

In the Matter of the Halton Region Landfill Undertaking

WITNESS STATEMENT
OF NICHOLAS EYLES, Ph.D
Associate Professor of Geology
University of Toronto

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Fractures Observed in a Test Pit, Proposed Site D, Milton

In April 1988, one test pit was dug on the lands of the proposed Site D, Milton. The test pit was located beside a fence line in the northwestern area of the site, approximately 160m in from First Line and 275m from the northerly site boundary.

The test pit was excavated through the glacial till to a maximum depth of approximately 8.2m. The main trench, oriented northeast-southwest, was, at the base, 1.5m wide and 6 to 7 m long. A short side trench was dug at a right angle on the southern side of the main trench.

The stratigraphy observed in the trench agreed with the general descriptions in the THCL Site D Hydrogeology Report (Exhibit H39). From surface, the overburden was:

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|------------|---|
| 0 - 0.6m | Topsoil, sand and silt (Peel Ponding) |
| 0.6 - 3.5m | Red-brown clayey silt till; weathered, heavily fractured; |
| 3.5 - 5.1m | Red-brown clayey silt till; occasional fractures; groundwater seeping from below approx. 4.5m on south side of pit from a silty sandy gravel "lens" |

- or phase of the till;
- 5.1 - 7m Grey clay till; occasional fractures (described below)
- 7 - 8.2m Red-brown sandy clayey silt till.
- 8.2m Base of Test Pit.

Several naturally occurring fractures were observed in the red-brown clayey silt till and grey clay till below the heavily fractured upper 3 to 4m of the test pit. One major fracture was observed in the northern wall of the test pit and was marked by some oxidation (brown colouration) on the fracture face where it penetrated the grey till. The fracture extended through the grey clay till into the lower red-brown till at about 7m depth. The fracture appeared to be trending north-northeast, roughly sub-parallel to the northern test pit wall and could be traced across the trench to the southwest face of the pit.

Other fractures were observed on the southern side of the test pit, about 3 - 4m away from the major fracture. These extended from the upper red-brown till into the grey till and appeared to terminate before reaching the base of the grey till. The trend of these fractures appears to be north-northwesterly, intersecting the trend of the previous fracture.

Due to the nature of the exposure (i.e. the geometry of the test pit), it was not possible to trace a particular fracture from the

ground surface to depth.

On the basis of this test pit, it appears that at Site D there are fractures extending from the weathered zone through the grey clay till (upper till) and that some of these extend into the red-brown sandy clayey silt till (lower till). On the basis of the one test pit, it is not possible to determine the frequency, spacing, nor ultimate depth penetration of such fracturing.