Submission (49)

Hand's Lane
Rush
Co Dublin
8/11/06

EPA
Waste Licensing Section
Johnstown Castle Estate
Co Wexford

Ref - Application by Fingal County Council for a Landfill License at Nevitt, Co Dublin.

Attention- Dr. Ian Murnane

Dear Dr. Murnane,

Please find attached copies of three maps which were submitted in evidence at the recent An Bord Pleanala Oral Hearing on the above matter. We wish to submit these maps to the EPA together with the following comments :

a. Proposed Fingal Landfill, Bedrock Geology and Rock Level(MOD) Profile. – Fingal County Council (F.C.C.)
b. Proposed Fingal Landfill, Extent of Gravel Deposits underlying low-permeability Superficial Deposits (overlying rockhead)- F.C.C.
c. Possible extent of sand and gravel deposits – Kevin Cullen, EurGeol., PGeo.

Comments;

Map (a) - Bedrock Geology.

- Please note the position of the underlying West to East ridge from ER01 to HR08, and that the northern boundary of the proposed landfill coincides with this underground feature. This ridge is therefore the most likely position of a water divide in the bedrock of the Courtlough Valley and is located some short distance south of the topographic divide at BGB1, and the position of the water divide as predicted by the GSI.(Natalya Hunter-Williams, 2005)

- An Underground valley stretches from the vicinity of ER01 northeast through HR13b to HR02a, and then northwards through a narrow defile through HR01a and onwards towards the Bog of the Ring. There is no indication in the underground topography of a water divide anywhere to the north of ER01.

- In the area of the landfill there is a steep-sided rock wall approximately 15meters high running approx. north/south underneath the western half of the proposed site. The largest area of the site forms part of a relatively flat valley through which the North/South GSI fault-line passes.

Map (b) – Gravel Deposits.

- The proposed landfill site is underlain by gravel for approx. 90% of it's area. The deepest deposits are in the southern half of the site and in particular the south-western quadrant.
- A groundwater divide is clearly evidenced crossing the northern third of the proposed landfill. Groundwater in the gravel deposits flow from the general area of ER02/ER04 northeast, following the valley in the bedrock as identified above, and eventually reaches the gravels overlying the bedrock in the Bog of the Ring.
- Gravel contours also indicate that groundwater in the east of the site flows eastwards in the direction of the GSI fault, where the deepest local deposits lie.
- Groundwater from the deep local deposit in the southwest of the site appears to exit directly southwards.

Map (c) - Sand and Gravel Deposits (K. Cullen).

- The sand/ gravel deposits in the Courtlough Valley form part of a much larger deposit stretching northwards through the Bog of Ring. The extent of the deposits to the south are unknown, but a horticultural well at John Landy's farm in Curduff, some 3 kilometres to the south, is known to be drilled in gravel (Dunne's Drilling). The total gravel deposit is of itself an important aquifer, and may well be regional in extent i.e. > 10km2 and > 5m thick. Large gravel quarries

are presently worked in the vicinity of Naul, northwest of the Bog of the Ring and may form part of the same deposit.

- Large scale processing of prepared vegetables for hospitals and other institutions takes place at Thomas Kerrigans, and uses groundwater from a very productive borehole on site (18,000 GPH)- see letter of evidence to An Bord Pleanala Oral Hearing. This source is immediately down-gradient of the proposed landfill, and is likely to be supported by overlying gravel. The travel time for groundwater in the vicinity of the site to Kerrigans is thus likely to be short.

Conclusion

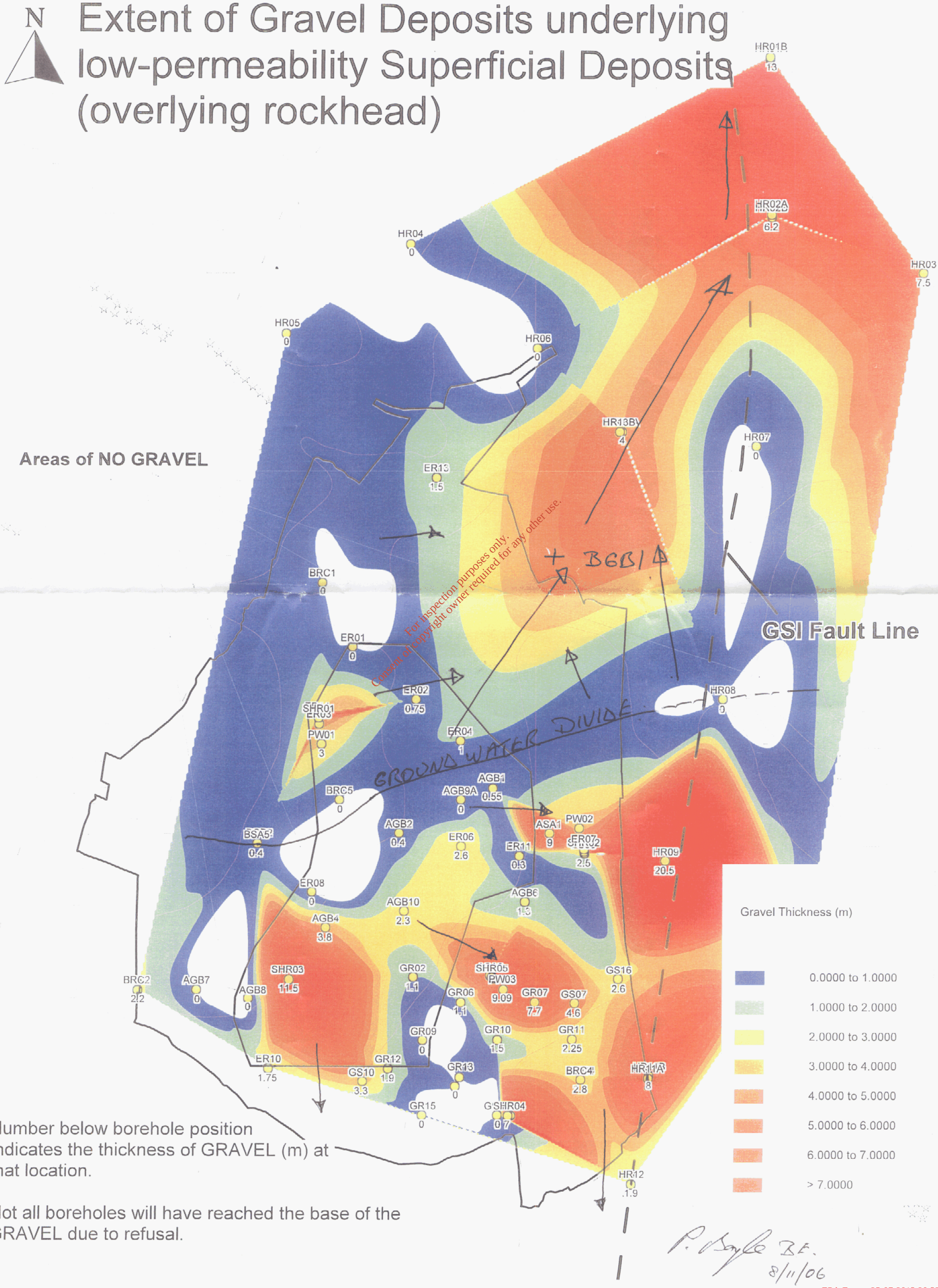
The location of the proposed landfill on the gravel beds within the Courtlough Valley is evidenced in these maps to be a threat to the Bog of Ring Public Water Supply, Horticultural wells to the south of the site, and the potential public water source presented by the Fingal North/South Fault Zone supported by extensive gravel deposits. The proposal therefore poses an unacceptable risk to existing groundwater abstractions and future important groundwater resources, and must therefore be deemed unacceptable.

Signed,

Patrick Boyle, B.E.

pp Declan White, B.Sc.(Eng).

Proposed Fingal Landfill
Extent of Gravel Deposits underlying low-permeability Superficial Deposits (overlying rockhead)

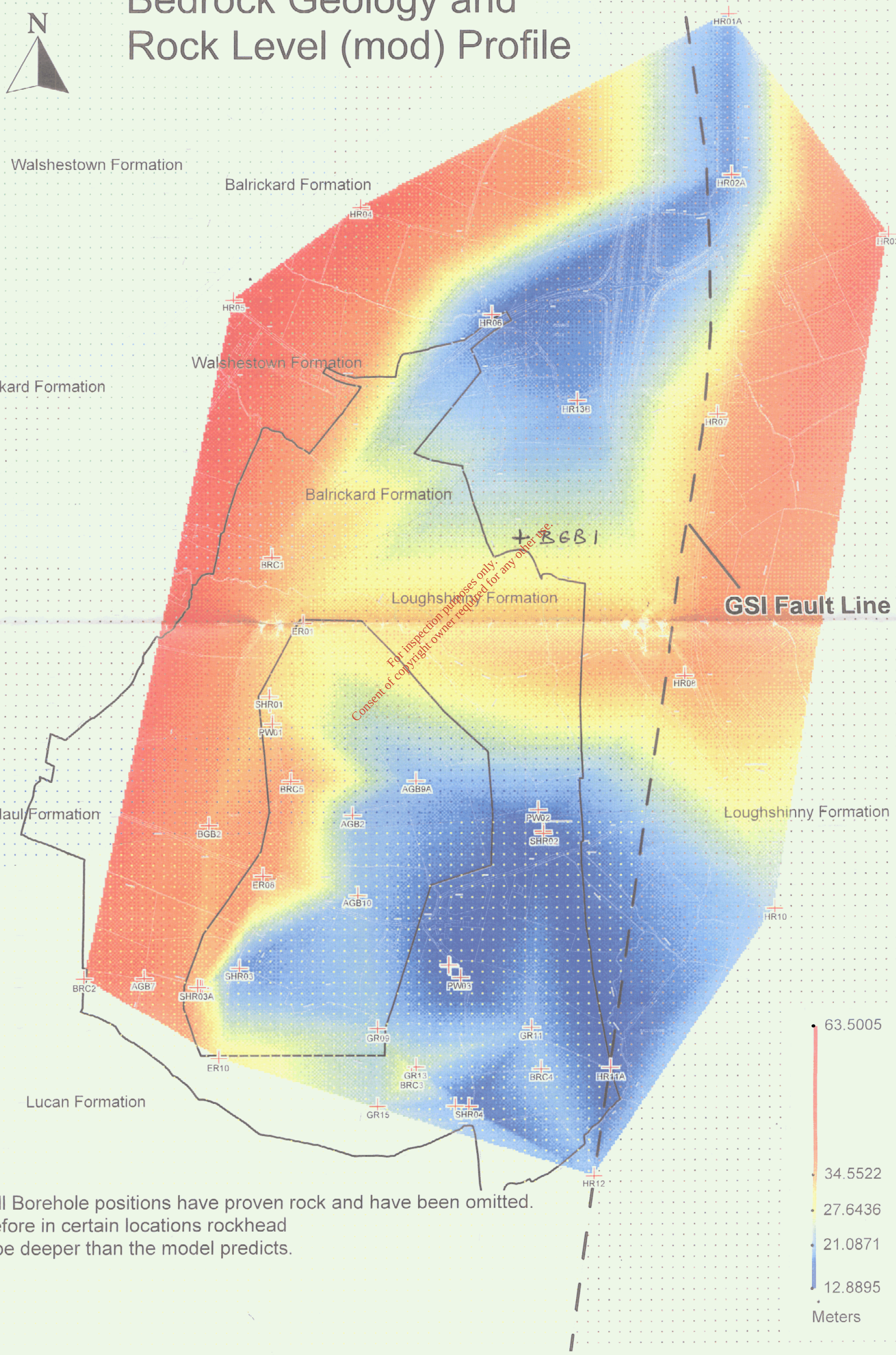


Number below borehole position Indicates the thickness of GRAVEL (m) at that location.

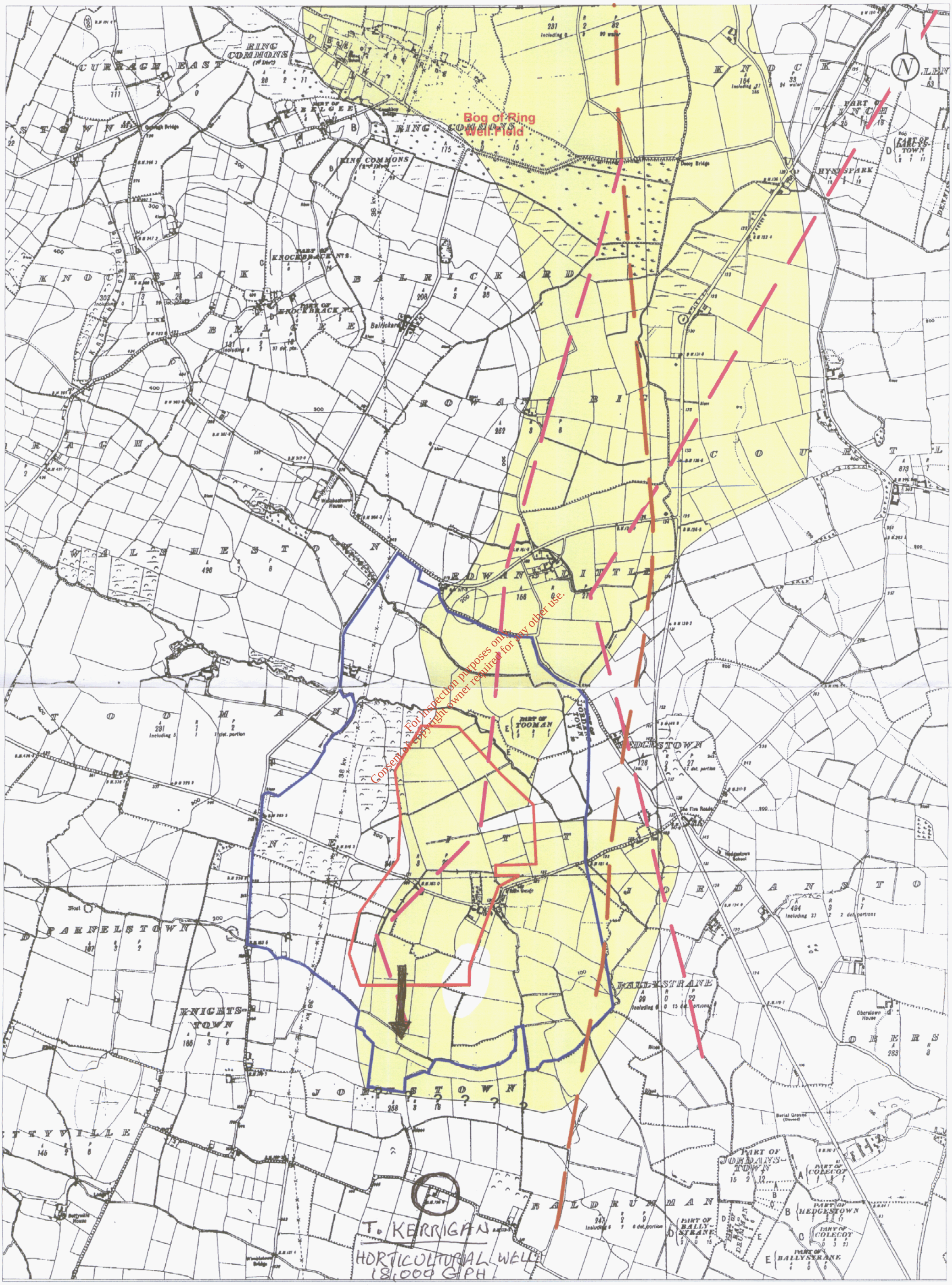
Not all boreholes will have reached the base of the GRAVEL due to refusal.

P. Boyle B.E. 8/11/06

Proposed Fingal Landfill Bedrock Geology and Rock Level (mod) Profile



Not all Borehole positions have proven rock and have been omitted.
Therefore in certain locations rockhead
may be deeper than the model predicts.



Note:

Drawing is for diagrammatic purposes only.
No measurements to be taken from the drawing.

Legend

- : Outline of Study Area B
- : Landfill Footprint
- : GSI Fault
- : Proposed Fault Zone
- : Extent of Buried Sand & Gravel Deposit

Site: Nevitt Landfill & Bog of the Ring Well Field		
Title: Possible Extent of Buried Sand & Gravel Deposit		
Drawn: --	Scale: Not to Scale	Figure 2
Job. No: --	Date: Sept 2006	