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NEWS RELEASE

5 July, 1999

Better bug detection for water supply

Harmful bugs are more likely to be identified in the region's water supply following the installation of new water testing equipment by the Wellington Regional Council.

The new filtration and recovery system provides a more reliable method of recovering any waterborne parasites, such as Giardia and Cryptosporidium, which may be present in water samples.

WRC Laboratory manager Helen Sillars said while the previous method of sample recovery met international standards for identifying Giardia and Cryptosporidium, the new system offered significantly improved parasite detection.

“With this new equipment, we will be even better informed about what is in our water and able to more reliably identify the presence of organisms that can pose a serious threat to public health.”

The Water Laboratory is the first in New Zealand to purchase the Filta-Max™ filtration and recovery system. The filter comprises multiple layers of foam discs which trap any parasites present in the water passed through them. Parasites can be effectively washed out of the filter for analysis. The equipment reduces the chance of captured parasites being lost during the washing process.

Giardia and Cryptosporidium are not commonly found in Wellington's untreated water due to careful management of the region's water catchment areas. Despite this, the WRC takes a close interest in new technologies that offer an enhanced ability to detect or remove such parasites from the water supply.

Analysis of water samples is part of a comprehensive process of quality management designed to protect the public from waterborne diseases caused by human or other animal waste coming into contact with the water supply.

The WRC manages the region's catchment areas to minimise the risks of waterborne parasites reaching its treatment plants. Public access to catchment areas is closely controlled and there is no access to the areas immediately surrounding the river intakes. In addition, animal numbers are monitored and controlled within the wider catchment areas.

The treatment processes employed by the WRC to treat river water are designed to remove any Giardia and Cryptosporidium that may reach its treatment plants. The Council targets an 'A' grading for water quality, as defined by the Ministry of Health's Drinking Water Standards for New Zealand (1995). This standard is almost always achieved, making the Wellington metropolitan area's water supply among the safest in the country.

In addition, a comprehensive regime of quality monitoring provides regular information about the quality of treated water, both immediately following treatment and at various points in the supply system. Daily testing by trained staff at the WRC's water treatment plants is verified by laboratory testing of samples. The Regional Council's Laboratory is IANZ (International Accreditation New Zealand -the official body for accrediting technical professional services in NZ) accredited.

For further information contact:

Helen Sillars, Water Laboratory Manager

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Tel. 567-7561, fax 567 9796 (Water Laboratory)

Newspaper Clippings Abstracts

Report Printed 13/07/99

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Date	Newspaper	Page	Headline and Abstract
10 July 1999	Chronicle	1	WATER REPORT QUESTIONED The findings of a report that says rural water users are generally not water wasters have been questioned by Horowhenua District Councillor Mick Munford. The report was carried out by the council after concerns raised earlier this year by Mr Munford that summer water restrictions were placed on urban properties but not on rural users.
* 10 July 1999	Evening Post Water Supply	21	TE MARUA PUMP STATION: GENERATOR BUILDING AND ELECTRICAL WORKS Tender.
* 12 July 1999	Evening Post Water Supply	2	BETTER TESTS FOR WATER BUGS Brief. A new filtration and recovery system will provide a more reliable method of detecting bugs such as giardia and cryptosporidium, Wellington Regional Council water laboratory manager Helen Sillars said. The laboratory is the first in New Zealand to buy the Filt-Max system. It comprises multiple layers of foam discs which trap any organisms in the water passed through them.

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Hutt principality a tourist drawcard

As local residents continue to debate the name of our city it's not well known that Australia is home to the 'principality' of Hutt River Province.

An eccentric wheat farmer 'Prince' Leonard of Hutt River Province has set up the realm with his wife 'Princess' Shirley on their land in Western Australia.

Since he ceded from the slate of Western Australia in 1970, following a dispute over wheat quotas, Leonard Casely - as he was then known - has transformed his dusty farm, 300 miles north of Perth, into a thriving tourist resort.

Attractions include a chapel, art gallery, post office, motel, shopping centre and camp site. The principality issues its own stamps, paper currency and passports.

Honorary titles and diplomatic appointments are available at Prince Leonard's discretion. Though landlocked, the principality has a surprising number of admirals in command of Hutt River's non-existent navy.

Each year around 30,000 people visit the principality, mostly to buy stamps or have their picture taken with Prince Leonard, his wife, Her Serene Highness Princess Shirley, or other members of the royal family.

The couple are expecting a surge in citizens seeking political asylum should Australia vote to become a republic in a referendum to be held later this year.

"...Business people who want to take advantage of our tax-free status might like to move in too," Prince Leonard said.

Water filter traps bugs

Any harmful bugs in our drinking water are more likely to be identified following installation of new testing equipment by the Wellington Regional Council.

The \$7000 filtration and recovery system is said to provide a more reliable method of recovering any waterborne parasites, such as giardia and cryptosporidium.

While the previous method of sample recovery met international standards the new system offers improved protection.

The WRC's water laboratory is the first in New Zealand to purchase the Filta-Max filtration and recovery system, which consists of multiple layers of foam discs trapping any

parasites present in the water passed through them.

Parasites can be effectively washed out of the filter for analysis with Filta-Max reducing the chance of captured parasites being lost during the washing process.

The Filta-Max system will be located in the laboratory but individual filters costing around \$85 each will be installed at all of the region's water plants.

Wellington Regional Council water laboratory manager Helen Sillars said although giardia and cryptosporidium are not commonly found in Wellington's untreated water it is important to have up-to-date equipment.

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CLASSIC BOOK characters Hairy Maclary and friends are set to help out Otaki's Children's Health Camp this year with the release of the 1999

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Regional goals for water supply

Since the 1980s, the Regional Council has been developing its wholesale water supply system to deliver flexibility of supply, improved security of supply and cost efficiencies for the entire region. The Waterloo Water Treatment Plant was built in 1981 following extensive studies of the artesian aquifer. It was located north of Buick Street Pump Station to maximise water yields from the aquifer. The Waterloo plant was recently upgraded to give it sufficient capacity to utilise all the artesian water supply available for municipal use. Concentrating artesian supply from one site offers **significant** cost savings to the region. Gear Island Pump Station has been earmarked for emergency supply only.

Should Buick Street Pump Station be refurbished?

In May 1991, Lower Hutt City Council's Water Supply Manager presented a paper to its Works and Services Committee on **Petone's** water supply. This paper identified a number of key concerns:

1. Buick Street Pump Station was vulnerable to flooding and its pumps were only able to supply water to the elevation of the present (old) Rahui Reservoir.
2. Rahui Reservoir's capacity was 'entirely inadequate', being only about 10 percent of desirable level, and was situated at a less than ideal elevation.
3. System pressures and **fire** fighting capability depended on continuous pumping. (A costly exercise).

It was **recognised** that interconnection between **Petone** and the Lower Hutt distribution system would improve internal system **reliability**. This was only possible with a reservoir at a higher elevation.

The Regional Council shared these concerns about Petonef water supply and considered that the vulnerability issue would be improved by interconnecting the **Petone** system with the remainder of the Lower Hutt and Wellington wholesale water supply system.

The Buick Street Pump Station is now 35 years old. It has been considered at the end of its useful life mechanically since the early 1990s. Maintenance over the last few years has been only the minimum necessary to keep it going until the new Rahui Reservoir is completed. A straight replacement would not solve the issues outlined above.

Unfluoridated water as a percentage of regional supply

Every year the Wellington Regional Council supplies about 55,000 million litres of water to the cities of Hutt, Porirua, Upper Hutt and Wellington. The Buick Street Pump Station in Petone supplies about 1,900 million litres or 3.5 percent of the total supply to the four cities. Apart from the water supplied from Buick Street, all treated water for the region is fluoridated.

Why fluoride is added to the water supply

The Regional Council's policy on water quality, including fluoridation, is guided by New Zealand's **Drinking Water** Standards, which are determined by the Ministry of Health. At the outset of the review process for Petonef water supply (in June 1988) the Ministry's fluoridation advice was guided by the World Health Organisation's Guidelines for Drinking Water Quality 1984. In establishing these guidelines, the Expert Committee on Water Fluoridation, set up by the WHO, had drawn the following conclusions:

1. Drinking water containing about 1.0 parts-per-million of fluoride contributes significantly to the prevention of tooth decay.
2. There is no evidence that water containing this concentration of fluoride impairs the general health.
3. Controlled fluoridation of drinking water is an effective public health measure.

The Regional Council reviewed its policy on fluoridation of the wholesale water supply following the 1993 public consultation process and at a Council workshop on fluoridation in May of this year. The Council continues to be firmly committed to its policy of fluoridation of the water supply.

The current Ministry of Health drinking water standards recommend dosing fluoride at between 0.7 and 1.0 parts per million for reasons of dental **health**. The Regional Council's policy is to target this level of fluoride in drinking water.

If you **have an enquiry about any of the information contained in this leaflet, please contact:**

Wellington Regional Council, PO 80x11-646, Wellington
New Zealand, Telephone 04 384-5708

Petone's WATER SUPPLY



Recently, there has been widespread discussion and media interest about the future source of Petone's water supply.

The Wellington Regional Council would like to take this opportunity to present the residents of Petone with the background detail to this important local issue.



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An important message to the residents of Petone & Korokoro

PETONE'S WATER SUPPLY IS ABOUT TO CHANGE

Petone is supplied with the only unfluoridated and unchlorinated water in the Wellington metropolitan area. This water comes from an artesian bore at Buick Street Pump Station, and is stored in the Rahui Reservoir.

In 1991 the Hutt City Council and Wellington Regional Council (WRC) recognised that Petone needed additional water storage capacity, and that Buick Street Pump Station was inadequate to supply the additional water needed. While Hutt City has been planning and building a new storage reservoir, WRC has been undertaking considerable research and consultation to identify a suitable alternative for supplying water to the reservoir.

Hutt City's new storage reservoir (the new Rahui Reservoir) is nearly completed, and an alternative source of water supply must be selected.

WHAT HAPPENS NEXT

In the short term, the Regional Council will supply the new Rahui Reservoir with high quality artesian water from the Waterloo Water Treatment Plant. This water will not be chlorinated but will contain fluoride, at levels that comply with Ministry of Health guidelines for drinking water. Fluoride does not affect the taste of water, while chlorine can. This supply option is considered by the WRC to provide the best combination of local and regional benefits in terms of cost and security of supply.

Hutt City Council does not currently accept this proposal. In the longer term, the Regional Council is willing to assist Hutt City to investigate alternative sources of supply to the reservoir, but the cost of developing these alternatives must fall to the residents of Hutt City. The WRC has presented Hutt City with a number of options for providing unfluoridated Waterloo water to Rahui Reservoir. These options range in cost from \$400,000 to \$2.1 million.

A brief history of the issue

WRC initially favoured supplying **Petone** from Wainuiomata Water Treatment **Plant. This** was considered by the council to provide **the** greatest local and **regionol** benefit.

The Hutt City Council wanted to investigate other options and in mid 1991 requested an estimate of costs associated with building a replacement standalone pumping station for **Petone**. The capital cost was estimated at \$2.7 million, while operating costs would add \$4 10,000 annually to **Petone's** water bill; an estimated \$ 129 extra per year for every household.

In September 1992, WRC arranged for an independently managed consultation process on fluoridation of the water supply. This included public hearings and submissions from technical experts. The conclusions supported the Regional Council's policy of fluoridation but recommended that any new supply for **Petone** be from an artesian source.

Hutt City Council has postponed construction of the new Rahui Reservoir since 1993/94. This has delayed the need to finalise alternative water supply arrangements for **Petone**.

In February 1998, following discussions with Hutt City Council, the Regional Council decided that the new Rahui Reservoir would be supplied with fluoridated, unchlorinated artesian water from Waterloo Water Treatment Plant.

In November 1998, Hutt City confirmed their preference for the new Rahui Reservoir to be supplied with artesian water from Waterloo, but requested further public consultation by the WRC on fluoridation of this water.

In February of this year, Hutt City advised that, as a result of resolutions passed at a City Council meeting in December, it wished the WRC to undertake a region-wide consultation regarding water fluoridation, on a source-by-source basis.

In May 1999 the Regional Council met to consider Hutt City's request. After reviewing its fluoridation policy, the scope of its 1993 public consultation, and additional information about the safety and effectiveness of fluoride, the WRC strongly reaffirmed its fluoride policy. It does not believe that the expense of further public consultation can be justified at this time.

The WRC has, however, presented Hutt City with a number of options for providing unfluoridated Waterloo water to Rahui Reservoir. These options range in cost from \$400,000 to \$2.1 million.

To date, the Regional Council has committed more than \$500,000 in providing a delivery main to the new Rahui Reservoir. It has also spent more than \$100,000 to ensure the Rahui Reservoir can be supplied with artesian water from Waterloo.

In June 1999, Hutt City requested that the Regional Council consider two new options for supplying Rahui Reservoir: (i) letting the City upgrade and operate Buick Street Pump Station, and (ii) supplying unfluoridated water from the Gear Island Pump Station. The Regional Council has indicated that it does not favour the latter option, as it is not an efficient use of the aquifer. It will soon consider the option of Hutt City taking over the water supply to **Petone**.

Artesian water characteristics

Water at the Buick Street Pump Station is drawn from a secure aquifer beneath the Hutt Valley. The artesian water contains dissolved carbon dioxide and is slightly acidic. Because acidic water causes corrosion to metal water pipes and fittings, caustic soda (sodium hydroxide) is added at the Pump Station.

Water supplying the Waterloo Water Treatment Plant is drawn from the same aquifer, but further up the valley in the vicinity of Knights Road. This water is also treated to reduce acidity. The main additive is lime, with a final adjustment, when needed, of caustic soda.

The Regional Council's role in water supply

Wellington Regional Council is the wholesale water supplier to the cities of Hutt, Porirua, Upper Hutt and Wellington. This role was established by the Wellington Regional Water Board Act (1972). Under the terms of this Act, the Regional Council must charge a uniform wholesale price for water sold to the four City Councils. As the costs of wholesale supply are shared between the four City Councils, supply arrangements must be equitable. The Regional Council's function and intent is to act in the interests of all its city customers. However, its role demands that it must weigh the interests of individual city customers with those of the region as a whole.

Options for Petone's

WATER SUPPLY

An important message to the residents of **Petone** and **Korokoro**

Recently, there has been widespread discussion about the future source of Petone's water supply. The Wellington Regional Council would like to present the residents of the Petone area with the choices available to them

Why is **Petone's** water supply about to change?

Petone has the only unfluoridated and unchlorinated water supply in the Wellington metropolitan area. This water comes from an artesian bore at Buick Street Pump Station.

In 1991 the Hutt City Council and Wellington Regional Council (WRC) recognised that Petone needed additional water storage capacity and that Buick Street Pump Station was inadequate to supply the additional water needed.

Hutt City's new storage reservoir (the new Rahui Reservoir) is nearly completed, and an alternative source of water supply must now be selected

What happens next?

In the short term, the Regional Council will supply the new reservoir with high quality artesian water from the Waterloo Water Treatment Plant. This water will not be chlorinated but will contain fluoride, at levels that comply with Ministry of Health guidelines for drinking water. Fluoride does not affect the taste of water. This supply option is considered by the WRC to provide the best combination of local and regional benefits.

Hutt City Council indicated in 1998 that it would prefer the new Rahui Reservoir to be supplied from Waterloo.

The Regional Council is willing to assist Hutt City to investigate alternative sources of supply for the Rahui Reservoir, but the cost of developing these alternatives must fall to the residents of Hutt City.

The WRC has presented Hutt City with a number of options for providing unfluoridated water to Rahui Reservoir. These options range in cost from \$400,000 to \$21 million.

The options for water supply to **Petone**

1. Fluoridated artesian water supplied from Waterloo Water Treatment Plant. The WRC has been working towards this option, which carries no additional costs to Hutt City. More than \$600,000 has already been spent to make supply from Waterloo possible, and the Regional Council would expect to recover this amount from Hutt City in the event of an alternative option being taken up.

2. Unfluoridated artesian water supplied from Waterloo or Gear Island Water Treatment Plants. This option would require the WRC to make operational changes, as water supplied to the rest of Hutt City contains fluoride. Two options to achieve this have been identified, costing approximately \$550,000 and \$400,000 respectively. These amounts both represent one-off capital costs that the WRC would expect Hutt City to pay. There are no ongoing operational costs to Hutt City associated with these alternatives.

In addition to the above two options, Hutt City Council has asked the WRC to consider a replacement standalone pump station to supply Petone.

The capital cost of a new pump station and its connection to the Rahui Reservoir would be approximately \$2 million.

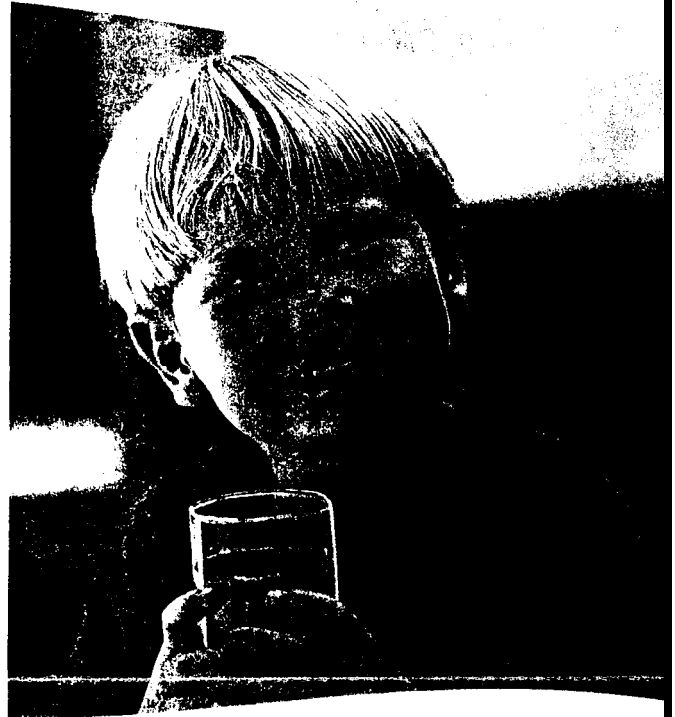
Why fluoride is added to the water supply

Fluoride is added to the water supply for dental health reasons. The WRC's fluoridation policy is guided by advice from the Public Health Service and the Ministry of Health.

At the outset of the review process for Petone's water supply (June 1988) the Ministry's fluoridation advice was guided by the World Health Organization's (WHO) Guidelines for Drinking Water Quality 1984. In establishing these guidelines, the WHO had concluded:

1. Drinking water containing about 1.0 part per million of fluoride contributes significantly to the prevention of tooth decay.
2. There is no evidence that water containing this concentration of fluoride is harmful.
3. Controlled fluoridation of drinking water is an effective public health measure.

Hutt City had intended to complete their new reservoir at Rahui in 1994. As a consequence of this, the WRC commissioned an independently managed review of fluoridation and water source options for Petone in late 1992. A panel of prominent



citizens was established to make recommendations to the WRC. After receiving public submissions and the views of health professionals, the panel recommended that fluoridation be continued generally and extended to Petone.

Since 1993 the Public Health Service has advised the WRC of new research findings that conclude fluoridation not only reduces the incidence of decay in children's teeth but is also effective throughout a person's life. It therefore offers benefits to anyone with their natural teeth.

No other fluoridation developments of note have been brought to the Regional Council's attention.

The New Zealand Drinking Water Standards of 1995 recognised that people consume fluoride from sources other than water. Consequently the targeted fluoride level in the region's water was reduced from one part per million to 0.85 parts per million (a range of 0.7 to 1 part per million).

The Public Health Service, our health advisor, remains strongly in support of fluoridation of the water supply.

On the basis of all this information the Regional Council remains firmly committed to its policy of fluoridation of the public water supply.

The **Petone** standalone water feature

The WRC supports Hutt City Council's intention to construct a public tap or similar facility in central Petone for the provision of an easily accessible source of entirely untreated artesian water to the community. The Regional Council would be willing to consider a request for a contribution to such a facility.

For further information please contact the Wellington Regional Council members elected from the Lower Hutt constituency. They are:

Cr. Jim Allen, Telephone (04) 938 1795, Mobile 021 625 958

Cr. Rosemarie Thomas, Telephone (04) 939 8466, Mobile 025 846 627

Cr. Dick Werry, Telephone (04) 567 1912, Mobile 025 417 647

Or contact the Wellington Regional Council, PO Box 11-646, Wellington, Telephone (04) 384 5708



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