer "a" at bottom (1-3 cm) not sampled. Boundary very abrupt wavy.
26-37 cm	Bw1	7,5 YR 3/4	Silt loam. Weak medium sub angular blocky structure. Common fine and very fine roots. Medium mottles forming strings (2%). Tephra layer 1362 at bottom (0-1cm). Not sampled. Crio. Boundary very abrupt wavy.
37-47 cm	Bw2	10 YR 3/2 Color of mottles: 10 YR 4/8	Clay loam. Weak sub angular blocky. Very friable. Moderately few and fine roots. Distinct mottles forming tongs (1-3 mm). Crio. Boundary very abrupt wavy.
47-70 cm	Bw3	10 YR 3/4	Silty clay loam. Weak medium sub angular blocky. Friable. Very few medium mottles (1%). Few and very few roots. Crio. Boundary very abrupt wavy.
70-82 cm	Bw4	10 YR 3/3	Silty clay loam. Weak medium sub angular blocky structure. Friable. Few fine and very fine roots. Very few medium mottles (4%). Boundary very abrupt wavy.
82-100 cm	2Bw1	Grey: 2,5 YR Yellow: 2,5 YR 6/4 Red: 2,5 4/8	Gravelly clay. Weak fine granular structure. Friable. Fine and very fine roots. Some clay coding. Mottles (30%). Rounded gravel (70%). Boundary very abrupt wavy.
100-120 cm +	2Bw2	10 YR 4/1	Clay loam. Medium moderately sub angular blocky structure. Friable. Very few fine roots. Rounded gravel 10% 2-20 mm. The horizon is formed by a gray mass with 5% red and yellow mottles.



Profile taken in a valley bottom.

Location: N65°20,62”

W14°29,849”

Altitude: 130m over sea level (GPS)

Vegetation: hummocky and dry vegetation cover yet, wet at some parts. Hummocks of 20-40cm height. Composition of grassland: *Betula mana*, *Bistorta vivipara*, *Empetrum nigrum*, *Salix herbacea*, and *Cladonia arbuscula*. Pasture land.

Erosion: no erosion

Drainage: somewhat poorly drained.

Remark: formation history: at postglacial time a great deal of silt settled from nearby rock forming the 2Bw1 horizon. Frost lifting has caused the amount of gravel in the 2Bw1 horizon. The groundwater level is high and has caused the precipitation of smectite. At later times the affect of wind erosion came (ash and other windblown material) and formed Bw3 and Bw4 horizons.

Smectite precipitation was sampled.

Ash layers found: Öræfajökull 1362 and “a” 1480.



**Fell (12-6-2002)**

Profile: Fell			
Depth	Horizon	Color	
0-10 cm	A	5YR3/2	Silt loam. Weak fine to medium granular structure. Many fine to many very fine roots. Crio. Boundary very abrupt wavy.
10-14 cm	2C	10YR5/3	Loamy sand. Loose structure less. Moderately few roots. Boundary wavy.
14-26 cm	3Bw1	5YR3/2	Loam. Moderately medium sub angular blocky structure. Moderately few roots. Crio. Boundary wavy.
26-31 cm	4C	10YR2/1	Sandy loam. Structure less loose. Friable. Moderately few roots. Boundary wavy.
31-43 cm	5Bw1	10Yr3/3 and 2,5YR3/2	Silt loam. Medium sub angular blocky structure. Friable. Boundary wavy.
43-75 cm	5Bw2	2,5YR3/6	Loam. Moderately fine and medium sub angular blocky. Friable. Very few roots. Coarse fragments: 2-20 mm. Boundary clear smooth.
75-83 cm +	5Bw3	7,5YR3/4.	Loam. Moderately fine and medium sub angular blocky. Friable. Very few roots. Coarse fragments: 2-20 mm. Not sampled.

Profile taken in tussocky ground NV of a gravel pit

Location: N 65°20,268"

W 14°29,840"

Altitude: 130 m over sea level (GPS)

Vegetation: dry tussocky land. A great deal of hummocks 15-40 cm in height. Slope 0°. *Betula nana*, *Salix herbacea*, *Bistorta vivipara*, *Carex lachenalii*, *Kobresia myosuroides*.

Erosion: no erosion.

Remarks: at this location the Austurland ash layers can again be identified.





Fell profile and its surroundings.

**Hamar (11-6-2002)**

Profile: Hamar			
Depth	Horizon	Color	
0-11 cm	A1	10 YR 2/1	Silt loam. Very weak fine granular structure. Very friable. Very fine and fine medium roots. Boundary abrupt smooth.
11-41 cm	A2	10 YR 2/2	Silt loam. Very weak fine granular structure. Very friable. Common very fine, fine and medium roots. Boundary gradual smooth.
41-75 cm	A3	10 YR 2/2	Silt loam. Very weak fine granular structure. Very friable. Common fine and medium roots. Boundary clear.
75-85 cm	Bw1	5 YR 3/2	Silt loam. Weak fine and sub angular blocky. Parting 2: Weak medium granular structure. Friable. Rocks 2-10 mm. Moderately few roots. Few fine distinct mottles (2,5 YR 3/4). Boundary clear smooth.
85-98 cm	Bw2	7,4 YR 3/4	Sandy clay loam. Weak and medium sub angular blocky structure. Friable. Very few fine and medium roots. Distinct and medium mottles forming strings (2,5 YR3/4)
98-109 cm	Bw3	7,5 YR 3/2	Clay loam. Weak and medium sub angular blocky structure. Friable. Very few roots. Distinct and medium mottles forming strings (2,5 YR 4/8). Boundary smooth.
109-133 cm	Bw4 (s?)	10 YR 4/2	Sandy clay loam. Firm. Very few roots. Distinct and prominent common med. to coarse mottles (15%). Color of mottles: 2,5 YR 4/6.
133-153 (+>15cm)	Bw5	10 YR 3/1	Clay. Moderate sub angular blocky structure. Friable. Tonguing mottles, 20% medium to coarse mottles (2,5 YR 4/8).



Profile taken in a rofabard, which was situated in a river channel. Slope: 5°.

Location: N 64°39,899''

W 14°33,434''

Altitude: 24m over sea level. (GPS)

Vegetation: vegetation cover unusually fertile (*Carex* and *Agrotis*).

Erosion: wind erosion.

Drainage: somewhat poorly drained.

Remarks: the soil is located on a tertiary basalt ledge which slants like its surface.



Hamar profile and its surroundings.  
Mottles tongs can also be seen in the bottom layers. The knife is 30 cm in length



## Hofsá (11-6-2002)

Profile Hofsá			
Depth	Horizon	Color	
0-6 cm	A1	7,5 YR 3/2	Sandy loam. Very weak fine to medium granular structure. Very friable. Many fine roots. Relative amount of rhyolite sand grains. Boundary clear wavy.
6-45 cm	A2	7,5 YR 3/2	Sandy loam. Very weak medium and fine blocky sub angular structure. Parting 2: very weak medium granular structure. Very friable. Common fine roots.
45-73 cm	Bw1	7,5 Yr 3/2	Sandy loam. Weak and medium sub angular blocky structure. Friable. Few fine roots.
	R		

Location: N 64°32,752''

W 14°37,398''

Altitude: 18m over sea level (GPS)

Vegetation: (*Cetraria islandia*, *Agrostis* and *Dicranaceae*).

Erosion: No erosion.

Drainage: Moderately well drained.

Remarks: Toe slope 3° N. Tertiary basalt bedrock. Profile situated in bottom of a valley. The amount of sand in the profile came to a surprise and no tephra layers were found. The source of the sand is not clear but may originate from frost weathering of a basaltic lava flow, which explains the lack of tephra layers in the profile.



Hofsá profile and its surroundings.



## Hornafjörður (10-6-2002)

Profile: Hornafjörður			
Depth	Horizon	Color	
0-3 cm	O	10 YR 3/1	Sandy loam. Decomposed material. Many very fine roots. Boundary very abrupt smooth.
3-8 cm	C1	2,5 Y 3/0	Sand. Single grain structures less. Grains 5% 2-20 mm. Very fine few roots. Boundary abrupt wavy.
8-20 + cm	C2	2,5 Y 3/0	Sand. Single grain structures less. Grains 20% 2-20 mm. Very few fine roots. Boundary abrupt wavy.

Profile taken from a former riverbed.

Location: N 64°21,507" Altitude: 37 m over sea level.

W 15°20,565"

Altitude: 9m over sea level (GPS)

Vegetation: *Junctus arcticus* 20%, *Salix phylicifolia* 10%.

Drainage: water level at 17 cm depth. Not well drained.

Parent material: material transported from farmer river.

Remark: the land recovered after a bridge was built over the Hornafjörður riverbed.



Surroundings of Hornafjörður profile

**Skeiðarársandur (9-6-2002)**

Profile Skeiðarársandur			
Depth	Horizon	Color	
0-7 cm	C		Sand. Structure less loose. ½ cm desert payment. Grains 20% 2-40 mm. Boundary very abrupt wavy. Not sampled.
7-16 cm	2A	5 YR 2,5/1	Loamy sand. Structure less loose. Grains 5% 2-20 mm. Very few roots. Boundary very abrupt wavy.
16-18 cm	3C	7,5 Y 2/0	Loamy sand. Structure less loose. No coarse fragments. Very few roots. Boundary very abrupt wavy.
18-45	4C	5 YR 5,5/1	Sand. Structure less loose. No coarse fragments. Very few roots.
45-50+	5C		

Profile taken in front of the Skeiðarár glacier in an area of frequent glacier floods.

Vegetation: vegetation cover 2%.

Erosion: severe erosion.

Parent material: sand, boulders, silt and ash fragments from underneath the glacier.

Drainage: very well drained.



Skeiðarársandur profile and its surroundings

### Svalbarð (13-6-2002)

Profile: Svalbarð			
Depth	Horizon	Color	
0-12 cm	A	10YR3/4	Silt loam. Weak medium granular structure. Very friable. Common fine roots. Very crio turbaded. Boundary clear smooth.
12-34 cm	Bw1	7,5YR3/4	Silt loam. Moderately medium sub angular blocky structure. Friable. Common fine roots. Tephra layer "a" scattered through the horizon. Boundary abrupt irregular.
34-61 cm	Bw2	5YR4/4	Silt loam. Weak medium sub angular blocky. Very friable. Moderately few roots. Frost influence. Boundary clear wavy.
61-72 cm	Bw3	5YR3/2	Silt loam. Moderately medium sub angular blocky structure. Friable. Very few roots. Rocks: 5% 2-35mm. Boundary clear wavy.
72 cm-1 m+	2C	Color of stones 10YR5/1	Small sample taken, 95% gravel + móhella.

Profile taken in gravel pit. Slope 0%.

Location: N66°12'263"

W15°41'00,2"

Altitude: 40 m over sea level (GPS)

Vegetation: dry land. Vegetation cover: *Betula nana*, *Carex Bigelowii*, *Kobresia myosuroides*, *Bistorta vivipara*.

Erosion: no erosion

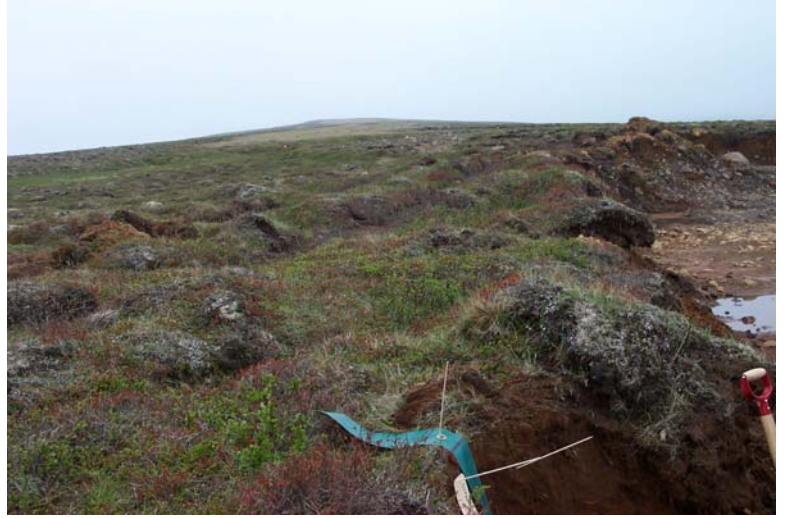
Drainage: well drained.

Remarks: beside the profile the tephra layer H3 was found (5cm thick).

Móhella 15 cm thick and sampled is found in the Bw3 horizon. Smectite is found at the boundary of Bw3 and 2C.

The Svalbarð profile is very similar to the Vopnafjörður and Fell profile on page 11 and 12.





Svalbard profile and its surroundings

**Viðborð I (10-6-2002)**

Profile: Viðborð I			
Depth	Horizon	Color	
0-1 cm	O		Not sampled
1-13 cm	A (top layer formed by windblown material)	10 YR 2/2	Silt loam. Very weak fine to medium granular and sub angular blocky. Friable. Boundary abrupt wavy. Common fine roots. 1 cm ash layer at bottom.
13-27 cm	2Bw1	10 YR 2/2	Gravely silt loam. Weak fine to medium sub angular blocky. 50% 2-50 mm. 75% gravel. Friable. Boundary clear irregular. Common fine roots.
27-50 + cm	2Bw2	7,5 YR 3/4	Gravely clay loam. Weak fine to medium sub angular blocky. Friable. Few fine roots. Grains 75% 2-20 mm.

Profile taken on a tertiary basalt mountains ledge.

Location: N 64°20,367"

W 15°24,208"

Altitude: 34 m over sea level. (GPS)

Vegetation: 90% *Aulacomnium palustre*, 3% *Junctus trifidus*, 1% *Empetrum nigrum*, *Bartsia alpina*, *Cladoniaceae*.

Drainage: somewhat poorly drained.

Parent material:

Remarks: profile taken on mountain ledge formed by Tertiary basalt. Probable affect of landslide. Layer 2Bw1 and Bw2 are extremely stony, >20%.



Viðborð I profile and its surroundings

## Viðborð II (10-6-2002)

Profile Viðborð II			
Depth	Horizon	Color	
0-8 cm	O	10 YR 2/2	Weak medium and fine granular structure. Little to medium decomposed material. Boundary clears wavy.
8-16 cm	A1	5 YR 3/2	Silt loam. Very weak fine to medium granular structure. Very friable. Many fine to medium roots. Fine and common distinct medium to coarse mottles. Color of mottles 2,5 YR 4/6. Boundary clear wavy
16-23 cm	2O1	10 YR 3/4	Little to medium decomposed material. Common fine roots cutting the histic layer. Common medium to coarse mottles. Color of mottles 2,5 YR 4/6. Tephra layer (T) at bottom, 1 cm discontinuous (7,5 YR 2/0). Boundary clear wavy.
23-38 cm	2O2	10 YR 3/2	Structure weak and fine platy. Medium to many decomposed material. Common fine roots cutting through histic layer. Common medium to coarse mottles. Color of mottles 2,5 YR 4/6. The tephra layer of Öraefajökull 1362 is found at bottom, 0-3 cm, color 2,5 YR 6/2. Boundary abrupt wavy.
38-48 cm	2O3	5,5 YR 3/3	Medium decomposed material. Tephra layer at bottom, 0-2 cm, loamy sand, color 7,5 YR 2/0. Boundary abrupt wavy.
48-78 cm +	3Bw	10 YR 3/1	Clay loam. Weak fine to medium sub angular blocky. Very friable.



Profile taken on a tertiary basalt mountain ledge.

Location: N 64°20,366''

W 15°24,216''

Altitude: 37 m over sea level (GPS)

Vegetation: grassland (*Carex* and *Agrotis* 30%, *Juncus* and *Equisetum*). Hummocky land with hummocks up to 20 cm in height.

Erosion: probably pasture land but no erosion.

Drainage: poorly drained.

Remarks: groundwater at 60 cm depth and slope at 3° S/W. (See also profile description of Viðborð I)



Surroundings of Viðborð II

Viðborð II profile

### Vopnafjörður (13-6-2002)

Profile: Vopnafjörður			
Depth	Horizon	Color	
0-14cm	A1	7,5YR3/4	Silt loam. Fine moderately granular structure. Very friable. Many very fine and fine roots. Boundary abrupt wavy.
14-28cm	A2	5YR3/3	Loam. Medium granular structure. Very friable. Common very fine and fine roots. Boundary abrupt wavy.
28-51cm	Bw1	10YR3/4	Loam. Weak medium sub angular blocky structure. Very friable. Very fine and fine roots. Boundary abrupt wavy.
51-66cm	Bw2	10YR4/4	On top: "a" thephra layer (3 cm), not sampled. Silt loam. Weak medium sub angular blocky structure. Friable. Very few fine and medium roots. Very abrupt irregular boundary.
66-73cm	2C (Thephra layer H3)	10YR4/6	Silt loam. Weak fine sub angular blocky structure. Friable. Very few roots. Boundary very abrupt irregular.
73-90cm	3Bw1	7,5YR4/4	Silt loam. Weak medium sub angular blocky structure. Friable. Very few roots. Boundary claim wavy.
90-cm +	3bw2	7,5YR4/4	Silt loam. Weak medium sub angular blocky. Friable. Very few fine roots.

Profile taken in a rofabard situated in new dry tussocky land.

Location: N 65°40,143"

W 14°54,070"

Altitude: 64m over sea level

Vegetation: Hummocks 10-15cm in height. Vegetation cover is composed of *Betula dioeca*, *Betula pubescens*, *Carex lachenalii*, *Bistorta vivipara*, *Empetrum nigrum*, *Carex bigelowii*, *Calluna*.

Erosion: erosion on top of hummocks.

Drainage: Well drained.

Remarks: the Vopnafjörður profile is very similar to the Fell profile on page 11.

Affects of thephra layer on the soil composition are obvious.

Vopnafjörður profile



The Vopnafjörður profile and its surroundings.



## Vestfirðir 2002

### Dýrafjörður (Dýri) (10-7-2002)

Profile: Dýrafjörður			
Depth	Horizon	Color	
0-7 cm	O1	10 YR 2/2	Little decomposed material. Many moderately few roots. Boundary abrupt wavy.
7-17 cm	O2	10 YR 3/2	Moderately decomposed material. Common fine to moderately few roots. Boundary abrupt wavy
17-26 cm	O3	10 YR 3/1	Dominated by decomposed material. Mucky. Few medium dead roots. Boundary abrupt wavy.
26-41 cm	2O1	10 YR 3/3	Three gravel layers. Few medium dead roots. Red precipitations in gravel between 2O1 and 2O2 horizons.
41-54 cm	2O2	7,5 YR 3/2	Dominated by gravel (40%) 2-30 mm.
54-72 cm	3O1	2,5 Y 2/0	Considerable amount of decomposed material. Undecomposed threads. Texture smeary. Sticks to fingers. Boundary abrupt wavy.
72-83 cm	3O2	2,5 Y 2/0	Considerable amount of decomposed material. Undecomposed threads. Texture smeary and sticks to fingers. This horizon continues down to 30 cm in depth.

Profile taken in a fresh pit not far from the main road. Slope 5°N.

Location: N: 65°51,166"

W: 23°23, 29,6"

Altitude: 31 m over sea level (GPS)

Vegetation: sloping fen. Hummocks of 20 cm in height and big hummocks of 1 m in diameter and 1 m in between them, moss and other wetland vegetation (stör / sef).

Erosion: no erosion

Drainage: somewhat excessively drained

Remarks: traces of water movement can be seen in the soil, probably from spring floods on ice. Blue redox water can be seen there and there.



The profile of Dýrafjörður can be seen on the left and on the right a blue redox colored water is trickling down the profile.

### Gufudalur (Gufa) (8-7-2002)

Profile: Gufudalur			
Depth	Horizon	Color	
0-11 cm	A1	5 YR 3/2	Sandy loam. Very fine to medium granular structure. Very friable. Many very fine to medium roots. Boundary wavy.
11-21 cm	A2	5 YR 3/1	Loam. Fine to medium granular structure. Very friable. Common fine and medium roots. Boundary abrupt wavy.
21-51 cm	2Bw1/C	10 YR 3/3	Gravelly clay loam. Very medium sub angular blocky structure. Moderately few fine roots. Gravel (35%) 2-200mm.

Profile taken in a 2 m deep depression in the east of Gufudalur. Slope 2° SA.

Location: N 65°33,34,4"

W 22°20,19,5"

Altitude:

Vegetation: hummocky land with hummocks of 20-100 cm in height and 2x2 m in width.

Composition of vegetation in the depression: *Vaccinium uliginosum*, *Armeria maritima*, *Carex bigelowii*. Other vegetation in the surroundings of the Gufudalur profile: *Betula norvegia* (30%), *Empetrum nigrum ssp. hermaphroditum* (10%), *Juncus trifidus*, *Stereocaulon*, *Racomitrium*, *Salix glauca ssp. callicarpaea*, *Salix phylicifolia*.

Erosion: unvegetated land (30%). Gravel patches all around and vegetated areas in between.

Remarks: the profile was taken in one of the vegetated areas. Horizons A1 and A2 may be C-horizons.







The Gufa profile can be seen on the left and on the right a relax profile description is taking place

**Klukkufell (8-7-2002)**

Profile: Klukkufell			
Depth	Horizon	Color	
0-18 cm	O1	10 YR 2/2	Many fine to medium roots. Platy structure. Boundaty wavy.
18-30 cm	O2	5 YR 2,5/2	Common medium roots. Rather smeary texture. Thephra layer probably found at the boundary of O2 and O3 (light gray) or maby diatome precipitation. Platy structure.
30-75 cm	O3	10 YR 2/1	Wood remains (3%) 1-6 cm. Platy structure. Texture rather smeary. Boundary wavy.
75-115 cm	O4	7,5 YR 2/0	Considerable amount of decomposed material. Very smeary texture. Boundary wavy.
115-123 cm	2Bw	5 Y 4/3	Clay. Platy structure. Very friable. Weak medinum subangular blocky stucture. A blue color was found in the horizon propably caused by reduction of Fe <sup>+2</sup>
123-133 cm	3O	2,5 YR 2/0	Platy structure. Lots of decomposed material.
133-153 cm	4Bw	Matrix: 10 YR 5/4 Gray color: 5 Y 4/1	Clay loam. Very moderately sub angular blocky structure.
153-173 cm	5O1	2,5 Y 2,5/0	Lots of decomposed

			material.
173-183 cm	502	2,5 Y 2,5/0	Platy. Common coarse mottles. A sample was taken from this horizon separately. The gravel had a blue redox color. Lots of decomposed material.
	R		

Profile taken in a peat.

Location: N 6531°, 53,1”

W022°21,52,1

Altitude: 49 m over sea level (GPS)

Vegetation: peat, drained, hayfield. Slope 3°W. This peat profile was deep compared to the average peat profiles. The tussocky land around the profile is variable in thickness. Average thickness: 10-50 cm.

Erosion: erosion spots were found widely around the profile.

Drainage: Moderately well drained



The picture on the left shows the Klukkufell profile. The picture on the right shows a blue redox color ( $\text{Fe}^{2+}$ ) that was found on the 2Bw horizon.





### Mjóifjörður (Mjóí) (11-7-2002)

Profile: Mjóifjörður			
Depth	Horizon	Color	
0-6 cm	A1	7,5 YR 3/4	Silt loam. Fine granular structure. Very friable. Very fine, medium roots. Boundary wavy.
6-23 cm	2O1	10 YR 3/3	Sandy silt. Good amount of decomposed material. Very many fine medium roots. Fragments get coarser when going father down the profile. Gravel (60%) 2-5 mm. Boundary wavy.
23-28 cm	2O2	7,5 YR 3/2	Salty clay. Smeary texture. Many fine roots. Good amount of decomposed material. Boundary wavy.
28-41 cm	2O3	10 YR 3/2	Sandy loam. This layer is mixed with sand. Decomposed material in between sand grains. Coarser grains when going down the horizon. Boundary wavy.
41-50 cm	2Bw1	10 YR 3/3	Sandy loam. Medium sub angular blocky structure. Friable. Few very fine roots. Medium mottles at bottom from C layer. Boundary wavy.
50-55 cm	C	5 Y 4/2	Gravelly. Gravel (90%) 2-50 mm. Color of precipitation 5 YR 4/6.

Profile taken in a swamp at a valley bottom. No slope.

Location: N 65°48,894"

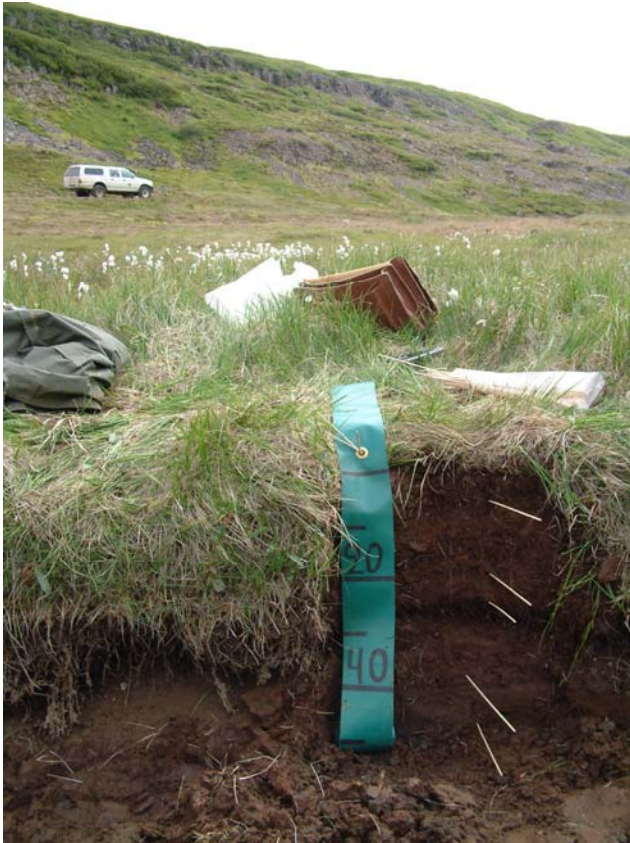
W 022°39,661"

Altitude: 15 m

Vegetation: Fífa, grös, and other swamp vegetation. Hummocky land 10 cm in diameter.

Erosion: No erosion

Drainage: Well drained



The profile of Mjófjörður.



**Mjólkurá (Mjólk) (9-7-2002)**

Profile: Mjólkurá			
Depth	Horizon	Color	
0-6 cm	A	10 YR 2/2	Loam. Weak fine to medium granular structure. Very friable. Many fine roots. Boundary abrupt wavy.
6-15 cm	Bw1	7,5 YR 3/2	Clay loam. Very weak fine to medium sub angular blocky structure. Common fine roots. Boundary abrupt wavy.
15-24 cm	2Ab	10 YR 3/2	Clay loam. Very weak fine to medium sub angular blocky structure. Very friable. Many medium roots. Stones: 5-20 mm. Mottles (10%) at bottom. Boundary abrupt wavy.
24-32 cm	2Bw1	10 YR 3/2	Clay loam. Very weak fine to medium sub angular blocky structure. Moderately few fine roots. Stones (15%) 5-20 mm. Boundary abrupt wavy.
32-40 + cm	2Bw1b	10 YR 3/2	Clay loam. Very weak fine sub angular blocky structure. Very friable. Very few fine roots. Stones (15%) 5-20 mm.

Profile taken on a mountain ledge above the hydroelectrically station of Mjólká. Slope 0° on the ledge were the profile was taken.

Location: N: 65°46,775"

W 23°09,700"

Altitude: 85 m over sea level (GPS)

Vegetation: Hummocks, *nigrum*, *Salix phylicifolia*, *Salix callicarpaea*, *Vaccinium uglinosum*, *Carex bigelowii*, *Alchemilla alpina*, *Kobresia myosuroides*.

Drainage: moderately well drained / somewhat poorly drained.

Erosion: little erosion. Little pasture stress.

Parent material: eolian deposits and probably also material from a former stream channel which explains the formation of the 2Ab horizon.

Remarks: affect of frost lifting.



This profile is quite representative for well-vegetated lowland. The soil is shallow and some horizons have many coarse fragments.



The profile of Mjólká and its surroundings. This profile is representative for a well vegetated low land in North Western Iceland.



**Seyðisfjörður (Seyði) (10-7-2002)**

Profile: Seyðisfjörður			
Depth	Horizon	Color	
0-3 cm	A1	7,5 Yr 3/2	Sandy loam. Fine granular and sub angular blocky structure. Very friable. Many very fine roots. Boundary wavy.
3-9 cm	A2	10 YR 3/2	Sandy loam. Fine granular and sub angular blocky structure. Many very fine and fine roots. Boundary irregular.
9-30 cm	2bw/C	5 YR 4/4 Color of sand lance: 10 YR 3/2	Sandy loam. A sand lance was found in the middle of the layer 3 cm in diameter. Structure of the sand lance: fine granular / sub angular blocky and friable. Gravel (60%) 2-100 mm, granular structure. Boundary wavy.
30-34 cm+	3Ab	10 YR 2/2	Clay loam. Few very fine roots. Medium and fine sub angular Friable. Few very fine roots.

Profile taken in a valley bottom. Slope 10°n/W

Location: N 65°58'044"

W 22°55,056"

Altitude: 7 m over sea level (GPS)

Vegetation: Grass, *Betula nana*, *Aliceville alpine*, *Rumen acetosella*, *Salix*.

Erosion: erosion spots between hummocks.

Drainage: moderately well drained. Peat in the nearest neighborhood.

Remarks: effect of former water flow near the profile.



The profile of Seyðisfjörður



**Skötufjörður (Skata) (11-7-2002)**

Profile: Skötufjörður			
Depth	Horizon	Color	
0-30 cm	A1	5 YR 3/2	Silt loam. Fine granular structure. Very friable. Many fine, fine and medium roots. Boundary smooth.
30-38 cm	A2	10 YR 2/2	Silt loam. Fine granular structure. Very friable. Many fine, fine and medium roots. Boundary smooth.
38-44 cm	2O	5 YR 3/2	Considerable amount of decomposed material. Many very fine roots. Boundary smooth.
44-51 cm	3Bw1	10 YR 2/2	Silty clay loam. Fine granular and medium sub angular blocky structure. Boundary smooth.
51-60 cm	3Bw2	10 YR 2/1	Silty loam. Medium sub angular blocky structure. Friable. Very few fine roots. Boundary smooth.
60-76 cm	4O1	10 YR 2/1	Good amount of decomposed material. Medium platy structure. Boundary smooth.
76-116 cm	4O2	7,5 YR 3/2	Good amount of decomposed material. Texture very smeary. Branch remains can be found in the horizon. Boundary smooth.
116-126 cm	5C		Not sampled. Very gravely (60%) 1-6 mm.

Profile taken in a valley bottom.

Location: N: 65°53,463''

W 022°50,306''

Altitude: 13 m over sea level (GPS)

Vegetation: grassland a hummocky.

Erosion: little erosion

Drainage: moderately well drained

Remarks: probably a dried peat caused by aeolian deposits. The profile was taken about 30 m from the road.



The profile of Skötufjörður and it's surroundings

**Vatnsdalur (9-7-2002)**

Profile: Vatnsdalur			
Depth (cm)	Horizon	Color	
0-10 cm	A1	10 YR 3/3	Silt loam. Weak very fine and fine granular structure. Very friable. Many very fine and fine roots. Boundary abrupt wavy.
10-20 cm	A2	10 YR 3/4z	Silt loam. Weak very fine and fine structure. Very friable. Common very fine to fine roots. Dark layer at bottom. Propably ash layer. Not sampled. Boundary very about wavy.
20-32 cm	Bw1	10 YR 3/6	Loam. Very weak moderately to medium sub angular blocky structure. Very friable. Moderately few roots. Boundary abrupt wavy.
32-43 cm	Bw2	7,5 YR 4/4	Sandy loam. Very weak moderately to medium sub angular blocky structure. Very friable. Moderately few roots. Boundary abrupt wavy.
43-53 cm+	Bw3	7,5 YR 3/4	Sandy loam (gravelly). Very weak moderately to medium sub angular blocky structure. Very friable. Very few roots. Gravel (20%) 2-200 mm.

Profile taken in a valley bottom near the lake of Vatnsdalur. Slope: east 1°. Toe slope.

Location: N 65°35,730"

W 023°07,678"

Altitude: 15 m over sea level (GPS)

Vegetation: Wetland. *Carex bigelowii*, *Bistorta vivipara*, *Nardus*, *Salix phylicifolia*, *Betula pubescens*.

Drainage: moderately well drained





The Vatnsdalur profile and it's surroundings.

## Önundarfjörður (Öni) (10-7-2002)

Profile: Önundarfjörður			
Depth (cm)	Horizon	Color	
0-7 cm	O	5 YR 3/2	Little decomposed material. Weak fine granular structure. Very friable. Many fine and medium roots. Boundary abrupt wavy.
7-20 cm	A1	10 YR 3/3	Loam. Weak fine granular structure and weak fine sub angular blocky structure. Silty sticky texture. Sticks to fingers. Common fine roots. Boundary abrupt wavy.
20-43 cm	Bw1	10 YR 3/2	Silt loam. Weak medium fine sub angular blocky structure. Very friable. Moderately few roots. Boundary abrupt wavy,
43-83 cm	Bw2	10 YR 3/4	Silt loam/nearly clay loam. Friable. Sticky texture (affect from roots?). Moderately few roots. Gravel (50%) 2-15 mm.

Profile taken in the valley's bottom near a high voltage ditch just outside Flateyri. The soil in the high voltage ditch was >1 m thick with stone layers in between. Slope 5°S/W.

Location: N: 65°59,654"

W: 23°22805"

Altitude: 15 m over sea level

Vegetation: Grass, moss, *Galium verum*, *Carex*, *Alchemilla alpina*. Small hummocks 10-15 cm in diameter.

Erosion: no erosion

Drainage: moderately well drained

Remarks: possible effect of floods and landslides running down the mountain's slope. The soil was very dry due to a 3-month dry period. The to player was completely dry.



The profile of Öfundafjörður and its surroundings. The profile is very dry and therefore light colored due to a prior 3-month dry period.



## Doktorsverkefni ÓA

### Þingvallasveit (21-7-1987)

Profile Þingvallasveit			
Depth (cm)	Horizon	Color	
0-12	A1	7,5YR 3/2	Silt loam. Weak very fine granular structure. Very friable. Many fine pores. Many fine roots. Clear smooth boundary.
12-28	A2	5YR 3/3	Silt loam. Weak medium subangular blocky to weak fine granular structure. Very friable. Many fine pores. Many fine roots. Clear smooth boundary.
28-61	Bw1	5YR 3/4	Silt loam. Weak coarse subangular blocky to weak very coarse platy structure. Very friable. Many fine pores. Common fine roots. Clear smooth boundary.
61-68	Bw2	10YR 4/3	Silt loam. Weak coarse subangular blocky to moderate coarse platy structure. Friable. Many fine pores. Common fine roots. Abrupt smooth boundary.
68-87	2Bw3	10YR 4/2 *	Silt loam. Moderate very coarse platy structure. Friable. Few fine roots. Occasional vertical fractures noted. Abrupt smooth boundary.
87-142	2C	10YR 4/1 **	Silt loam. Moderate medium platy to strong fine platy structure. Firm. Very few fine roots. Structure is inherited from parent material. Mottles along root channels and some bedding planes. Very occasional vertical planes.

\*few mottles 10YR 4/4

\*\*few mottles 10YR 5/4 and common mottles 7.5YR 4/4

Location: On old Þingvallavegur road about 2 km SW of the 36-360 intersection. The side is 15 m N of the road in a gully cut.

Physiographic position: Foothlope on gently rolling glacial till plain with 3° slope with a SSE aspect at about 200 m elevation.

Parent material: Eolian-andic loess overlying glacial till.

Drainage: Moderately well drained.

Land use: Open range for sheep grazing (a common).

Vegetation: Moss heath vegetation type with *Racomitrium* moss dominating. Other common species at the site are *Calluna vulgaris*, *Empetrum nigrum*, *Poa vivipara*, *Carex bigelowii*, *Festuca* spp., *Luzula spicata*, *Salix phylicifolia*, *Salix herbacea*, *Thymus arcticus* and *Vaccinium uliginosum*.

## Mýrdalur (23-7-1987)

Profile Mýrdalur			
Depth (cm)	Horizon	Color	
0-8	A1	5YR 3/3	Mucky loam. Weak fine and very fine granular structure. Very friable. Many fine roots. Few fine tephra gravels. Clear smooth boundary.
8-16	A2	5YR 3/3	Loam. Weak fine and very fine granular structure. Very friable. Many fine roots. Few fine tephra gravels. The horizon rests on a thin 2 cm black ash layer (T1) of loamy sand texture. Abrupt wavy boundary.
16-36	A3-(t1)	5YR 3/3	Loam. Weak medium subangular blocky to moderate fine granular structure. Friable. Many fine roots. Horizon rests on thin 5-10 mm thick black tephra layer (T2) of loamy sand texture. Abrupt wavy boundary.
36-51	A4-(t1)	5YR 3/3	Loam. Weak medium subangular blocky to moderate fine granular structure. Friable. Common fine roots. Few fine tephra gravels. Horizon rests on a thin 1-2 cm thick black tephra layer (T3) of loamy sand texture. Abrupt wavy boundary.
51-71	A5-(t1)	5YR 3/3	Loam. Weak medium subangular blocky to moderate granular structure. Friable. Common fine roots. Few fine tephra gravels, which are consolidated tephra. Abrupt wavy boundary.
71-74	Bw1-T	5YR 2/1	Loamy sand. Structure-less massive. Friable. Common fine roots. T4, ranges in thickness from 2-3 cm. Abrupt wavy boundary.
74-91	Bw2	5YR 3/3	Loam. Weak coarse subangular blocky structure. Friable. Common fine roots. Few fine tephra gravels. Horizon rests on a thin 1-2 cm thin black ash layer (T5) of loamy sand texture. Abrupt wavy boundary.
91-111	BC-(t6)	5YR 3/4	Loam. Weak very coarse platy structure. Slightly brittle. Few fine roots. Horizon contains six thin 1-3 cm black tephra layers (T6-T11) of loamy sand texture. Horizon rests on a 1 cm thick black tephra layer of loamy sand texture. Matrix is slightly thixotropic. Abrupt wavy boundary.
111-124	CB	5YR 3/3*	Silt loam. Weak very coarse platy structure. Slightly brittle. Few fine roots. Slightly thixotropic. Horizon rests on a black tephra layer 1-2 cm thick, which is pumiceous (T12). Abrupt wavy boundary.



124-171	C1-(t4)	5YR 3/4	Silt loam. Weak bedding planes. Slightly brittle. Very few fine roots. Horizon has 4 interleaved tephra layers (T13-16) 3-5 cm thick that comprise about half of the horizon. Tephra layers are loose loamy sands. Abrupt wavy boundary.
171-181	C2	5YR 4/4	Loam. Structure-less massive. Brittle. No roots. Abrupt wavy boundary.
181-196	C3-T?		Very brittle no roots. T17, coarse at the base and fining upward. Abrupt wavy boundary
196-199	C4	5YR 4/4	Silt loam. Slightly brittle. Slightly thixotropic. Abrupt wavy boundary
199-208	C5-T		Very brittle. T18. Abrupt wavy boundary.
208-238	C6-(T2)	5YR 4/4	Silt loam. Two black tephra layers (T19-T20) comprise all but 10 cm of layer. Tephra are brittle and extremely brittle.

\* few medium mottles 2.5YR 3/6

Below C6 light colored for 3 cm; 1 cm greenish tephra layer; 2 cm light colored soil; 2 cm reddish black tephra layer; 2 cm light colored soil; 3cm reddish black tephra layer; 5 cm light colored soil; 1 cm light colored tephra layer; 4 cm light colored soil; coarse black and greenish ash layer; till is at least 1.5 cm below this point.

Location; Mýrdalur in South Iceland, in Heiðardalur, about 2 km east of the farm along the dirt trail, 50 m west of the trail, first eolian remnant after crossing a small stream. Pit on the west face of the remnant.

Physiographic position: Foothlope a slope of 4° with SSE aspect at about 85 m elevation.

Parent material: Eolian-andic materials overlying glacial till and talus.

Drainage: Well drained.

Land use: Open range for sheep grazing.

Vegetation: Grassland/moss plant community with *Agrostis* spp., *Poa* spp. and *Festuca* spp., *Carex bigelowii*, *Thymus arcticus*, *Poligonum vivparum*, *Galium mormanii*, *Epuisetum arvense*, and *Alchemilla alpine*.

Remarks: sampled and described in a pit placed in an erosion scarp of a remnant island about 10 x 20 m in size. Erosive wind direction is parallel to the contour of the slope and long axis of the remnant. Erosive wind direction was indicated by wind scar direction in the soil and pumice accumulation on leeward side of remnant. A root mat is 5-6 cm thick. Soil temperature at 68 cm was 11°C. The pH of first 4 horizons was 6.5 but when powder was added, color showed pH of 4.5.

## Biskupstungur (24-7-1987)

Profile Biskupstungur			
Depth (cm)	Horizon	Color	
0-10	A1	5YR 3/2	Loam. Weak fine and very fine granular structure. Very friable. Many fine roots. Few fine pumice gravels concentrated at the surface, up to 3 cm in diameter. Clear smooth boundary.
10-23	A2	5YR 3/2	Loam. Weak fine and very fine granular structure. Loose. Very friable. Many fine roots. Few (2-5%) fine pumice gravels. Abrupt smooth boundary.
23-43	A3	5YR 3/4	Sandy loam. Weak fine granular structure. Very friable. Many fine roots. Common (5-10%) fine pumice gravels. Abrupt smooth boundary.
43-60	A4	5YR 3/3	Loam. Weak coarse subangular blocky to weak granular structure. Very friable. Many fine roots. Few (1%) fine pumice gravels. Few white tephra strata 5-10 mm thick. Abrupt smooth boundary.
60-73	A5	5YR 3/4	Loam. Weak medium subangular blocky parting to weak granular structure. Very friable. Common fine and medium roots. Horizon contains 4 coarse sandy pumice bands with sufficient fines to fill interstices, each bed is about 1-2.5 cm thick. Abrupt wavy boundary.
73-86	Bw1	5YR 3/4	Loam. Weak coarse platy to weak coarse subangular blocky structure. Very friable. Common fine and medium roots. About 1% fine tephra gravels. Slight bedding of dark reddish brown (5YR 3/3) soil material. Abrupt wavy boundary.
86-97	Bw2-(t1)	5YR 3/3	Silt loam. Weak coarse subangular blocky structure. Friable. Common fine and medium roots. Horizon contains a tephra layer 1 cm thick with over 0.5 cm dark tephra gravels (1766 AD?), some roots extend laterally in the tephra layer. Abrupt wavy boundary.
97-110	Bw3	5YR 3/2	Silt loam. Weak coarse platy parting to weak coarse subangular blocky structure. Friable. Common fine and medium roots. Horizon rests on a loam texture reddish tephra bed 2 cm thick (1693 AD?). Abrupt wavy boundary.

110-124	Bw4-(t1)	5YR 3/4	Loam. Weak coarse platy to weak coarse subangular blocky structure. Slightly brittle. Firm. Few fine roots. Few medium faint dark reddish brown (5YR 3/2) pockets of material. No white tephra particles noted. Clear wavy boundary.
124-142	Bw5-(t3)	5YR 3/2	Loam. Weak coarse subangular blocky structure. Slightly brittle. Firm few fine and medium roots. Horizon contains 3 beds 1-3 cm thick that consists of 25% sand sized tephra particles. Abrupt smooth boundary.
142-145	Bw6-T	5YR 3/4	Coarse sand. Structureless single grain. Loose. Very few fine roots. Sand grains fine upward through horizon. Tephra layer H1 (1104 AD). Abrupt smooth boundary
145-155	Bw7-(t1)	10 YR 7/3	Silt loam. Weak coarse subangular blocky structure. Friable. Very few fine roots. The lower part of the horizon contains a coarse sand textured tephra layer (settlement strata). Abrupt wavy boundary.
155-180	CB-(t1)	5YR 3/4	Silt loam. Weak coarse subangular blocky structure. Slightly brittle. Firm. Very few fine roots. Some vertical planes of weakness noted. No white sand-sized tephra noted. Abrupt wavy boundary.
180-190	CI-T	5YR 3/4	Coarse sand. Structure-less single grain. Loose. No roots. Texture is coarsest in the centre of the horizon. H3 (2900 BP). Abrupt smooth boundary.
190-195	C2-(t1)	5YR 6/4	Silt loam. Structure-less massive. Slightly brittle. Firm. No roots. Slightly thixotropic. A dark greyish brown (10 YR 4/2) silt loam layer 1 cm thick is about 1 cm below the top of the horizon. Abrupt wavy boundary.
195-205	C3	5YR 3/4	Loamy fine sand. Structure-less massive. Very brittle. No roots. Moderately indurated. Abrupt boundary.
205-225	C4	5YR 2/1	Silt loam. Weak coarse subangular blocky structure. Friable. No roots. Slightly thixotropic. Horizon rests on a sand textured white tephra layer (H4, 4000 BP). Abrupt wavy boundary.



Location: Biskupstungnaafréttur, about 5 km north of Gullfoss near Brunnalækir on old trail on platform before it drops down to the Brunnalækir stream, about 10 m west of the trail. The pedon was taken in an erosion scarp facing west in a small eolian-andic island remnant.

Physiographic position: Back-slope above platform on a slope towards the Hvítá river. Slope is near 5°, with E aspect at about 260 m elevation.

Parent material: Eolian-andic material overlying a glacial till.

Drainage: Well drained.

Land use: Open range for sheep grazing (a common).

Vegetation: mixed heath vegetation, including *Salix phylicifolia*, *Betula nana*, *Vaccinium uliginosum*, *Equisetum* spp., *Salix herbacea*, *Polygonum viviparum*, *Galium normanii*, *Graminae* spp., *Kobresia myosuroides*, *Cerastium alpinum*, and *Galium boreale*.

Remarks: soil temperature at 50 cm was 10.5°C. The entire A horizons appear slumped 5° to the south. H5 (6600 BP) is 30 cm below H4. Gravel is lifted up just below H5. Till is below the lifted gravel.

## Goðafoss (29-7-1987)

Pedon Goðafoss			
Depth (cm)	Horizon	Color	
0-4	A1	7,5YR 3/2	Mucky loam. Weak fine granular to weak fine platy structure. Very friable. Many fine roots. Clear smooth boundary.
4-12	A2	5YR 3/3	Mucky loam. Weak fine subangular blocky parting to weak fine granular structure. Very friable. Many fine roots. Clear smooth boundary.
12-20	A3	5YR 3/3	Loam. Weak fine subangular blocky parting to weak fine granular structure. Very friable. Many fine roots. Clear smooth boundary.
20-26	A4 - (t1)	7.5YR 3/2	Loam. Weak fine subangular blocky to weak fine granular structure. Very friable. Many fine roots. Includes thin black (10YR 2/1) tephra layer. Abrupt wavy boundary.
26-29	Bw1-T	10YR2/1	Loamy fine sand. Weak medium subangular blocky structure. Very friable. Common fine roots. Tephra layer 1477 AD? Abrupt wavy boundary.
29-41	Bw2-(t1)	5YR 3/2	Silt loam. Weak medium and coarse subangular blocky structure. Friable. Common fine roots. Pockets of a remnant yellowish red (5YR 5/6) tephra layer (H1?) incorporated in horizon, about 30 % (by volume) of horizon. Clear smooth boundary.
41-49	Bw3	5YR 3/3	Loam. Weak medium and coarse subangular blocky structure. Friable. Common fine roots. Abrupt wavy boundary.
49-57	Bw4-T	10YR 5/4	Silt loam. Many medium distinct strong brown (7.5YR 5/6) mottles. Weak medium platy to weak medium subangular blocky structure. Friable. Common fine roots. Many fine vesicular pores. Horizon is H3 tephra (2900 BP). Abrupt wavy boundary.
57-65	Bw5	5YR 4/4	Silt loam. Weak medium subangular blocky to medium granular structure. Friable. Common fine roots. About 10% (by volume) of horizon contains dark reddish brown (5YR 3/3) material from horizon below. Clear smooth boundary.
65-70	Bw6	5YR 3/2	Loam. Weak medium subangular blocky structure. Friable few fine roots. Lower boundary is irregular on a microscale with

			lobes of the under-laying white tephra extending abruptly into the horizon. Pockets are slightly brittle. Abrupt wavy boundary.
70-73	Bw7-T	10YR 6/4	Silt loam. Many fine distinct strong brown (7.5YR 5/6) mottles. Weak medium platy structure. Friable. Few fine roots. Horizon is H4 tephra (4000 BP). Mottles occur along plate surfaces, root channels and vesicular pores. Abrupt wavy boundary.
73-91	Bw8-(t1)	5YR 4/6	Silt loam. Weak medium and coarse subangular blocky structure. Friable. Common fine roots. Dark reddish brown (5YR 3/3) pockets of loam-textured material are mixed in the horizon. A thin (1-2 cm) brown (10YR 5/3) tephra layer occurs in the horizon. Many fine vesicular pores. Clear wavy boundary.
91-101	2Bw9	5YR 3/4	Loam. Weak coarse subangular blocky structure. Slightly brittle. Firm. Few fine roots. Coarse fragments are gravel-sized and originate from below. Lower portion of horizon is olive brown (2.5YR 4/4) grading to the till below. 10% coarse fragments. Clear wavy boundary.
101-121	2C	5YR 4/2	Gravelly loam. Weak coarse platy structure. Friable. Few fine roots. Glacial till is relatively dense as fines are packed between coarse fragments (subrounded basalt gravels and cobbles). About 10% of horizon is gravels >2 cm. A few oxidized dark reddish brown (5YR 3/3) vertical planes extend through horizon. 25% coarse fragments.

Location: North Iceland, east of the Goðafoss water fall, about 3 km east of the crossroads at Goðafoss. The location is on a summit of the ridge east of Goðafoss, 300 m south of the road, 100 m south of a gravel pit. The pedon is in a barren area, which is approximately 200 m<sup>2</sup>. The pedon is located at the north end of the barren area with pit facing south (escarpment).

Physiographic position: summit position, gently sloping (1°) with S aspect. About 260 m elevation.

Parental material: Eolian-andic material overlying glacial till.

Drainage: Well drained.

Land use: Open range for sheep grazing (a common).

Vegetation: Heath vegetation with *Betula nana*, *Empetrum nigrum*, *Salix herbacea*, *Polygonum viviparum*, *Kobresia myosuroides*, *Juncus trifidus*, *Equisetum* sp., *Carex bigelowii*, *Graminae* sp. and *Salix callicarpaea*.







Goðafoss pedon

### Goðafoss-till (29-7-1987)

Profile Goðafoss-till			
Depth (cm)	Horizon	Color	
0-7	Bw	10YR 4/3	Sandy loam. Weak medium subangular blocky to weak fine granular structure. Very friable. Few fine roots. Pockets of brown (7.5YR 4/4) material near the upper portion of the horizon. 5% coarse fragments. Clear irregular boundary.
7-30	C1	2.5YR 4/2	Sandy loam. Weak fine platy structure. Friable. Very few fine roots. Common medium vesicular pores. Coarse fragments are both gravels and cobbles. 5% coarse fragments. Gradual smooth boundary.
30-55	C2	2.5YR 3/2	Sandy loam. Moderate fine platy structure. Firm. No roots. Coarse fragments are both subrounded gravels and cobbles. Till is composed of both massive and vesicular basalt. 5% coarse fragments.

Location: same as Goðafoss, except in the middle of the barren area that has resulted from erosion along escarpment.

Physiographic position: summit position, nearly level; about 260 m elevation.

Parental material: glacial till.

Drainage: moderately well drained.

Land use: open range for grazing by sheep (a common).

Vegetation: mostly barren.

Remarks: the soil is covered with a gravel armor consisting of 80% gravels, 0.2-7 cm in diameter together with cobbles. The gravels exhibit a weak polygonal pattern about 30 cm in diameter.

## Biskupstungur-till (15-8-1987)

Profile: Biskupstungur-till			
Depth (cm)	Horizon	Color	
0-2	C		Surface gravel pavement. Structure-less, single grain. Loose with few very friable peds. 10% 1-3 mm light coloured tephra grains. Clear wavy boundary.
2-16	2Bw1	7.5YR 3/2	Sandy loam. Weak fine and medium subangular blocky structure. Very friable. Few very fine roots. Very dark grey bed (10YR 3/1) mostly made of light coloured tephra grains, light coloured tephra grains 15% of horizon, 2% 1-2 cm gravel. Clear irregular boundary.
16-28	2Bw2	5YR 3/2	Silt loam. Weak fine and medium subangular blocky structure. Friable. Very few very fine roots. Lenses of 2BW1 horizon. Clear irregular boundary.
28-40	2Bw3	5YR 3/2	Silt loam. Weak fine and medium subangular blocky structure. Friable. Very few very fine roots. Occasional large (20 cm in diameter) cobbles. Abrupt smooth boundary.
40-55	3C	10YR 5/2	Sandy loam. Very weak fine and medium subangular blocky structure. Occasional lenses of 2BW3 materials.

Location: South Central Iceland, on Biskupstungnaafréttur, about 400 m north of Biskupstungur pedon, west the dirt road west of the Brunnalækir area.

Physiographic position: Summit position gently sloping (2.5°) with S aspect, about 300 m elevation.

Parent material: Glacial till with eolian-andic materials intermixed with about 20 cm on the surface.

Drainage: Well drained.

Land use: Open range for grazing by sheep (a common).

Vegetation: Barren land, 1% plant cover with *Armeria vulgaris*, *Cerastium alpinum*, *Silene maritima*, *Silene acaulis*, *Rumex acetocella*, *Thalium arcticum*, *Festuca vivipara*, *Poa glauca*, and *Equisetum* spp.



General remarks: The 2BW1 seems to be recently accumulated (<200 yrs) eolian materials after denudation, with the aid of frost-heave of gravels and cobbles that provide shelter for deposition of eolian materials. Some distinctive, but thin (<1-2 mm) tephra layers within the 2Bw1 horizon. The area has lost its vegetative and eolian-andic soil cover less than approximately 300 years ago.

## Summer 2003

### Mosfellsbær (6-8-2003)

Profile: Mosfellsbær			
Depth (cm)	Horizon	Color	
0-4	H1	7,5 YR 3/2	Silt loam. Slightly to moderately decomposed organic matter. Many medium to coarse prominent mottles. Boundary abrupt wavy.
4-20	H2	10 YR 3/3	Silt loam. Tephra layer loamy sand. Slightly decomposed organic matter. Many medium to coarse prominent mottles and an oxidized layer. Cryoturbated. Boundary abrupt irregular.
20-38	H3	7,5 YR 4/4	Tephra layer K1700 found in the upper part. Silty clay loam. Slightly to moderately decomposed organic matter. Common distinct medium mottles. Cryoturbated. Boundary abrupt irregular.
38-41	H4	5 YR 5/8 upper 7,5 YR 4/2 lower	Tephra layer H1 possibly found in the top. Silty clay loam with sandy loam in layers. Slightly decomposed organic matter. Common distinct medium mottles. Boundary abrupt wavy.
41-66	H5	5 YR 2,5/2	Settlement tephra layer possibly found in the middle. Silty clay loam. Slightly decomposed organic matter, little decomposed organic matter in the lower part. Few medium faint mottles. Boundary abrupt wavy.
66-75	H6	7,5 YR 4/2	Silty clay loam. Slightly decomposed organic matter. Few medium faint mottles. Boundary abrupt wavy.
75-88	H7	10 YR 3/3	Silty clay loam. Slightly decomposed organic matter. Few medium faint mottles. Boundary abrupt wavy.
88-124	H8	10 YR 3/1	Silty clay loam. Slightly decomposed organic matter. Tree trunks up to 3 cm long. Boundary abrupt wavy.
124-159	H9	10 YR 3/1	Silty clay loam. Slightly to moderately decomposed organic matter. Lots of tree trunks the biggest one 12 cm in diameter.. Hydrophobic. Boundary abrupt wavy. <b>Birkiskeið</b>
159-176	H10	10 YR 3/3	Clay loam. Moderately to highly decomposed organic matter. Big roots from layer H9. Hydrophobic. Strong smell. Boundary abrupt wavy.
176-190	H11	10 YR 3/2	Silty clay loam. Moderately decomposed

			organic matter. Few coarse distinct mottles. Hydrophobic. Boundary abrupt wavy.
190-215	H12	10 YR 4/3 becomes 10 YR 2,5/1 when dries	Silty clay loam. Moderately decomposed organic matter. Boundary abrupt wavy.
215-234	H13	7,5 YR 3/2	Silty clay loam. Moderately decomposed organic matter. Boundary abrupt wavy.
234-245	H14	7,5 YR 3/2	Silty clay loam. Slightly to moderately decomposed organic matter. Small tree trunks probably birch. Boundary abrupt wavy.
245-280+	H15	7,5 YR 3/2	Silty clay loam. Slightly to moderately decomposed organic matter.

Profile taken in a hummocky peat in Mosfellsbær.

The land has been used for haymaking and grazing.

Before the settlement a lot of organic matter has accumulated in the ground but after the settlement it looks like it has dried and the land use has prevented accumulation of organic matter.