

Sub (73)

Baile Na Ridire
Lusca
Fine Gall
Contae Atha Cliath

Knightstown
Lusk
Fingal
County Dublin

Ref. WO231-01 Fingal Landfill

A Chara

We would like to register our bedrock model of the Nevitt based on the gravel and bedrock maps as a submission .

A lot of discussion has taken place about the water devide. This project is all based around a water devide between the only water supply in Fingal and the Nevitt [the proposed site]. The consultants are suggesting a water devide at HR 13. In the absence of a proper professional computer model being completed , a decision must be made on the side of caution.

We will now present all facts which will clearly show the water devide is going right through the proposed landfill.

Fact 1, the Northern part of this proposed landfill [topography] is sloping North to the Bog Of The Ring . This can be confirmed by looking at the 1 meter contour map and / or visiting the Nevitt .

Fact 2 , if you look at the groundwater contours bedrock maps 18 Aug 2005 [ref 1, 2] and 18 July 2005 [ref 3] the new arrows shows the water devide through the proposed landfill, all based on water level mAOD. Also if you physically stand at HR13 and look South , you are looking up a hill. If you stand at HR7 [artesian] and look South , you are looking up a hill. This can be confirmed by map [ref 4] and / or visiting the Nevitt [HR6 artesian]. Are these consultants trying to tell us that water flows up hill in normal circumstances .

Fact 3, if you examine the gravel map and bedrock map , you will see the bedrock is high underneath the proposed landfill. Our physical model clearly shows a devide underneath the Northern part of this proposed landfill and all based on the new gravel and bedrock maps presented at the oral hearing.

Fact 4 , by examining the gravel map , you will clearly see gravel pathways getting deeper as you go towards the Bog of the Ring from underneath this proposed landfill. Please note the location of HR13 on the gravel map.

Fact 5 , there is a syncline from underneath this proposed landfill to the Bog of the Ring [ref 5] , a pathway for leachate emissions.

Fact 6 there is a major North South fault line which can be a pathway for leachate emissions. It would be wise to have as many water supplies as possible especially when we have so many water shortages in Fingal [ref 6] .

All of these facts clearly prove a water divide and a connection through the proposed landfill. Therefore the zone of contribution of the only water supply in Fingal extends into the Nevitt and therefore automatically is R3 / R4 , which means you cannot put a landfill in the Nevitt. The GSI have also the water divide extending into landfill footprint [ref 7] .

We have two zone of contribution of industrial wells extending into Nevitt , after all the wells are down gradient of the Nevitt [see White , Young and Green report] . Therefore the zone of contribution of these industrial wells are automatically R3 / R4 which means you cannot put a landfill in the Nevitt. These are the rules of DOELG , GSI and EPA and are safety features put in to protect our water supplies for ourselves and the children of the future.

We have already have a example of people dying in America from eating spinach that was grown and washed with contaminated water [ref 8] . All it will take is one large accident over the lifetime of this proposed landfill and you have a huge environmental disaster.

The bottom line is that this proposed landfill will put peoples health at risk . This proposed landfill will put our Horticultural industry of National importance at risk. This proposed landfill will put the only water supply in Fingal at risk . This proposed landfill will put thousands of jobs and businesses at risk. After all they are trying to put a landfill in the center of the biggest, cleanest food producing industrial aquifer in Ireland.

Why did you not put in this industrial aquifer map of Fingal in the EIS ? .

Why did you not do a full well survey of this industrial aquifer ? .

Why did you not do a full industrial well survey of this industrial aquifer ? .

Why did you leave out the full gravel map of the landfill footprint ? .

Why did you leave out the proper bedrock map of the Nevitt ? .

Why did you leave out all the reports, surveys etc of this huge Horticultural industry of Ireland concentrated over this aquifer in Fingal ? .

We have very little clay in the Nevitt , ES2	9.4 m of clay
ASA1	11m
ES1	12.3m
GS1	10.9m
ES8	10.1m
GS4	9.6m
BSA4	12m
GS9	10.2m
GS11	11.5m
BRC3	10.5m
AGB4	0.7m
BSA2	7.4m

Remember, they have said they will dig down 10 meters and leave 10 meters , so they require 20 meters approximately. There is also a doubt about the permeability of this clay , see Dr Paul Ashley report. In general, only pockets of clay exist above 20 meters in the Nevitt.

But , we now know that there is plenty of gravel in the Nevitt and you should not put a landfill over gravel , especially inside an industrial aquifer.

An example of how important the water is in this aquifer is, Jones is the biggest producer of lettuce in Ireland. Tesco will not let them use public water supply or rainwater because of chemicals. They will only let them use the water from this aquifer of Fingal because the water is bacteria free and clean . The supermarkets test the water on a regular basis .

This Horticultural industry can be traced back to the 16 century and therefore this aquifer has proved the sustainability is obviously long term. If you look at the official output figures for the Bog of the Ring , this water supply is also sustainable . Obviously a new water supply exists along the north south fault line and this can be confirmed by the recent pump tests in the Nevitt, all the artesian wells [see video] and the industrial wells.

They have already admitted that 100 litres of leachate will leak out per day , [100 x 365 days x 30 years , adds up to over a million litres of leachate, all on record] . All it will take is one, two or three industrial wells to be contaminated and the scare will grow. We know the water is flowing from west to east to more industrial wells. Immediately , the supermarkets will stop ordering from Irish farmers and bring in produce from abroad [would you buy contaminated produce for your family] .

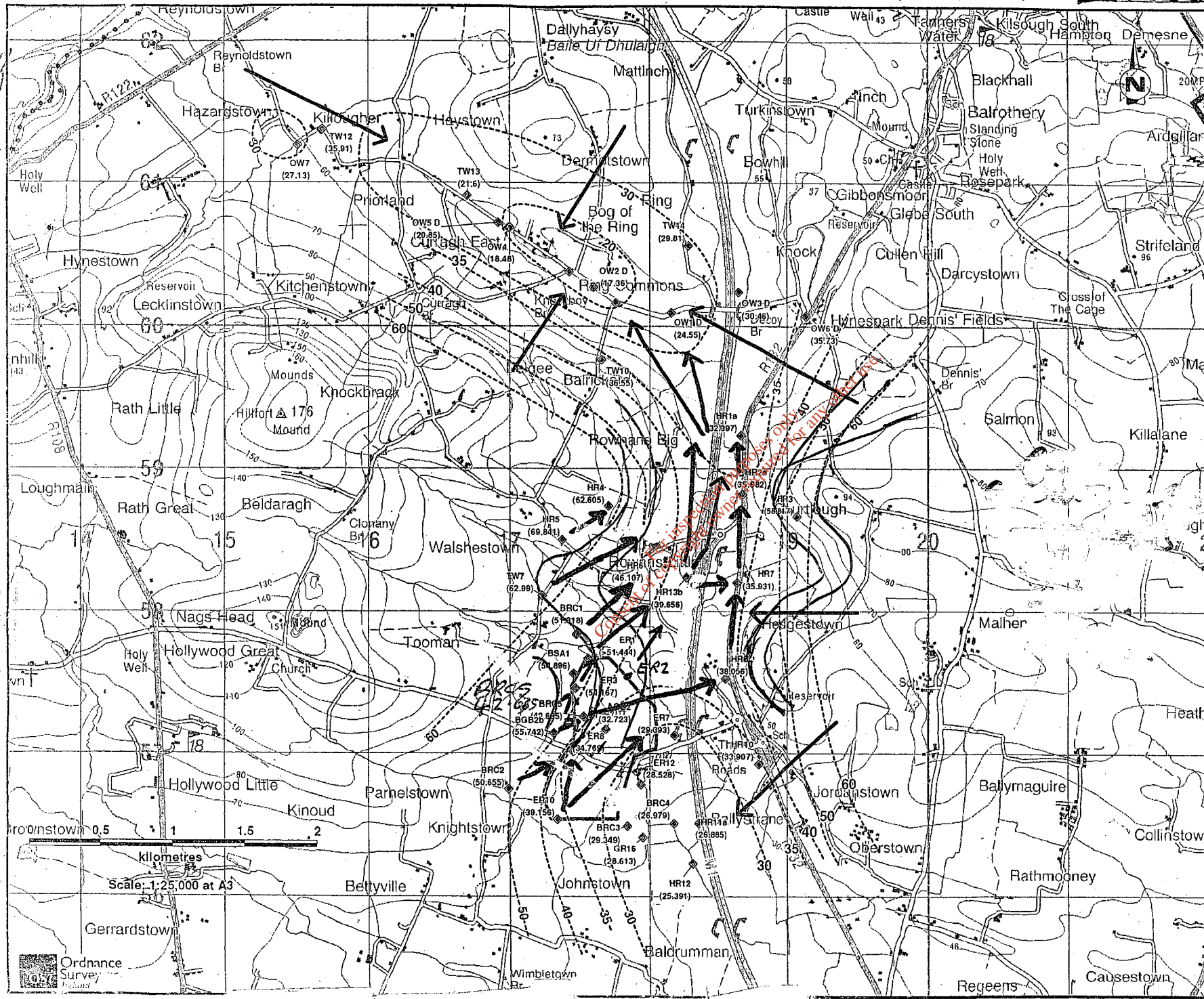
Why did you not pick a proper site that is outside the BIGGEST , CLEANEST FOOD PRODUCING INDUSTRIAL AQUIFER IN IRELAND .

Declan White



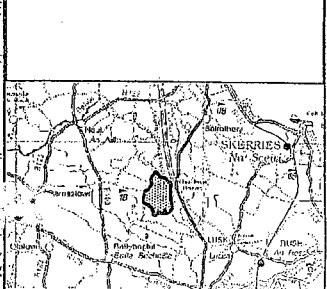
.....
Bsc [hons] Bsc [open] Dip Eng Dip Des Inn AmImechE

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Legend

- BRC2 (27.72) Borehole ID (Waterlevel)
- 30 Groundwater Contour (MAOD)
- Groundwater Flow Direction
- Proposed Landfill Footprint



Fingal County Council
Comhairle Contae Fhine Gall

Project
Fingal Landfill

Title
Groundwater Contours Bedrock
18th August 2005

APPENDIX A 5.3
RPS Consulting Engineers
RPS Consulting Engineers
West Pier Business Campus,
Dun Laoghaire,
Co Dublin
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Issue Details	
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Checked: Y. Cannon	File Ref.
Approved: S. Hervey	MDR030M016A01
Scale: 1:25,000 at A3	Drawing No. M0195
Date: 18/04/2006	Rev. A01

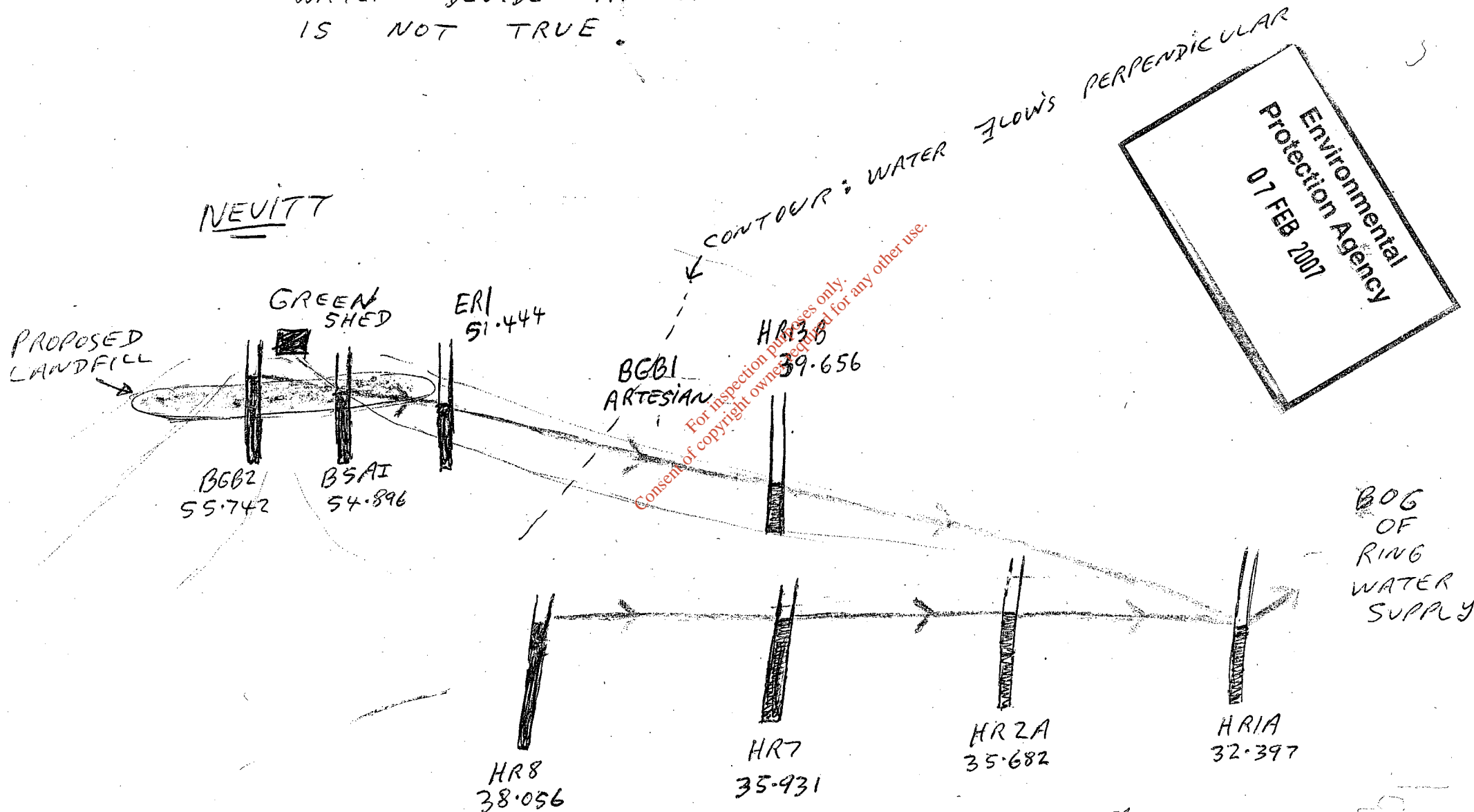
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WATER LEVEL IN
BORE HOLES WHICH
PROVES, THE SO CALLED
WATER DEVIDE AT HR13
IS NOT TRUE.

REF. 2

NEVITT



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Environmental
Protection Agency
07 FEB 2007

18th AUG. 2005

1:25,000



Legend

- BRC2 (51.72) Borehole ID (Waterlevel mAD)
- 30 Groundwater Contour (mAD)
- Groundwater Flow Direction
- Proposed Landfill Footprint

Environmental Protection Agency
07 FEB 2007

Fingal County Council
Comhairle Contae Fhine Gall

Project
Fingal Landfill

Title
Groundwater Contours
Bedrock
18th July 2005

APPENDIX A 5.2

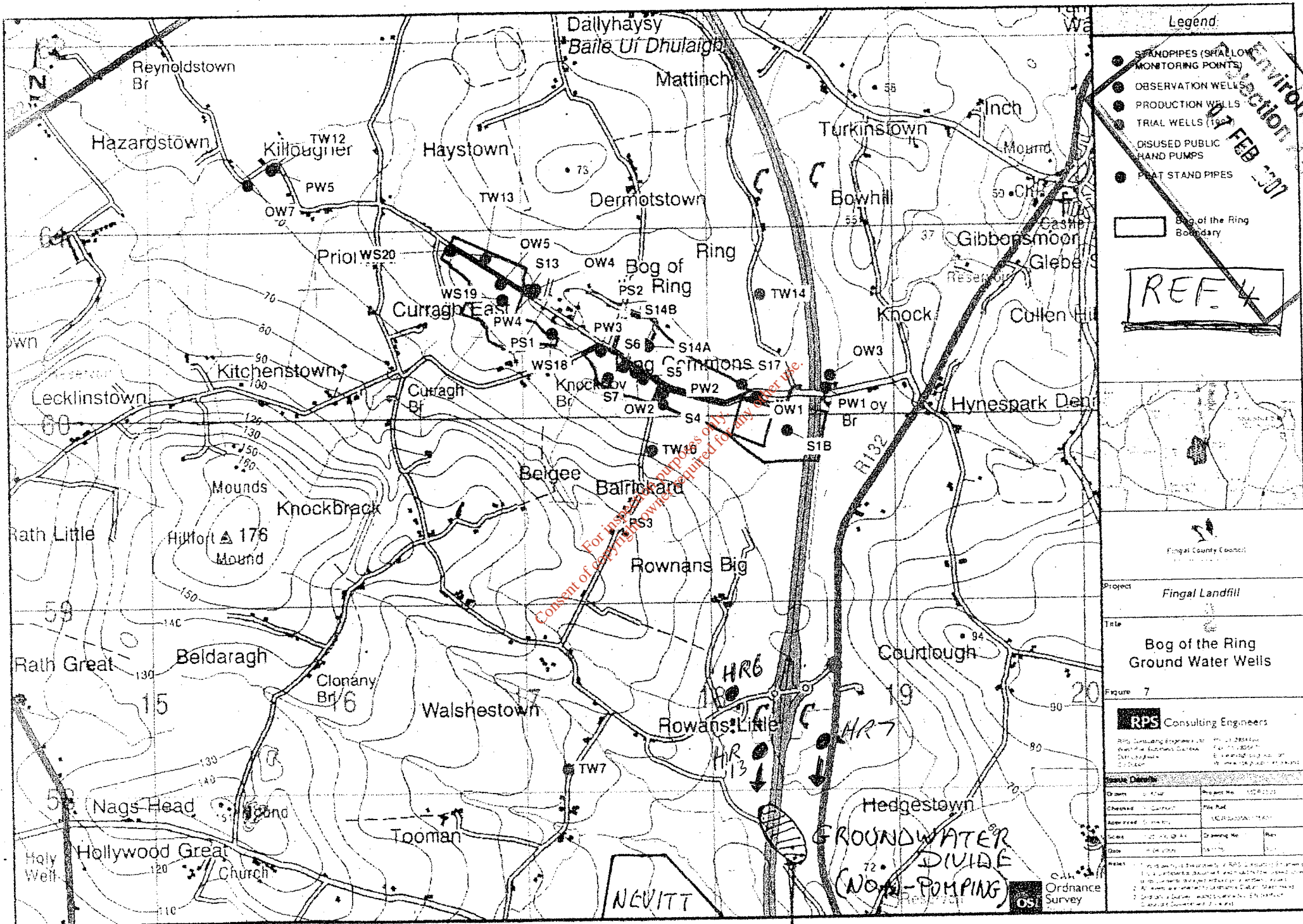
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Legend

- STANDPIPES (SHALLOW MONITORING POINTS)
- OBSERVATION WELLS
- PRODUCTION WELLS
- TRIAL WELLS
- DISUSED PUBLIC HAND PUMPS
- FLOAT STANDPIPES

□ Bog of the Ring Boundary

REF 4

Fingal County Council

Project: Fingal Landfill

Title: 2

Bog of the Ring Ground Water Wells

Figure 7

RPS Consulting Engineers

RPS Consulting Engineers Ltd, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000

Project Details	
Drawn	Checked
Designed	Approved
Scale	Date

OS Ordnance Survey

GROUND WATER DIVIDE (NO PUMPING)

GROUND WATER DIVIDE 1 Km (PUMPING)

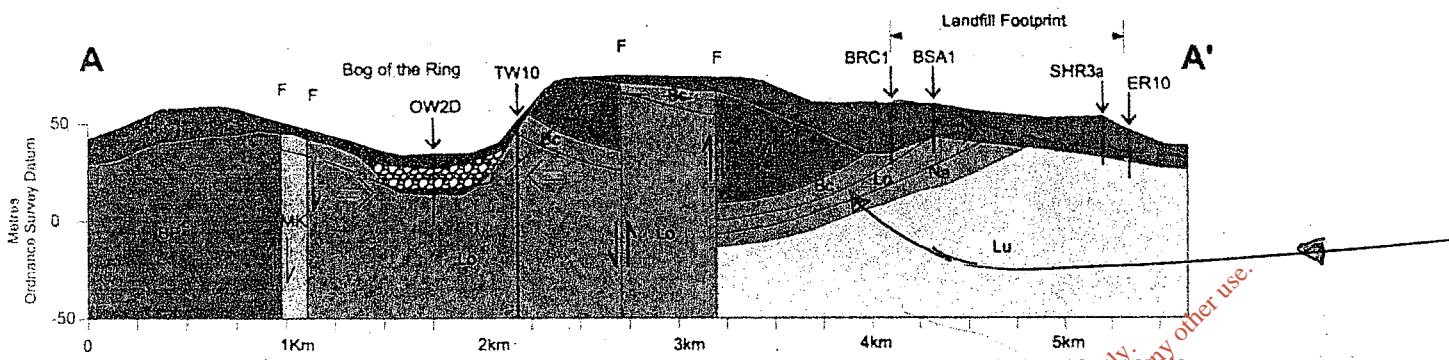
GSI REPORT MARCH 2005.

REF 5

NOTES

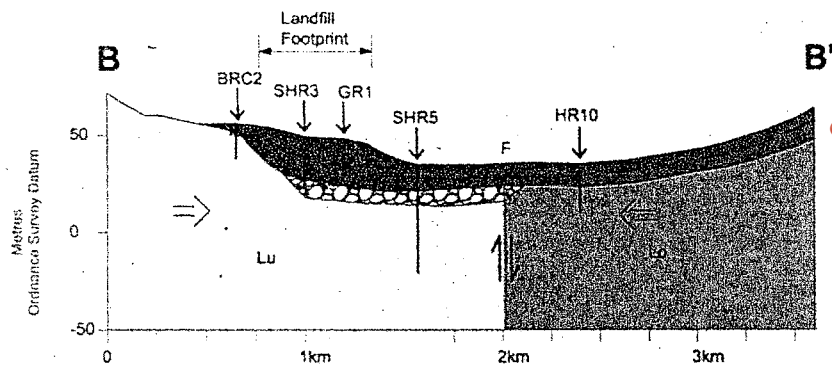
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- Source: GSI 1:50,000 Geological Map of Ireland.

Environmental Protection Agency
07 FEB 2007



GEOLOGICAL CROSS SECTION A-A'

Horizontal Scale 1/25,000
Vertical Scale 1/2,500



GEOLOGICAL CROSS SECTION B-B'

LEGEND

Bedrock Formations

- Walshestown
- Balrickard
- Loughshinny
- Naul
- Lucan
- Mudbank Limestone
- Belcamp

Subsoils

- Clay Till
- Gravel
- Fault
- Fault Throw
- Direction of Groundwater Flow
- Groundwater Table/Piezometric Surface (Bedrock)

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No.	Date	Amendment / Issue	Rev
 Fingal County Council Corporate Services Team Desk			
 RPS Consulting Engineers RPS Consulting Engineers, West Park Business Campus, Dun-Laoghaire, Co. Dublin, Ireland. T: +353 1 286 4600 F: +353 1 201 9678 E: rps@rps.ie www.rps.ie			
Project:			
Fingal Landfill Project			
Title:			
GEOLOGICAL CROSS SECTIONS			
Drawn by:	PH	Job No.:	MP02023
Checked by:	FC	File No.:	MCM02020202
Approved by:	SH	Proj. No.:	
Scale:	1:25,000	Date:	April 06
			Appendix A1.1

REF. 6



Environmental
Protection Agency
07 FEB 2007

Fingal County Council
Comhairle Contae Fhine Gall

URGENT WATER CONSERVATION NOTICE

Fingal County Council Water Services Department is continuing to issue an **Urgent Water Conservation Notice** to residents in the Fingal area. Due to significantly increased demand on water supplies, Council personnel are experiencing severe difficulties in replenishing reservoirs throughout the County. **Between the hours of 9.00 pm and 6.00 am, when demand is at its lowest, residents will experience a reduction in water pressure to enable Fingal County Council maintain levels in Reservoirs for peak usage during daytime hours. We ask that where possible residents refrain from using water for non-essential purposes during these hours for example running washing machines, dishwashers etc.**

We thank you sincerely for your co-operation and patience at this time and apologise for the inconvenience caused.

For further water conservation information please log on to www.taptips.ie

Fingal County Council Water Services Department
9:00 am– 5.00 pm - Mon to Fri: **01 890-5900**

Fingal County Council Emergency No: After Hours: **01 873-1415**

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FINGAL INDEPENDENT
FRIDAY JULY 15 2005

REF. 6

Water is precious. Let's

CONSERVE IT.

Use a basin to rinse your fruit and vegetables.



Wash the car with a bucket and sponge.

Have a shower instead of a bath.



Always put on a full wash.



www.taptips.ie

AN ROINN COMHSHAOIL, OIBHEACHTA AGUS RIALTAIS AITIÚIL
DEPARTMENT OF THE ENVIRONMENT, HERITAGE
AND LOCAL GOVERNMENT

Dublin City Council
Bray Town Council
Dún Laoghaire-Rathdown County Council
Fingal County Council
South Dublin County Council
Kildare County Council
Wicklow County Council

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Water alert as children become ill

Gordon Deegan

THE Health Service Executive yesterday confirmed another child had contracted the diarrhoeal illness, cryptosporidiosis, in the continuing water scare in Ennis, Co. Clare.

It is now over two weeks since 30,000 residents in the greater Ennis area were advised not to drink water from the public supply without first boiling it.

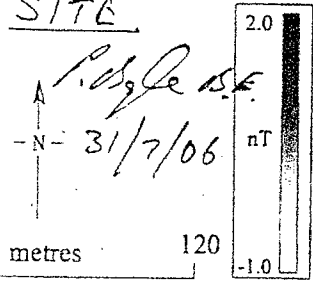
They are also being advised not to wash vegetables, brush teeth or prepare food without first boiling water. The notice extends to homes in Clarecastle, Cruheen and Barefield.

Health and safety advice was issued following five pre-school children living in different parts of Ennis being diagnosed with cryptosporidiosis, which is caused by a microscopic parasite commonly found in farm and domestic animals and passed on in manure.

Study Area

Proposed Disposal Area

GROUNDWATER FLOW - NORTHERN END OF LANDFILL SITE



REF 7

Environmental
Protection Agency
07 FEB 2007

GSI REPORT
GROUNDWATER DIVIDE
(PUMPING)

PRESUMED (PUMPING)
ACTUAL GROUNDWATER
DIVIDE
(TOPOGRAPHICALLY BASED)



Environmental Protection Agency
07 FEB 2007



Dispatch

September 26, 2006 / 55(Dispatch);1-2

REF 8

Ongoing Multistate Outbreak of *Escherichia coli* serotype O157:H7 Infections Associated with Consumption of Fresh Spinach --- United States, September 2006

On September 13, 2006, CDC officials were alerted by epidemiologists in Wisconsin and Oregon that fresh spinach was the suspected source of small clusters of *Escherichia coli* serotype O157:H7 infections in those states. On the same day, New Mexico epidemiologists contacted Wisconsin and Oregon epidemiologists about a cluster of *E. coli* O157:H7 infections in New Mexico associated with fresh spinach consumption. Wisconsin public health officials had first reported a cluster of *E. coli* O157:H7 infections to CDC on September 8. On September 12, CDC PulseNet had confirmed that the *E. coli* O157:H7 strains from infected patients in Wisconsin had matching pulsed-field gel electrophoresis (PFGE) patterns and identified the same pattern in patient isolates from other states. This report describes the joint investigation and outbreak-control measures undertaken by state public health officials, CDC, and the Food and Drug Administration (FDA). This investigation and additional case finding are ongoing.

As of September 26, a total of 183 persons infected with the outbreak strain of *E. coli* O157:H7 had been reported to CDC from 26 states (Figure 1). Among the ill persons, 95 (52%) were hospitalized, 29 (16%) had hemolytic uremic syndrome (HUS), and one person died. The deaths of two other patients possibly related to this outbreak are under investigation. Eighty-five percent of patients reported illness onset from August 19 to September 5 (Figure 2). Fresh spinach was identified as the source of the outbreak. One hundred twenty-three of 130 patients (95%) reported consuming uncooked fresh spinach during the 10 days before illness onset. In addition, *E. coli* O157:H7 with a PFGE pattern matching the outbreak strain has been isolated from three open packages of fresh spinach consumed by patients (one from New Mexico, one from Utah, and one from Pennsylvania).

On September 14, FDA advised consumers by press release and press conference to not eat bagged fresh spinach. On September 15, a California company that bags spinach under several brand names announced a voluntary recall of all fresh spinach-containing products. On September 16, FDA expanded its warning and advised consumers to not eat fresh spinach or fresh spinach-containing products. On September 21, FDA informed consumers that only spinach grown in three California counties (Monterey, San Benito, and Santa Clara) was implicated in the outbreak.

A confirmed case is defined as a culture-confirmed *E. coli* O157:H7 infection in a person residing in the United States, with illness onset from August 1 to the present (or, if date of onset is unknown, *E. coli* O157:H7 isolated from August 15 to the present) and a PFGE pattern identified by the *Xba*I restriction enzyme that matches the pattern of the outbreak strain. August 1 was selected as the earliest illness onset date in the case definition to ensure that the earliest cases in the outbreak were identified and investigated. However, the first six confirmed cases (with illness

TURN PAGE

onsets during August 2--15) were in persons who did not report fresh spinach consumption during the week before illness onset. The first date that illness onset was reported by a person who recently consumed fresh spinach was August 19.

Infections with this outbreak strain of *E. coli* O157:H7 (one of 3,520 unique *E. coli* O157:H7 strains reported to CDC PulseNet since 1996) have been reported sporadically to CDC PulseNet since 2003 (an average of 21 cases per year during 2003--2005). This finding suggests the occasional presence of this strain in the environment and food supply; however, it has not been associated with a recognized outbreak in the past.

The time from illness onset to confirmation that a case of *E. coli* O157:H7 is part of an outbreak is typically 2--3 weeks, including the time required for an infected person to seek medical care and for health-care providers and public health officials to obtain a culture, transfer the bacterial culture to a public health laboratory, perform PFGE testing, and submit the PFGE pattern into the national database at CDC. In this outbreak, the average time from illness onset to PFGE pattern submission to the national database at CDC has been 15 days; additional information is available at <http://www.cdc.gov/foodborne/ecolispinach/reportingtimeline.htm>.

Parallel laboratory and epidemiologic investigations were crucial in identifying the source of this outbreak. Timely PFGE testing by state public health laboratories, PFGE pattern submission by states to CDC PulseNet, and analysis of PFGE patterns in the CDC PulseNet national database resulted in rapid detection of the outbreak. Concurrent collection of case exposure information by epidemiologists in affected states and sharing of exposure information among states and CDC led to rapid identification of the suspected food source and public health action. Continued rapid diagnosis, culture, PFGE analysis, and reporting to CDC of *E. coli* O157:H7 infections are needed to aid this investigation and to detect and investigate *E. coli* O157:H7 outbreaks in the future.

New information regarding the current *E. coli* O157:H7 outbreak will be available regularly. The most current information is available online at <http://www.cdc.gov/foodborne/ecolispinach>; this website contains information updated daily on the number of cases and affected states in addition to general information regarding *E. coli* O157:H7, resources for clinicians, and activities by CDC and other agencies. The FDA website, at <http://www.fda.gov/oc/opacom/hottopics/spinach.html>, contains advice for consumers on the current outbreak and food-safety guidelines. CDC's public inquiry line (telephone, 1-800-CDC-INFO) also can provide information on the current outbreak to both the public and health-care workers. Information about the current *E. coli* O157:H7 outbreak is also available by RSS (Really Simple Syndication); a subscription to the *E. coli* O157:H7 outbreak RSS information can be obtained at <http://www.bt.cdc.gov/rss>.

Reported by: *State and local health departments. E. coli O157:H7 investigation team, CDC.*

Figure 1