
Water Supply

(April)

Operations Group

(April)

Operations Group Review of Operations For the Period Ended 30 April 1999

1. Items of Note

The result from the pilot plant trials at Te Marua and Wainuiomata continue to produce information supporting our aim to improve the operation of these facilities whilst reducing costs.

2. Water Quality

A total of 289 samples from trunk mains were tested for coliform organisms, one of these samples tested positive.

Secchi disc water clarity in the Te Marua north lake varied between 6.7 and 7.4 m, and in the south lake between 4.9 and 5.1 m. These are considered satisfactory. Along with the change in water clarity (Secchi) there was a corresponding change in phytoplankton levels. The dominant phytoplankton were as follows:

- North Lake: *Oscillatoria*, *Peridinium*, *Chlorella*
- South Lake: *Staurastrum*, *Synedra*, *Cosmarium*

When present in high concentrations *Oscillatoria* may cause filter clogging and *Staurastrum* and *Peridinium* may cause taste and odour in treated water.

Dissolved oxygen and pH readings are also satisfactory.

Twelve water samples were tested for *Giardia* and *Cryptosporidium*. The results were as follows:

Te Marua:	Treated water	nil detected
	Lakes	nil detected
	Intake	nil detected

Wainuiomata:	Treated Water	nil detected
	Intakes:	

- Orongorongo River Intake } low levels of *Giardia*, no
- Big Huia Intake } *Cryptosporidium* detected
- Wainuiomata River Intake - low levels of *Giardia*, and *Cryptosporidium* detected.
- Georges Creek Intakes - low levels of both *Giardia* and *Cryptosporidium* detected at the Upper Intake.

In addition six artesian samples were tested for the presence of macro-organisms - none were detected. This testing is necessary to prove security of the groundwater.

3. Supply Situation

The two monthly seasonal forecast for May and June 1999, issued by the Meteorological Service, is as follows:

Situation as at 7 May

For Wellington:

Rain: 100 – 120% of normal

Wind: More southerlies coming than the last couple of winters

Temperature: Slightly below normal

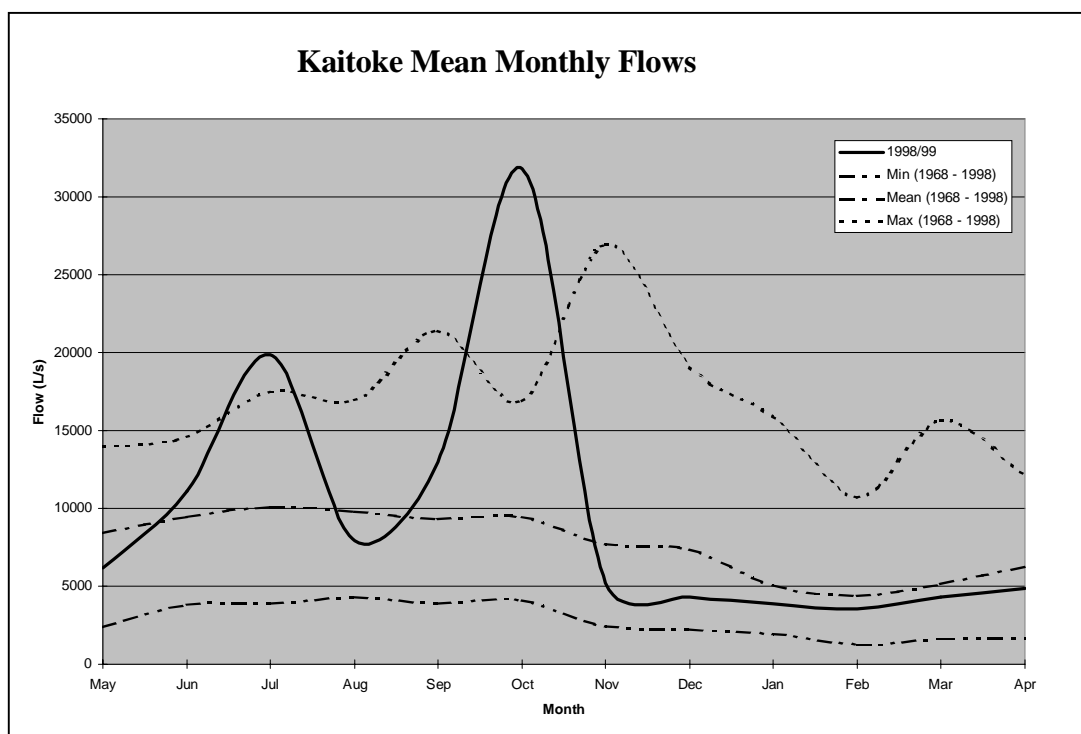
Sunshine: Below average

Specials: The odds are increasing for stronger cold southerly outbreaks this winter

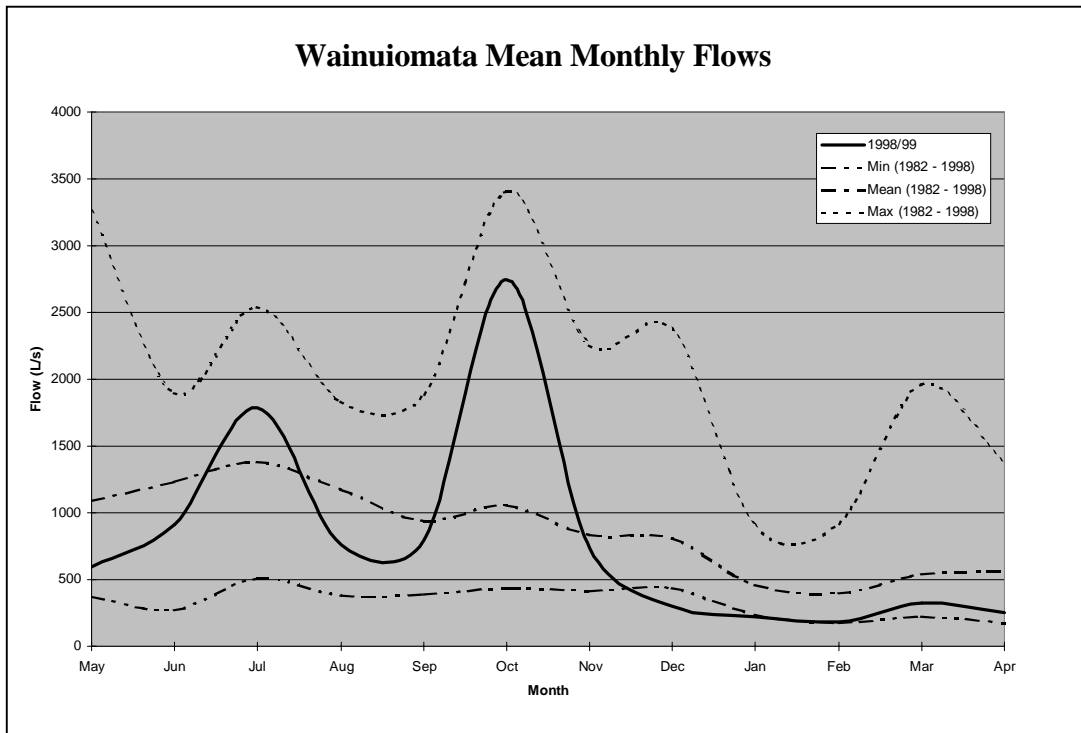
Confidence: Moderate

Low pressure systems from the Tasman Sea are expected to bring regular top-ups of rain. These rain events will generally be preceded by a period of strong north or northwest winds, and followed by possibly a longer period of cold showery southerlies. Low pressure systems redeveloping near the Chatham Islands will at times be responsible for producing these outbreaks of southerly winds that can last for three days or more. For a comparison, the last La Nina winter back in 1989 brought snow to Karori and a 3pm temperature of 3 degrees C to the city on 29 May that year.

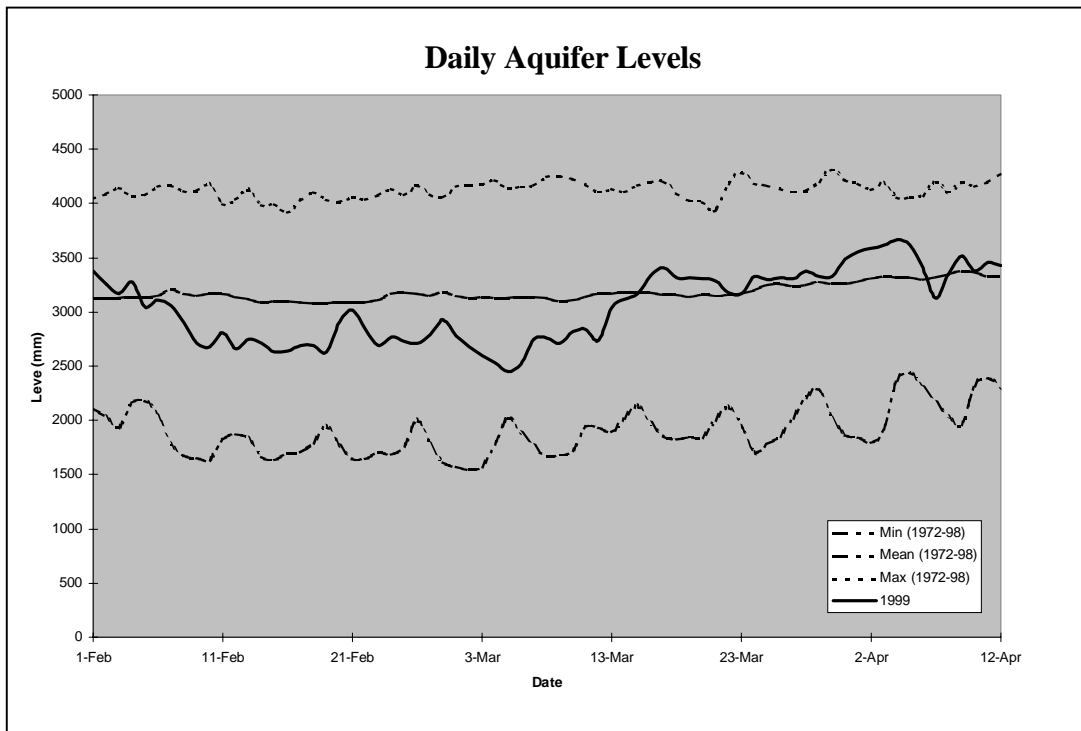
Hutt River Flows



Wainuiomata River Flows



Aquifer Levels



4. **Production**

4.1 **Te Marua**

4.1.1 ***Quality***

Low fluoride transgression on 8 and 9 April. Problem caused by controller fault, system reset no further problems experienced.

4.1.2 ***Safety***

No health and safety issues to report other than first aid refresher training completed by plant operators.

4.1.3 ***Operations***

Production

No significant production problems for the period.

Plant Tours

There were four plant tours for the period, these were:

09/04/99	Wellington Regional Councillors	35
21/04/99	Jai Rangi School	60
22/04/99	Central Institute of Technology	10
27/04/99	Wellington 7 th Day Adventist School	35

General

Regional and City Councillors were on site to witness Y2K testing of the main control system.

4.1.4 ***Projects***

Kaitoke Upgrade

Work is continuing on the final stages of the upgrade work. The new turbidity meter failed soon after commissioning and has been returned to the supplier for repair.

Treatment Pump 1 VSD

The installation of this new drive is underway. When the installation and commissioning is complete the plant operators will have better control of flow from the lakes to the plant and pumping costs will be significantly reduced.

WWR Automation

The final stage of the wastewater recovery plant automation is almost complete. Control loop tuning is underway and should be complete by early June.

4.2 **Wainuiomata Water Treatment Plant**

4.2.1 *Quality*

A number of fluoride transgressions have been experienced (again) this month. It has been discovered that the present sample point is too close to the fluoride dosing point to give accurate results. It is proposed that a new sample point be installed downstream from the present location, at the 'gatehouse'.

4.2.2 *Safety*

No health and safety issues to report other than first aid refresher training completed by plant operators.

4.2.3 *Operations*

Production

Plant output has increased since last month due to the rising river levels.

Plant Tours

There was one plant tour for the period, this was the WRC Councillors tour on 9 April.

Catchment Management

The Ranger and Security guard continue to be kept busy monitoring activities in the catchment.

4.2.4 *Projects*

Fluoride Building Refurbishment

Cleaning and painting of the outside of the building is complete. The colour scheme now matches that of the main plant. De-commissioning of all the redundant electrical equipment will commence by mid May.

WWR Optimisation

The four-week monitoring period is underway. The initial results indicate that levels of cysts in the final supernatant stream are low, and therefore it is hoped that we can eventually return to recycling this water through the plant.

Pilot Trials

All instrumentation has now been installed and the pilot trials are well underway. The initial focus will be on the DAF portion of the trial rig.

Security Gate

The location of the new automatic gate has been confirmed and installation has begun. It is hoped that the gate will be ready for use by mid May.

Orongorongo Instrumentation

New batteries have now been installed and re-commissioning of the micro hydro and associated systems has been arranged. Once power has been re-established all instrumentation will be re-calibrated and checked for correct operation.

Repair of George Creek Bridge

The Engineers report has been received and we are ready to get pricing from contractors to carry out the work.

Standby Pump Installation

The installation of the standby pumps has commenced. Completion of this work will be timed to coincide with the plant shutdown for the 1080 drop as access is required into the backwash tank to install suction pipework.

4.3 **Waterloo**

4.3.1 *Quality*

Since modifications were made to the fluoride feeder as part of the plant upgrade, some transgressions have occurred. Investigations are underway to determine the cause.

Treated water pH control has been much better since the caustic soda dosing was discontinued. This also means significant savings in chemical costs.

4.3.2 *Safety*

No health and safety issues to report other than first aid refresher training completed by plant operators.

4.3.3 *Operations*

Production

Plant output capability has increased with the installation of the new Wellington pumps. The installation and testing of additional instrumentation is to be carried out prior to the final commissioning of the new pumps in June.

Plant Tours

Tours have been discouraged while the plant upgrade is in progress.

General

The Aerator B Gearbox and motor have had their first overhaul in 18 years.

Plans to remove redundant equipment from the laboratory and to run new sample lines are in place. The work will include the installation of a new workbench and sink.

4.4.1 *Projects*

Wellfield Refurbishment

Preliminary design of the new power and control cubicles is finished. In situ trials have been carried out on an Allen Bradley soft starter to confirm performance and operation. The next phase will be to finalise design and call for quotations for the work.

Lime Room Bunding

Bunding of the lime dosing room floor has been completed. This will prevent spills of chemical to storm water drains.

Seismic Restraint

Additional support bracing has been installed on the bulk lime silo to comply with the recommendations of a recent seismic stability report.

5. **Distribution**

Electrical Section

At the Kitchener Terrace Pump Station an alarm pressure switch was fitted to monitor the outlet pressure. The portable telemetry pressure monitor was installed at Mrs Keith's Toby. There have been no further complaints.

At Ngauranga Pumping Station the old Telemecanique PLC has been replaced by a new Y2K compliant Modicon unit. The controls on the Clayton control valve at the inlet to Ngaio Reservoir have been replaced.

Pipeline Section

Te Marua to Karori Pipeline

- All pipework for the new 600 line valve at Maori Bank has been fabricated, sandblasted and painted.
- The scour valve at Maori Bank Upper Hutt has been housed in a valve chamber.

- The scour valve at Fraser Crescent, Upper Hutt, has been housed.
- All scours on the Te Marua to Karori Line have been exercised.

Karori Reserve

All valving for Stage 1 of the Karori decommissioning has been carried out.

Electromagnetic Flow Meters

New electromagnetic flow meters were installed in the following branchlines:

Paremata No.2	Juno
Kingsley	Acme
Cruickshank	Juno
Highland Park	Juno
Trentham	Acme
Pinehaven	Juno

They have been connected to the telemetry system by our electrical staff.

6. Health and Safety

Total Injury/Illness/Incident Record:

Production:	Incident Free	Staff member on ACC with injury to back
Distribution:	Incident Free	Staff member in hospital for observation
Network	Incident Free	Staff member in hospital following non work related injury

Attachment 1 to Report 99.309
Page 12 of 38

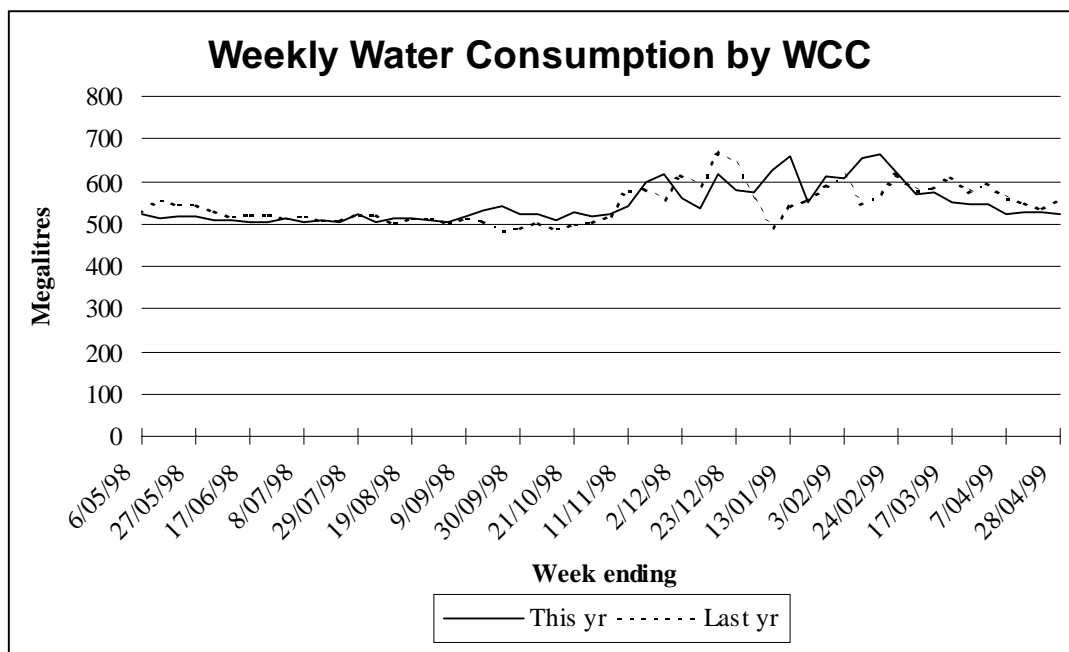
Employee numbers	31	30	31	31								
Injuries	4	4	4	0								
Days lost	0	6	0	0								
Incidence rate (number of injuries per 100 workers)	13	13	13	0								
Frequency rate (injuries per 1,000,000 hours exposure)	854	862	825	0								
Severity rate (days lost to injury per 1,000,000 hours worked)	0	1,292	0	0								

Wellington City Water Review of Operations For the Period Ended 30 April 1999

1. Items of Note

- The actions of the subcontractors, working for Saturn, continue to give problems. During the month we were required to attend to 46 repairs.
- It is pleasing to note that the response to maintenance work activities continues to improve.

2. Water Supply (PT 30.1)

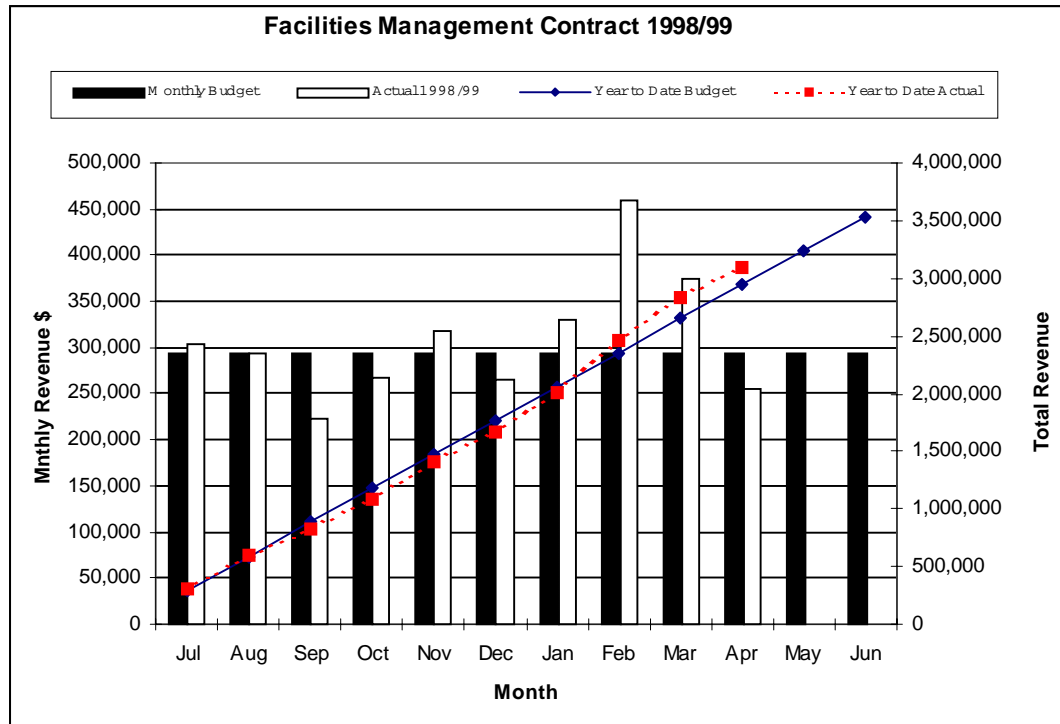


3. Financial

3.1 Facilities Management Contract

Contract Amounts : Wellington, including Tawa

Month	Actual \$	Budget \$	Variance %	Year to Date \$	Budget \$	Variance %
April	254,09	294,31	-13.67	3,087,47	2,943,	4.90



4. Water Quality

Routine Testing (PT 1.1)

The water quality was monitored and the appropriate laboratory tests were completed for the month of April. There were 136 samples from the reticulation system tested for bacteriological compliance. Compliance for the month is 100 percent. Compliance for the year to date is 100 percent.

Water Tests Initiated by Customers (PT 2)

	April	Year to Date	Compliance (%) Year to Date
(PT 2.2) Number received	5	84	-
(PT 2.2) Within ability of Wellington City Water to control	1	30	-
(PT 2.1) Formal response within five days	5	79	94

5. Customer Services

5.1 Counter and Other Office Services (PT 3.1.) (PT 4.1) (PT 5.1)

Information has been provided to customers requesting information by letter, telephone and over the public counter. A total of 98 enquiries were received during April.

	April
Counter enquiries	83 (+ 15 encroachments)
Proposals from other utilities	11
(PT 33.1) Plan records: - New services recorded	8
Compliance with response time requirement	100%

5.2 Complaints Register (Monthly Summary) (PT 5.1)

A complaints register is being maintained. A breakdown of the complaints received during the reporting period is as follows:

	April
	Complaints
(PT 2.2) Water quality	5
(PT 16.1.2) Pressure	9
(PT 20.1) Reinstatement	1
(PT 16.1.4) No-water	46
Contractors	0
Other	29

All of the nine “pressure” complaints were responded to and completed within the performance criteria. Forty three of the 46 No-Water calls regarding “supply” were attended to within 30 minutes as required by the FMC.

6. Response Maintenance

6.1 Compliance

	April		
	Number of Calls	Completed to Standard	Compliance %
(PT 9.1) Stopcocks	430	367	85
(PT 9.1) Hydrants	129	117	91
(PT 9.1a) Valves	20	19	95
(PT 9.2) Other Leaks	259	221	85
(PT 10.1) Mark Outs	94	94	100
(PT 16.1.1) Burst mains	7	7	100
(PT 2.1) Water Quality Complaints	6	6	100
Total	945	831	88%

In addition to the above numbers, there were 46 repairs made to services/mains which had been damaged by other parties, and 33 miscellaneous leaks attended to. There were a total of five new services connected.

6.2 **Burst Mains (PT 16.1)**

There were a total of seven burst mains during the month of April. They were as follows:

- 44 Montgomery Avenue, Karori
- 32 Trelissick Crescent, Ngaio
- Homewood Avenue, Karori
- Corner Karori Road and Chaytor Street, Karori
- Mahoe Street, Tawa
- 43 Tremewan Street, Newtown
- 19 Gordon Place, Newtown

All of the burst mains were attended to within 30 minutes and 100 percent repaired within seven hours.

6.3 **Supply (PT 16.1)**

	April
Total calls received regarding loss of or temporary loss of supply due to broken mains or supply failure	46
Total calls attended within 30 minutes	43
Total Compliance	93%

6.4 **Reinstatement (PT 20.1)**

There was one complaint received during the month of April regarding trench reinstatements. The FMC target is less than 12.

6.5 **Shutdown Notification (PT 6.1)**

There were 18 planned shutdowns during April. All identifiable customers received notification within 24 hours prior to the shutdown.

6.6 **Locates and Investigations (PT 10.1)**

Work completed during the month comprised:

	April
Locate stopcocks	64
Leak location	67
Flow tests	0
Seepage/Investigations	7
Miscellaneous supply jobs	7

7. **Meters (PT 13.1)**

A total of 1,294 City and High Use meters were read and entered into the system by 23 April 1999.

8. Pumping Stations, Reservoirs and System Control

8.1 General

Normal routine maintenance has resulted in the Wellington City system operating satisfactorily.

8.2 Control System *(PT 30.1)*

The Control system continues to operate satisfactorily. The summer demand period is now over. The system is now in winter mode.

8.3 Plumer Street

A pressure monitor has been installed outside Mrs Keith's property and monitored through the telemetry system. The pressure range has been between 35 and 42 during the period.

8.4 Highland Park Reservoir

A new electromagnetic flow meter has been installed at the inlet main.

8.5 Maintenance Checks *(PT 17.4)*

Maintenance has been carried out as follows:

April		
Round C	Round D	Round G
Allington Rd	Karepa St	Timberlea
Messines Rd PS	Highbury	Cruickshank
Karori Pk	Carries Gully	Trentham
Montgomery Ave	Landfill Pump	Pinehaven
Makara Rd	Rhine St	Kingsley
Verviers St	Beacon/Signal Hill	Manor Park
The Zoo	Townsend Rd	Haywards
Russel Tce	Miramar Nth	Porirua Low
Lyndhurst Rd/Chester	Dargle Way	Porirua High
Mills Rd	Grenada CV	Pukerua Bay
Baylands CV	Rangoon Hgts CV	Whitby
Omega CV	Ngaio CV	Plimmerton
Woodridge CV	Cunliffe Cv	Plimmerton No2
Sidlaw St CV	Cambrian CV	Ascot Park

9. Development

9.1 Development Statistics

Subdivisions	April	Year to Date
Construction plans approved (lots/units)	52	118
Scheme plans approved	29	304
Subdivisions cleared (lots/units)	34	377

9.2 Development Projects

9.2.1 *Woodridge Reservoir*

Reservoir now operating satisfactorily. Disconnections of old reservoir and land issues being arranged.

9.2.2 *Churton North Reservoir*

WCC arranging approval of foundations, structural, and supervision proposals. Financial repayment proposal submitted to WCC for approval.

9.2.3 *Meadowcroft Grove*

Proposal to deal with stormwater from Johnsonville West submitted to WCC for approval, property owner not satisfied with WRC's recommendations. All correspondence now to be submitted to WCC for actioning.

9.2.4 *Major Subdivisions*

Construction plans for three major subdivisions were submitted for approval with a reply sent this month. Not all received approval, some required further information to be submitted and the plans amended. As built plans for two major subdivisions submitted and approved.

Landsdale Stage 3, Carmichael Street	13 Lots, construction plans approved
Woodridge Estate	31 Lots, construction plans approved
Mana Street, Brooklyn	8 Lots, construction plans approved
Coolidge Street	6 Lots, as built approval
Churton Park Rising Main (part only)	As built approval

9.2.5 *Fire Services Recently Priced (PT 12.1) Fire Services Recently Connected*

80-84 Karori Road

80-84 Karori Road

9.2.6 *Domestic Services Priced*

- 48 Kemp Street
- Panama Chambers

Domestic Services (PT 12.2.) Recently Connected

- None

9.3 **Building Development Appraisals**

	April	
	Commercial	Domestic
Building consents	3	58
PIMS applications	3	58
Compliance with response time	100%	100%

9.4 **Land Information Memoranda**

	April
Applications processed	33
Compliance with response time	100%

10. **Capital Works**

10.1 **Main Laying City**

10.1.1 ***Contracts in Maintenance Period***

The following pipe laying contracts are in the maintenance period.

- Courtenay Place
- Marion Street
- Hall and Riddiford Streets
- The Terrace

10.1.2 ***Taranaki Street***

Investigations started on replacement of the 150 mm cast iron main in Taranaki Street. This work is now on hold pending instruction from WCC.

10.2 **Main Laying Suburbs**

10.2.1 ***Contracts in Maintenance Period***

The following pipe laying contracts are in the maintenance period.

- Rakau Road, Hapua Street and Upoko Road
- Broderick Road
- Miles Crescent/Lyndfield Lane
- Chelmsford Street
- Johnsonville Road

10.2.2 ***Bracken Road***

The contractor has completed pipe installation, testing, and disinfection of the new main. The connections have been made to the water supply network and services connections transferred to the new main. The contractor is now completing reinstatement of the road.

10.2.3 ***Breaker Bay Road***

The contractor has completed pipe installation, testing, and disinfection of the new main. The connections have been made to the water supply network and services connections transferred to the new main. The contractor is now completing reinstatement of the road.

10.2.4 ***Tirangi Road, McGregor Street, Kingsford Smith Street, and George Bolt Street***

The contract is practically complete. The work is being assessed to determine the date for the start of the maintenance period.

10.2.5 ***Owhiro Bay Parade***

Tenders have been received for the replacement of the eternit pipeline along Owhiro Bay Parade. A report has been prepared evaluating the tenders received. The contract should be awarded and work started on site within two weeks.

10.2.6 ***Helston Road, Newlands***

Contract documents were completed and the contract advertised for tender on Saturday 1 May 1999. Tenders close on Friday 7 May 1999.

10.2.7 ***Rider Mains Replacement***

Contract documents are being finalised for replacement of rider mains that have reached the end of their economic life. The contract should be advertised for tender within two weeks.

10.3 **High Level Distribution and Storage**

10.3.1 ***Karori South Reservoir***

Construction of the reservoir by J Juno Ltd is progressing satisfactorily. The reservoir walls have been erected and the roof is being formed. The reservoir construction is programmed to be completed by July 1999.

10.3.2 ***Makara Road Rising Main***

Draft contract documents have been prepared for installation of a dedicated rising main to the new Karori South Reservoir. The documents have been forwarded to WCC for approval. Following approval the contract will be advertised for tender.

10.3.3 ***Lyndhurst Road Pumping Station***

The Contract is in the maintenance period.

10.3.4 ***Grenada North High Level Pumping Station and Reservoir***

The pumping station installation work is practically complete. Arrangements are being made for commissioning of the new pumps. Arrangements are being made for purchasing the land for the proposed reservoir.

10.3.5 ***Wadestown Reservoir***

Montgomery Watson are undertaking the design and are making arrangements to obtain resource consents for the proposed reservoir.

10.3.6 ***Onslow Reservoir***

Preliminary investigations have been put on hold pending instruction from WCC.

10.3.7 ***Kelburn***

Preliminary scoping investigations have been completed.

10.4 **Low Level Zone Storage**

10.4.1 ***Eastern Suburbs Storage Enhancement***

Investigations into the potential sites and proposed level for this reservoir is continuing. Network modelling and pressure monitoring is proceeding. A pressure monitoring point has been installed at Moa Point which is close to one of the potential sites of the proposed reservoir.

11. **Health and Safety (PT 27.1)**

There were two minor incidents reported this month.

Strategy and Asset Group

(April)

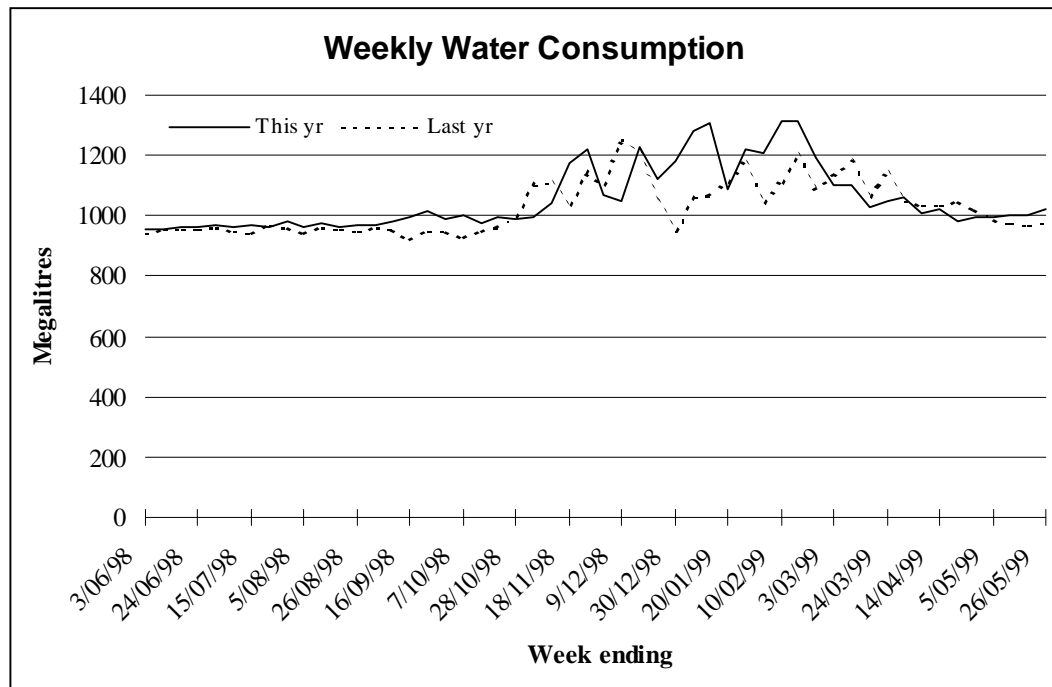
Strategy and Asset Group Review of Operations For the Period Ended 30 April 1999

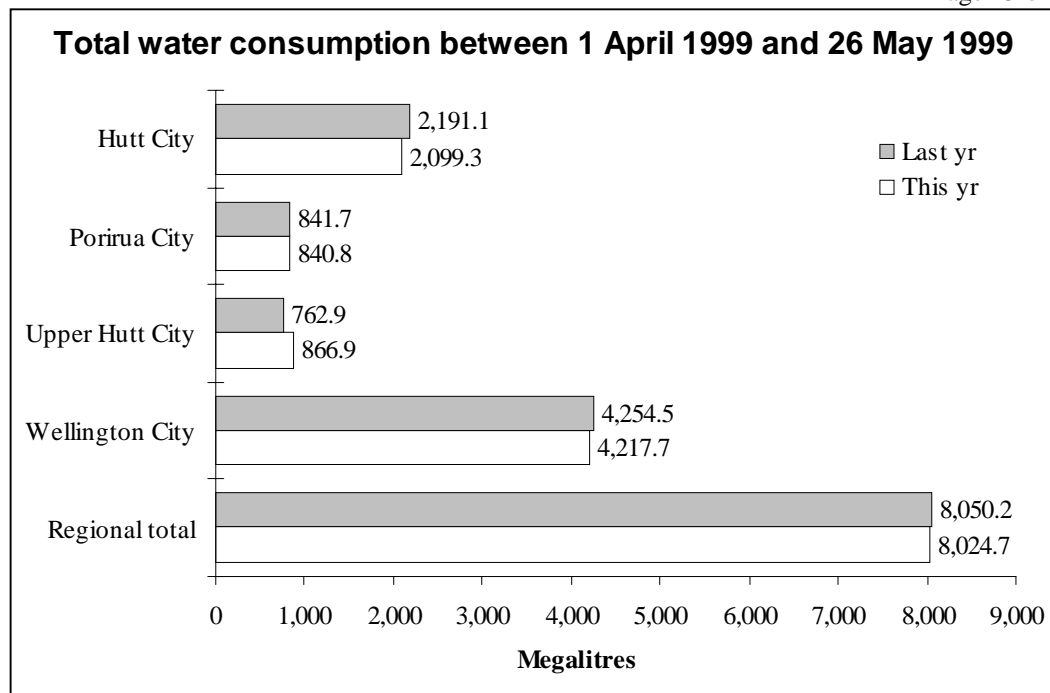
1. Items of Note

Some of the Strategy and Asset comments relate to activities in May.

- The Wholesale Water Supply agreement has been re-written in more of a specification type style. Pricing aspects are no longer included. The revised document will be presented to customers in June.
- A tender for the supply of electrical energy is to be called in June.
- UnitedNetworks outlined their Y2K planning at a customer meeting in April.
- Officials from the Ministry of Health and Public Health Service visited Te Marua to inspect the pilot trials work and discuss the plant performance.
- Tenders called for the supply of a standby generator at the Te Marua pumping station.

2. Sales Volume





3. Asset Management

- Work has continued on checking the completeness and accuracy of raw production data loaded last month. Additional more detailed data will be entered progressively as it is collected or becomes available. The target date for loading all basic asset data is 30 June 99.
- Work on all capital works projects is proceeding. Total expenditure of just over \$5 M is forecast against a budget of \$5.945 M.
- Process optimisation trials at Te Marua are proceeding and are showing promising results. Initial indications are that eliminating the clarification process will produce better quality water.
- A pre feed of non toxic bait has been spread in the Wainuiomata Catchment. Toxic bait will be dropped during the first week of June, weather permitting.
- A consultant is preparing a Resource Consent Application for a new well tapping the Moera Aquifer. Consultation with the Shandon Golf Club and IBM (who also have a well penetrating the Moera aquifer) is proceeding.
- Good progress is being made on the preparation of Resource Consent Applications for surface water take consents at Kaitoke, Wainuiomata and Orongorongo. Draft Applications and environmental assessments have been prepared. They will be forwarded to interested parties in June.
- A detailed technical proposal for the proposed system optimisation model has been received from the consultant. This model will interrogate system data and water demand and optimise the operation of the system to minimise pumping and other costs. It is anticipated that work on the project will start in June.

4. Quality Assurance

- Work is continuing on the proposed Environmental Management system under ISO 14001. Draft procedures have been prepared for Document Control, Communications, Training and Assessment of Aspects and Impacts.
- A recent review has shown that the internal audit procedure and response to transgressions has fallen below the high standards normally achieved.
- Trials of the Wainuiomata Wastewater Treatment Plant following modifications have been completed. A report is in preparation. It is expected that agreement with the Public Health Authorities to put supernatant back into the head of the plant will soon be reached.
- The advent of better technology has enabled more accurate monitoring of plant performance to be carried out. Statistical analysis is now carried out on the turbidity readings recorded at minute intervals, to demonstrate compliance with the rule that requires turbidity to be less than 0.5 NTU for 95 percent of the time. The percentage of the time turbidity is less than 0.1 NTU is also calculated. For April these figures were:

Plant	Turbidity < 0.5 NTU	Turbidity < 0.1 NTU
Te Marua	99.79%	98.59%
Wainuiomata	99.56%	59.97%

Software to analyse the data to check compliance with the rule requiring less than a 0.2 NTU rise in turbidity within ten minutes is being developed. These two rules are intended to reduce the risk of *Giardia* and *Cryptosporidium* getting through the plant undetected.

In order for this monitoring to be more effective, the Public Health Authority has agreed that the monitoring point should be immediately downstream of the filters. The NZ Drinking Water Standard requires that turbidity be monitored downstream of the treated water reservoir, but at this point any turbidity “spikes” are masked. These “spikes” represent the biggest risk of carrying protozoa through the plant.

5. Marketing

Summer Water Conservation Campaign

Work for this campaign continued. The main activity involved:

- Visited all retailers to collect remaining brochures, gain feedback and maintain face-to-face contact.
- Data tables from post-campaign research received. Two-thirds of the analysis is completed.
- Meetings with TVNZ re cost and availability of regional television advertising. Investigating television as an advertising option for 1999-2000.

1998-99 Business Report

- Arrangement of various photographs including control valve replacement at Ngaio, Ngauranga Pump Station, the Laboratory and sample collection at Te Marua lakes.
- Circulated list of possible topics for report to Water Group managers for comment and additions.

Customer Contact

Y2K-readiness meeting with customers arranged 26 April. Next meeting arranged for 9 June.

PR

- Press release 'Giant butterfly hits Ngaio roundabout' written and released 10 May.
- Press release 'Serious problem hits Petone water plant' written and released 19 May.
- Reviewed Annual Plan related press releases for Hutt News and Upper Hutt Leader.
- Further investigation of spreading the good news regarding water quality.

Education

- Arranged for one group to visit Te Marua treatment plant.
- 12 additional requests for information/resource material supplied.

Other

- Arranging a Laboratory Services promotional brochure.

6. Economics

Wholesale Water Database

Theta Systems were hired to develop the manual meter reading system. The job was split into three phases:

1. Preparation of technical specification - to be completed by 29 May 1999
2. Development of application - to be completed by 25 June 1999
3. Report writing - to be completed by 23 July 1999

Two time-dependent database packages suitable for storing the vast amounts of data from the telemetry system are being evaluated. They are:

- Hilltop - a windows-based, user-friendly interface for NZ's old hydrological database from NIWA called TIDEDA.
- PI - a similar product developed for large manufacturing/processing plant operations.

Differential Pricing

The project is to investigate and compare other logical methods for allocating Wholesale Water's fixed costs to the territorial authorities. The resulting discussion document will establish a source for future work into water pricing. A second discussion section has been written which is being worked into the original document.

Energy Price Tender

The current energy price contract expires on 30 September 1999. Expressions of interest have been sought from energy retailers.

7. Projects undertaken by Engineering Consultancy for the Strategy and Asset Group

Te Marua Site Rehabilitation

The planting contract is in the maintenance period. Preparations are being made to replace plants that died off due to animal browsing and drought.

Te Marua Site Development

The contract for sealing the lower access road was completed and is in the maintenance period.

The maintenance period for installation of a ford, pipe headwalls and rip-rap for bank toe protection has ended.

The contract for planting the area around the lagoons and entrance to the treatment plant has been awarded to Tim Green Gardner Ltd.

Te Marua Lakes to Treatment Plant Pipeline

An internal inspection of the lining has been undertaken. A report on the relining of this pipeline is being prepared. The pipe dates from the original 1950's scheme.

Kaitoke Intake Controls

The electrical and control equipment installation contract is in the maintenance period.

Wainuiomata Reaction Tank

The contractor has been attending to the outstanding items and completing the pre-commissioning checks.

Orongorongo Intake to Tunnel Pipeline

The new pipeline was commissioned and put into service on 13 April 1999. The contractor has some minor items to attend to during the maintenance period.

Waterloo Capacity Increase

All three Wellington pumps are now operational. Programming of the control system to allow automatic control is progressing.

Orongorongo Pipeline Petone Esplanade

The pipeline has been flushed and partly disinfected. Investigations are being made into a possible leak on this pipeline.

Revenue Meter Project

The contracts for the installation of Group 1 and Group 2 flow meters were completed and are in the maintenance period.

An order has been placed for flow meters for Group 3. The tender documents for installation of these meters are being prepared.

Rahui Reservoir Rising Main

Installation of the inlet control valve and flow meter has been arranged. Contract documents for installation of level monitoring, control and telemetry equipment have been prepared.

Sar Street Pumping Station

A replacement pump has been purchased for the Sar Street Pumping Station. The pump will be installed by the Operations Group.

Wainuiomata Pipeline Valve Chambers

The contract for installation of access platforms in the Wainuiomata pipeline valve chambers was awarded to B&L Construction Ltd.

Plimmerton/Pukerua Bay Branch Pipeline Shut Off Valve

Preparation of contract documents for the installation of an automatic closing valve on this pipeline is progressing. The 400 mm Clayton valve to be used in this installation has been sent to Auckland for refurbishing.

Hutt Estuary Bridge Pipelines

A report is being prepared proposing fitting flexible couplings on the pipelines across Hutt Estuary Bridge. The couplings are to allow for movement of the bridge in an earthquake.

Wainuiomata River Bridge

Quotations have been received for removal of the old deck and strengthening of the abutments and central pier. The quotations are being accessed.

Karori Reservoir Rationalisation

Following the decommissioning of the open water storage at Karori, significant alterations in pipework connections are required to rationalise the whole layout. The first and second phase of the pipework alterations are complete. Work has started on the third phase. Five phases are proposed.

Engineering Consultancy Group

(April)

Engineering Consultancy Group Review of Operations For the Period Ended 30 April 1999

1. Work Carried Out for the Strategy and Asset Group

The main capital projects are itemised in the Strategy and Asset Group report.

A project is underway to transfer the plans index onto a different database. This database will be accessible over the network and will have the additional facility for viewing and printing copies of the plans. The system will then be extended to include the plans which were not produced on the computer. It is expected that staff at the treatment plants will find this very useful in allowing them to instantly view the plan records.

2. Work Carried Out for the Operations Group

The Engineering Consultancy Group has continued to provide support for smaller projects arising from the operation and maintenance of the wholesale water supply system.

3. Work Carried Out for Wellington City Council

3.1 General

Wellington City Council has indicated that more funds for Capex jobs are available but expenditure must be complete by 30 June. This will mean that the construction time available for some contracts will be much shorter than desirable, which may force prices up. The City has since relaxed this requirement.

The group continues to manage parts of the water supply capital works programme for the City Council. Current projects underway are as follows:

3.2 Pipeline Projects

Contracts have been completed for pipeline replacement work in Bracken Road, Breaker Bay Road and Tirangi Road.

Design work was completed for replacement mains in Ohiro Bay Parade, Helston Road and for various rider mains as well as the inlet main to the new Karori South Reservoir.

Tenders have been invited for Ohiro Bay Parade and Helston Road with the intention of completion by 30 June.

3.3 **Wadestown Reservoir**

Montgomery Watson have been engaged for the design of a replacement reservoir, capacity 1,800 cubic metres, along with the obtaining of resource consents necessary for work on the Town Belt. They are proceeding with preliminary investigations.

The construction of the extension of Weld Street to provide a legal access to private properties was held up for a period of time until the necessary consents were obtained. The access impacts on the two mains to the existing reservoir, and deviations are required.

3.4 **Karori South Reservoir**

The construction of this 800 cubic metre reservoir is continuing on programme. The concrete floor slab and walls are complete, with work underway on the roof.

This reservoir replaces the temporary precast concrete tanks at the site and also at Allington Road.

3.5 **Grenada North High Level Zone**

Installation of the new pumps, pipework and electrical control panel is complete. When commissioned this pumping station will allow for the removal of the temporary pipework which was installed following the contamination incident in early 1998. The whole project also includes the construction of a permanent reservoir at a higher level, and associated pipelines. This is programmed for the 1999/00 year, depending on finance.

3.6 **Eastern Suburbs Storage**

There is a storage deficit in the low level zone of 10 ML. This was identified and reported on at the time of approval of the Macalister Park 20 ML reservoir. Of this storage, approximately 7 ML is required in the Eastern Suburbs (Miramar) and 3 ML in the Southern Suburbs (Island Bay).

Because these reservoirs will balance on the low level zone, a very careful analysis is required to establish the optimum reservoir levels. Additional pressure monitoring points have been established at the Moa Point Sewage Treatment Plant and Kilbirnie Crescent. Network modelling is being undertaken to determine the response of the network to different reservoir levels.

3.7 **Work Related to the Facilities Management Contract**

Maintenance of the plan record system so that these are up-to-date, incorporating any alterations, has continued. Continuing assistance has been given to the City Council in the transfer of plan records into the City Council system. Subdivisions are assessed for compliance with the Code of Practice and approval given.

Project Information Memoranda (PIMs) and Land Information Memoranda (LIMs) are processed on a regular basis for the City.

Laboratory Services

(April)

Laboratory Services Department Review of Operations For the Period Ended 30 April 1999

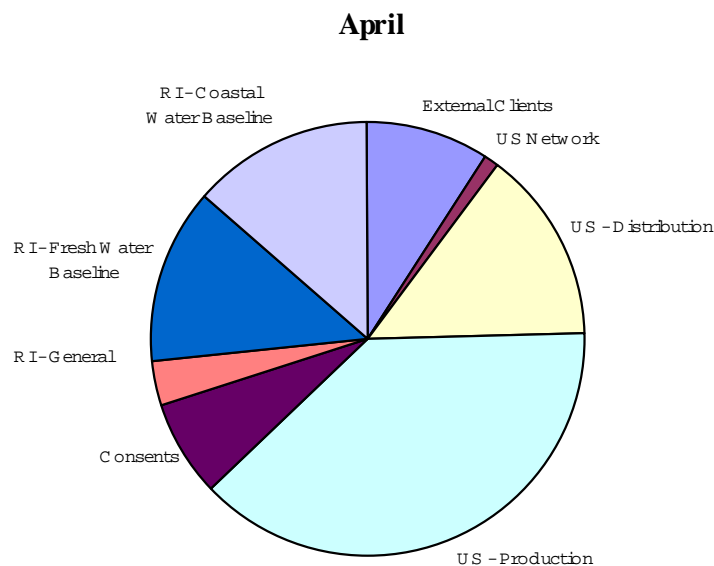
1. Items of Note

- The proposals received for the Laboratory computer system are currently being evaluated.
- Additional samples for *Giardia* and *Cryptosporidium* were received as part of the Wainuiomata treatment plant trials.
- All Wellington Regional Council *Giardia* samples are now being collected using the new system.

2. Financial

Financial position for the year to date shows the Laboratory is exceeding the budgeted surplus. The chart below shows the sources of revenue received by the Laboratory in April.

Note: RI - Resource Investigations (Environment Division)
Consents - Consents Management (Environment Division)
US - Utility Services Division



3. **Business Summary**

Measure

3.1 **Quality**

There was no client request for re-testing samples.

- International New Zealand Accreditation is being maintained.
- Test reports are being sent out within agreed time frames.

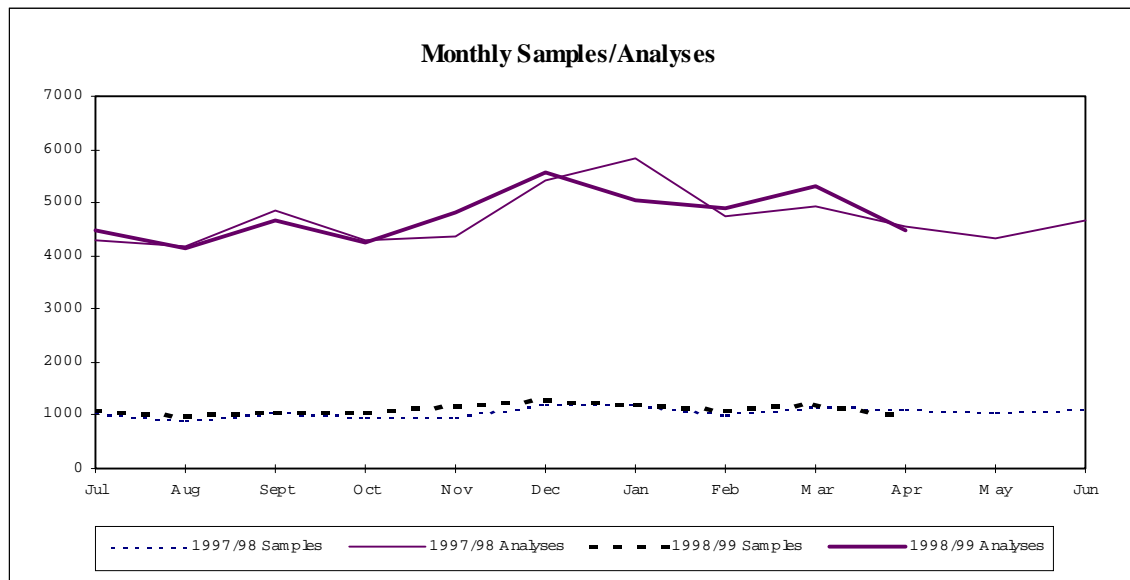
3.2 **Health and Safety**

One staff member diagnosed with work related OOS continues to receive physiotherapy.

3.3 **Number of Samples analysed**

April

- 996 samples
- 4,466 tests



Plantation Forestry

(April)

Plantation Forestry Department

Review of Operations

For the Period Ended 30 April 1999

1. Log Harvest Contract

A far better month with 5,920 tonnes logged for a royalty of \$125,480. The much improved return reflects the commencement of logging in Whakatikei and the improved volumes of higher grade logs.

Pakuratahi produced 1,484t for a royalty of \$13,112 at an average of \$8.84t.
Whakatikei produced 4,436t for a royalty of \$112,368 at an average of \$25.33

Output by grade was:

	Tonnes	%
Pruned Domestic	526	8.88
S Grade	817	13.8
A Grade	317	5.36
L Grade	467	7.89
R Grade	143	2.41
Pulp Domestic	1531	25.9
Pruned Export	53	0.89
Sawlog Export	638	10.8
Rough Export	867	14.6
Pulp Export	245	4.13
Corsican	261	4.41
Firewood	56	0.94
Total	5,920	

We were fortunate to negotiate access over a neighbouring farm to transport logs from Whakatikei to state Highway 1. The alternative route would have been via Perhams Road, Maungakotukutuku Road and Valley Road. Not only is this route significantly longer but we would have been faced with significant expenditure to upgrade Perhams Road and to meet the maintenance levy requirements from KCDC for the other two roads. These costs were estimated to be in the vicinity of \$500,000. A further issue would have been the negotiation of a traffic management plan for the use of Maungakotukutuku Road which met the requirements of local residents and the District Council.

The helicopter logging of Douglas Fir in the Hukinga commenced in late March and while progress has not been as rapid as anticipated all is on line to meet a shipment due out of Wellington on 4 June.

There were some initial reservations that sufficient wood would be available to meet the shipping commitment. We are now assured that sufficient has been identified. Payment for this shipment is due 10 days after sailing and is in \$US so a close watch is being kept on the exchange rate.

2. **Silviculture Contracts**

Four hundred and seventy three hectares of a programmed 556 have been completed by 30 April.

Tenders have been called for 307 hectares of silvicultural work in the 1999/2000 year.

3. **Plantation Forestry Operations**

Generally the weather continued to be warmer and dryer than anticipated. The brief relatively severe weather events washed out the access over the Pakuratahi river (as designed) on regular occasions causing much frustration to the logging crew working on the other side.

The spraying programmed for April/May has been put off until spring, on the advice of the contractor.

Arrangements have been made for an assessment of the Puketiro Road to identify work required to upgrade the road prior to the harvest of the first block in 2002.

The fence between the horse paddock road and the forest entrance road at Valley View was cut twice in the month. Concrete blocks from rivers have been placed under the Totara Park bridge to close off access. The lessees of the horse paddocks requested that their gate is to be locked at all times.

There were incidences of vandalism at Maungakotukutuku and on the Incline (gates).

Council forests were reinsured from 1 May at a premium reduction of \$5,300 in return for an increase in deductibles of \$3,000.

A claim for \$ 17,371 has been lodged for the fire at Mangaroa on 11 February 1999.

4. **Forest Access**

Access has been maintained to all blocks.

Some maintenance was required on Valley View Road after a number of trucks, hauling the Douglas Fir, stalled and had to be pushed.

A slip came down on the new Pakuratahi road on two occasions but now logging has been completed until Spring. The road will have time to settle before any further intensive use. The gate, erected on the Incline walkway just short of the junction with the new road, has been relocated on to the new road to restrict access from the Walkway to the new road.

The river crossing on the Pakuratahi River has had the floodway opened until logging resumes. Hopefully, this will allow the culvert structure to remain intact for use later.

Roading within the Whakatikei block is progressing well utilising metal from the site. Now that the wet weather is due it is important the mechanised recreation be kept out of the block at least until logging is completed.

Tenders have been invited for the construction of the new Pakuratahi East Road. A paper requesting approval to accept a tender for this task is included within this order paper.

5. **Market Trends**

I am somewhat reluctant to try and second guess the market. After advising the committee at the last meeting that the export market was buoyant, I returned to my office to advice that the Korean market had closed down.

With the Hukinga output committed to Japan as a “one off” only the output from Whakatikei is being sold on the open market. Since the end of April the greater part of this has been sold domestically.

Current views are that the Korean markets will reopen over time and continue with steady growth from that point. Sales to China and India continue on an irregular basis.