

BOX  
  
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WE CALCULATE EROSION RATES AND ESTIMATE TIMESCALES OF TUNNEL VALLEY FORMATION

**KEY FINDING**

Seasonal surface melt and ice erosion can incise tunnel valleys over 100s of years



**Fig. 1 – Proposed mechanisms of tunnel valley formation.**

**D** Braided channels  
Depth (ms TWT)  
140 240  
500 m  
Possible murtoos?

**E**  
200  
Depth (ms TWT)  
300  
Slumps  
350 m

**Fig. 3 – (A) Tunnel valley infill and morphology from HR3D seismic data. (B-C) Eskers and kettle holes buried within a tunnel valley. (D) Braided channel structures at the base of a tunnel valley. (E) Slumps within a tunnel valley.**

**Fig. 4 – Example of subglacial water routing beneath the last British-Irish and Fennoscandian ice sheets at 21 ka.**

**Fig. 5 – Examples of steady state tunnel valley erosion rates (100 m wide channels)**

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