

Sub. (67)

22/12/06

Dr. Ian Marnane  
Inspector  
EPA  
Johnstown Hse  
Johnstown Castle Est.  
Co. Wexford

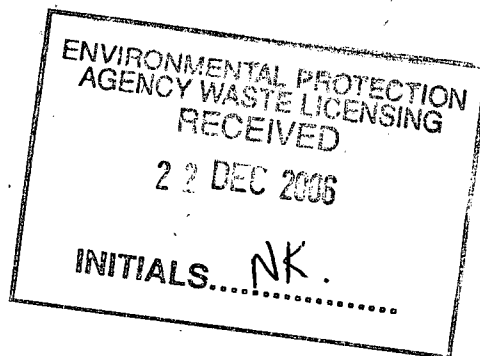
Dear Ian,

I would like to offer the enclosed as a submission opposing the proposed landfill at Nevitt, Co. Dublin for your attention.

Yours sincerely,

Declan White  
Knightstown  
Lusk  
Co. Dublin

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**Nevitt Update**

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How many ways can a landfill liner [ plastic ] fail and leachate escape ?.

**1 Large landslides of landfills.**

For example 1992 waste facility in California [Dona Juana ]

1996 Ohio

1997 Bogata Colombia [ a modern design ]

1.8 million tones of waste flowed 1 - 1.5 km.

Note M1 motorway is only 250 m away [approx. ] from edge of landfill . In the Nevitt, they are proposing to put the landfill on the side of a hill overlooking the M1 motorway. Why was there not a full and proper slope stability study completed because it is clear the people driving on the motorway [ a major road ] would be at risk. A major cause of landslides is water and there is artesian conditions in the Nevitt.

**2 Fires**

**3 Explosions , gas in landfill . [natural gas pipeline approximately 250 m away ]**

**4 Settling**


This is a very big issue for the Nevitt and the reasons are ;

Topography is sloped [hill], clay overburden is of different thickness, there is lots of gravel [perched ] underneath proposed landfill [SHR03 AGB4 ], unusual shape of bedrock, fault lines, bedrock sloped [ towards M1 ], high water table , and artesian conditions.

Nevitt Lusk Action Group had to pay the Geological Survey Of Ireland [ GSI ], to Commission them to complete an aquifer map of Fingal. We were the first to ask for This map. This map should have been commissioned many years ago as part of the Site selection. This map would immediately link the aquifer to the horticultural Industry , an industry of NATIONAL IMPORTANCE .

Mary Coughlan [ Minister for Agriculture and Food ]

Quote , It is of course vital that horticultural activity anywhere in the state and particularly in the region of intensive cultivation close to this proposed landfill , should not be jeopardized in any way by environmental hazards, [ Dail Wed. 29 Nov 2006 ] .

<b>RECEIVED</b>	
Time	1015
21 DEC 2006	
Signature	
Environmental Protection Agency, HQ. P.O. Box 3000, Johnstown Castle Estate, Co. Wexford.	

Larry O Toole RPS consultants admitted at oral hearing [ all on record ] that this proposed landfill will leak 100 litres per day. So a calculation ,  
 $100 \times 365 \text{ days year} \times 30 \text{ years} = 1095000$  [ over a million litres of poison ].  
World experts have calculated for this size of landfill, it would be between 100 and 1000 litres plus per day. So we now have between one million and over ten million litres plus of leachate over the life of this proposed landfill. This is crazy trying to locate a large landfill in the middle of the biggest, cleanest [ EPA ] and most important food producing aquifer in IRELAND. Why did you not locate this landfill outside this aquifer ? It is quite obvious, this landfill will put PUBLIC HEALTH at risk through the contamination of our food and water.

Geological Survey of Ireland [ GSI ]

Ref. Letter to Paddy Boyle .

They will look at re-assessment of this aquifer when more information is gathered. NLAG has a survey of wells that is approximately 45 % complete. Fingal County Council are required by law to have all this information on these wells. This aquifer is classified as locally important but when you have a public, group scheme and industrial supplies , the aquifer automatically jumps into an R3- R4 classification. Thomas Moore and Thomas Kerrigan are industrial wells [processors ] and there zone of contribution [ zoc ] extends into the Nevitt site [ after all they are down gradient of the Nevitt ] . GSI have also the Bog of the Ring zoc extending into the Nevitt site. There has been a lot of discussion about where the water divide is and both sides can not agree where it is. May we suggest with the introduction of the gravel and bedrock maps at the oral hearing , you can clearly see a divide with the bedrock and if you look at the different depths of gravel, and gravel pathways and 50 % approximately of topography is sloping down to the Bog of the Ring, it is logical that the water divide is going through this proposed landfill [ie in the northern part of this proposed landfill ]. Under the rules of the DOELG, EPA, and GSI and we have a zoc of a public water supply and two zoc of industrial wells extending into the Nevitt site, you cannot put a landfill at the Nevitt.

As a matter of fact, there are a lot of industrial wells in this aquifer , and with our small survey of industrial wells , the majority of this aquifer is R3 – R4 and therefore you cannot put a landfill in this aquifer. After all, this aquifer is the biggest, cleanest and most important FOOD PRODUCING aquifer in IRELAND.

Enclose ; [Ref. White Young and Green report and GSI item 3 zoc . ]

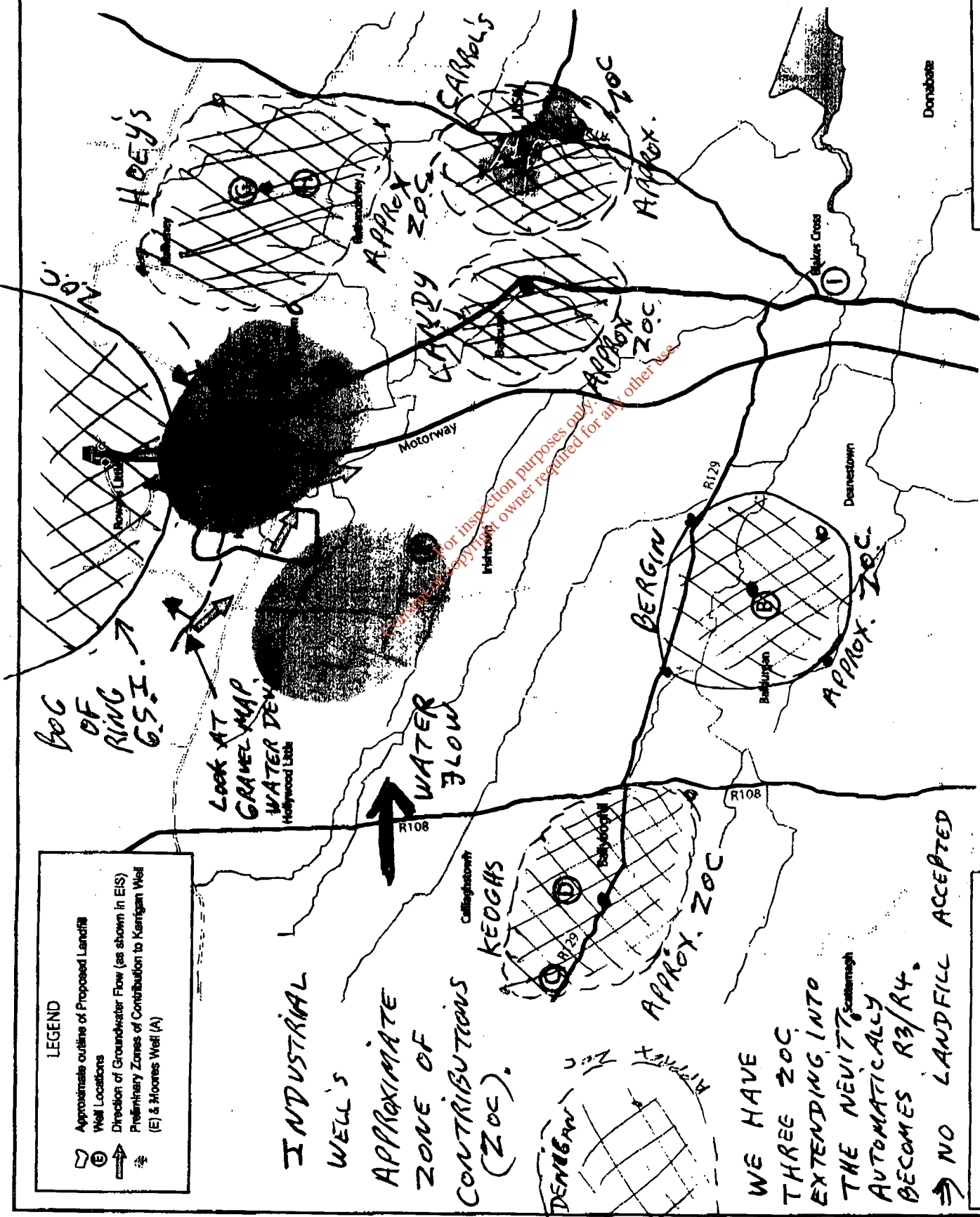
[ Well output examples 1page and map of zoc ]

[ Aquifer map of Fingal ]



Declan White BSc [hons] BSc [open] Dip. Eng. Dip. Des. Inn. AMIMEchE

Knightstown Lusk County Dublin.



EXTRA  
APPROX. ZOC BY  
NLAG

Donabate

Fingal Landfill EIS - NLAG  
Preliminary Well Survey

Figure No. 1  
Job No. C261505  
Date: Nov. 2006  
Finalised By: IJU

**LEGEND**

- Approximate outline of Proposed Landfill
- ⊕ Well Locations
- Direction of Groundwater Flow (as shown in EIS)
- ⊕ Preliminary Zones of Contribution to Kerrigan Well (E) & Moores Well (A)

INDUSTRIAL  
WELLS  
APPROXIMATE  
ZONE OF  
CONTRIBUTIONS  
(ZOC).

WE HAVE  
THREE ZOC  
EXTENDING INTO  
THE NEVITT<sup>Scarragh</sup>  
AUTOMATICALLY  
BECOMES R3/R4.  
⇒ NO LANDFILL ACCEPTED



NOTE: Drawing is for diagrammatic purposes only. No measurements to be taken.

This figure indicates that the top of the bedrock is closest to the surface in the west of the landfill footprint and again just to the north of the footprint. It is unclear whether or not this subsurface topography influences the groundwater flow pattern within the area. For example, it is unclear from the EIS if this topographic high within the bedrock acts as a groundwater divide with groundwater moving southeast on the southern side of the bedrock feature and moving northeast to the north of the bedrock feature. It is unfortunate that this information was not included in the EIS and that it was not considered in producing the groundwater contour maps.

**Item 3 – Source Protection Zones of private wells downgradient of the proposed landfill**

A previous submission on behalf of the NLAG highlighted a number of private wells downgradient of the proposed landfill facility that were not duly considered in the EIS. In particular, two wells considered at greatest risk are as follows:

User Name	Abstraction (m <sup>3</sup> /d)	Aquifer	Use
Thomas Kerrigan	1962	Bedrock	Vegetable processing plant
Thomas Moore	654	Bedrock	Vegetable processing plant

The businesses operated by Mr. Moore and Mr. Kerrigan rely on the significant quantities of good quality groundwater abstracted from their wells.

The definition of a groundwater source, according to the DoELG/EPA GSI (1999), is "a source of water supply which depends on groundwater, usually a well (dry well or borehole) or a spring, occasionally an infiltration gallery". The DoELG/EPA GSI goes on to say that such "groundwater sources, particularly public, group scheme and industrial supplies, are of critical importance in many regions. Consequently, the objective of source protection zones is to provide protection by placing tighter controls on activities within all or part of the zone of contribution (ZOC) of the source". This definition of a source applies to Kerrigans and Moores Well, both of which are used for industrial purposes.

The aim of a source protection plan is to protect the quality of the groundwater source from potentially polluting activities in the general area and to protect the wider aquifer itself through land use management and planning. A source protection plan delineates the source protection zones to a particular source as follows.

- The inner protection zone, represented by the 100 day time of travel zone, is intended to protect the source against microbial contamination
- The outer protection zone represents the entire zone of contribution (ZOC) to the source i.e. the entire geographical area from which the source abstracts groundwater.

Water Pollution Control (Groundwater) Regulations 2009 (SI 303/2009) Part 2, Section 2(1) and 2(2) and Part 3, Section 3(1) and 3(2) and Part 4, Section 4(1) and 4(2) and Part 5, Section 5(1) and 5(2) and Part 6, Section 6(1) and 6(2) and Part 7, Section 7(1) and 7(2) and Part 8, Section 8(1) and 8(2) and Part 9, Section 9(1) and 9(2) and Part 10, Section 10(1) and 10(2) and Part 11, Section 11(1) and 11(2) and Part 12, Section 12(1) and 12(2) and Part 13, Section 13(1) and 13(2) and Part 14, Section 14(1) and 14(2) and Part 15, Section 15(1) and 15(2) and Part 16, Section 16(1) and 16(2) and Part 17, Section 17(1) and 17(2) and Part 18, Section 18(1) and 18(2) and Part 19, Section 19(1) and 19(2) and Part 20, Section 20(1) and 20(2) and Part 21, Section 21(1) and 21(2) and Part 22, Section 22(1) and 22(2) and Part 23, Section 23(1) and 23(2) and Part 24, Section 24(1) and 24(2) and Part 25, Section 25(1) and 25(2) and Part 26, Section 26(1) and 26(2) and Part 27, Section 27(1) and 27(2) and Part 28, Section 28(1) and 28(2) and Part 29, Section 29(1) and 29(2) and Part 30, Section 30(1) and 30(2) and Part 31, Section 31(1) and 31(2) and Part 32, Section 32(1) and 32(2) and Part 33, Section 33(1) and 33(2) and Part 34, Section 34(1) and 34(2) and Part 35, Section 35(1) and 35(2) and Part 36, Section 36(1) and 36(2) and Part 37, Section 37(1) and 37(2) and Part 38, Section 38(1) and 38(2) and Part 39, Section 39(1) and 39(2) and Part 40, Section 40(1) and 40(2) and Part 41, Section 41(1) and 41(2) and Part 42, Section 42(1) and 42(2) and Part 43, Section 43(1) and 43(2) and Part 44, Section 44(1) and 44(2) and Part 45, Section 45(1) and 45(2) and Part 46, Section 46(1) and 46(2) and Part 47, Section 47(1) and 47(2) and Part 48, Section 48(1) and 48(2) and Part 49, Section 49(1) and 49(2) and Part 50, Section 50(1) and 50(2) and Part 51, Section 51(1) and 51(2) and Part 52, Section 52(1) and 52(2) and Part 53, Section 53(1) and 53(2) and Part 54, Section 54(1) and 54(2) and Part 55, Section 55(1) and 55(2) and Part 56, Section 56(1) and 56(2) and Part 57, Section 57(1) and 57(2) and Part 58, Section 58(1) and 58(2) and Part 59, Section 59(1) and 59(2) and Part 60, Section 60(1) and 60(2) and Part 61, Section 61(1) and 61(2) and Part 62, Section 62(1) and 62(2) and Part 63, Section 63(1) and 63(2) and Part 64, Section 64(1) and 64(2) and Part 65, Section 65(1) and 65(2) and Part 66, Section 66(1) and 66(2) and Part 67, Section 67(1) and 67(2) and Part 68, Section 68(1) and 68(2) and Part 69, Section 69(1) and 69(2) and Part 70, Section 70(1) and 70(2) and Part 71, Section 71(1) and 71(2) and Part 72, Section 72(1) and 72(2) and Part 73, Section 73(1) and 73(2) and Part 74, Section 74(1) and 74(2) and Part 75, Section 75(1) and 75(2) and Part 76, Section 76(1) and 76(2) and Part 77, Section 77(1) and 77(2) and Part 78, Section 78(1) and 78(2) and Part 79, Section 79(1) and 79(2) and Part 80, Section 80(1) and 80(2) and Part 81, Section 81(1) and 81(2) and Part 82, Section 82(1) and 82(2) and Part 83, Section 83(1) and 83(2) and Part 84, Section 84(1) and 84(2) and Part 85, Section 85(1) and 85(2) and Part 86, Section 86(1) and 86(2) and Part 87, Section 87(1) and 87(2) and Part 88, Section 88(1) and 88(2) and Part 89, Section 89(1) and 89(2) and Part 90, Section 90(1) and 90(2) and Part 91, Section 91(1) and 91(2) and Part 92, Section 92(1) and 92(2) and Part 93, Section 93(1) and 93(2) and Part 94, Section 94(1) and 94(2) and Part 95, Section 95(1) and 95(2) and Part 96, Section 96(1) and 96(2) and Part 97, Section 97(1) and 97(2) and Part 98, Section 98(1) and 98(2) and Part 99, Section 99(1) and 99(2) and Part 100, Section 100(1) and 100(2)

GSI  
RR  
Defog  
Source

- Some examples of the amounts of water that the wells in and around the Nevitt are capable of producing:
- The Bog of the Ring: 4 million litres per day (LD)
- PW1 560,000 LD
- PW2 311,000 LD
- ASA2 623,000 LD
- T Moore 645,000 LD
- T Bergin 2,725,000 LD
- T Kerrigan 1,962,000 LD
- J Thome 872,000 LD
- C Crest 3,216,000 LD
- J Murray 872,000 LD
- At survey by video 15<sup>th</sup> October 2006
- HR6 Artesian
- HR13 and ER9 Water level with ground
- BSA1 and ER8 Water level above ground
- BGB1 Artesian
- ER1 Artesian
- It is very clear we know the water is flowing from West to East. If you put a landfill in this Aquifer, lechate will leak out as recognised by the EPA and Larry O'Toole, RPS. (100 litres per day)  $100 \times 365 \times 30 = 1,095,000$  litres. So RPS and Fingal County Council want to put over 1 million litres of poison into the most important food producing Aquifer in Ireland. This huge Horticultural Industry will be destroyed and a future extension to the water supply will also be destroyed. We need to protect this Aquifer for this generation and for future generations.



LIGHT GREEN AREA IS THE  
ONLY AQUIFER IN FINNAR

