Appendix 3: Notes to the 2002 annual survey of the microbiological and chemical quality of drinking-water

The 2002 Drinking-Water Quality survey again comprises distribution zone and treatment plant questionnaires. The format is very similar to the 2002 questionnaire and can be conducted using the *AnnualSurvey* module of WINZ. The following instructions are provided as guidance for you as you complete the questionnaire. Please note that the questionnaire is based on compliance with the Drinking-Water Standards for New Zealand 2000 (DWSNZ).

NB: *If you have entered your sampling data and results into WINZ then you can save yourself some time by making sure that all four compliance quarters have been completed for each distribution zone and treatment plant. Where all four compliance quarters have been completed, this questionnaire will be automatically updated with the sampling data. This will save you the trouble of entering these data manually.*

Please make every attempt to ensure that the data you collect in this survey is accurate as the ensuing annual report may be used to formulate health policy. For example, Cabinet has directed:

(1) the Ministry of Health to convene a working party to monitor and evaluate the impact on local communities of the new drinking-water legislation during the five year based-in period and report back annually to Cabinet Social Policy and Health Committee on those supplies not complying with the new legislation; the reasons for their non-compliance and actions taken to effect the compliance.

(2) The *Annual Review of the Microbiological Quality of Drinking-water in New Zealand* will form the basis of the Ministry's annual report from 2002.

WINZ USER NOTES

INTRODUCTION

The questionnaire for the Annual Survey for 2002 is a slight modification of the previous survey. The main changes are that this survey seeks more information about UV and filtration treatment in an additional window. In addition, a number of helpful features have been added to make your task easier, eg inclusion of existing WINZ data in some fields means that you will not have to enter monitoring or surveillance data manually provided that these data have been already entered into WINZ and the four quarters have been completed.

OVERVIEW OF THE ANNUAL SURVEY IN WINZ

1. <u>Before</u> You Start Completing The Questionnaires

- You will need to install the new version of WINZ (by December 2002)
- Do not create the 2002 questionnaires in an earlier version of WINZ as it will not contain the updated set of questions
- A supply update disk is included and this should be imported into WINZ (using the Transfer – Import option in WINZ)
- If you want WINZ to total the number of compliance and/or surveillance samples taken and transgressions, you will need to complete all the relevant Quarters for 2002 before adding the 2002 survey forms in WINZ.

2. Starting the Annual Survey module in WINZ

Select "AnnualSurvey" from the WINZ main menu. The Annual Survey Workbench opens.

3. The Annual Survey Workbench overview

The Annual Survey Workbench is essentially the same as previous years' versions with a few changes to questions and some changes to make it easier to use. It consists of the following parts:

a) At the top there are two tabs (Zones and Plants) which correspond to the two survey forms.

b) Near the top left the current survey year is displayed. This should default to 2002. The two boxes immediately below this allow you to subset and sort the zones or plants displayed.

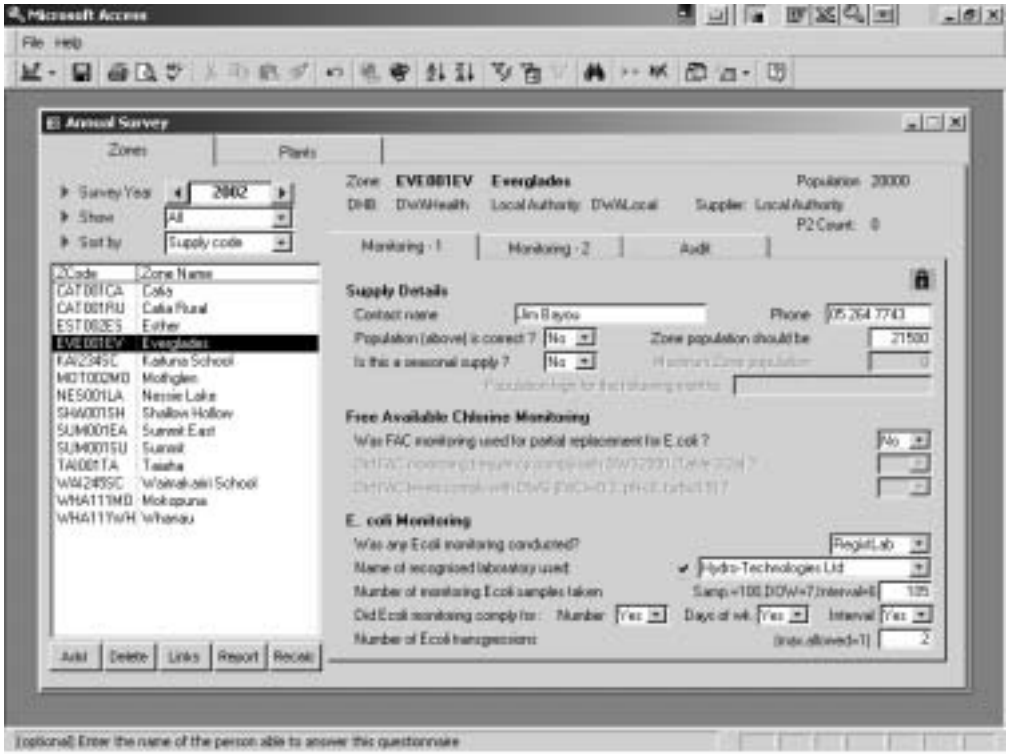
c) The list at the middle-left of the screen shows which zones or plants have survey records for the current year. When a zone or plant is selected, its details are shown to the right.

d) On the top-right of the screen basic information about the selected zone or plant is displayed.

e) The Annual Survey questions and responses for the current zone or plant are shown at the middle-right of the screen. These consist of three tabs – two for the monitoring questions and one for the audit/surveillance questions.

f) Buttons on the Annual Survey Screen (Fig 1):

FIGURE 1 ANNUAL SURVEY WORKBENCH



- Add is found at the bottom left of the screen. This will add survey records. When records are added, WINZ adds all the zones and plants in the users supply set. If some records already exist, WINZ adds only those that do not yet exist.
- Delete is found at the bottom left of the screen. This will Delete survey records. Delete only removes the currently selected zone or plant record.
- Links button displays a list of all plants attached to the current zone or all zones attached to the current plant and allows you to "jump" to an attached plant or zone.
- Report button allows you to select zones or plants then view and print their questionnaire forms.

4. How to fill in the answers in WINZ

All the survey screens (zone-monitoring, zone-audit, plant-monitoring and plant-audit) behave in the same way in WINZ. The zone monitoring survey (the first tab of which is shown above) is used as an example below.

4.1 Adding the survey forms

When you are ready to start completing the survey you first need to add the records for the survey year. Unlike when using paper forms, there is now no need to send out pre-printed forms because your copy of WINZ already contains all the information needed to create electronic records. Therefore, when you first go into the Annual Survey in WINZ and select the new survey year, no zones or plant records will be shown until you add the new records.

To add the forms, first select the Zone tab and ensure that the correct survey year is selected. Then click on the Add button. WINZ will report the number of

records that will be added (click on the OK button). Once the records are added, a list of zones will appear on the left and the survey questions on the right of the screen. Now select the Plant tab and Add these records as well. Note that survey records can only be modified from December of the Survey year through to November the following year.

You will now have a full set of blank survey records for the survey year.

4.2 Fill in the answers

If a supply was decommissioned before the start of the survey year but is still on the DW Register, read paragraph 4.4 below.

When entering answers onto the record, only the "active" questions need to be completed. These are the questions that have the question in black text and the space for the answer is white. "Inactive" questions are greyed and you cannot enter anything in the answer box.

For example, on the first tab of the Zone Monitoring record, the Contact name and Phone number questions are optional and are active.

The next question ("Population (above) is correct ?") has two possible answers; *Yes* or *No*. You can enter these answers into the box by typing them, but it is best to click on the small down-arrow at the right-hand end of the box then select *Yes* or *No* from the option list. If *No* is selected, then the box to the right activates for you to enter the revised population for the zone. You have to type your answer into this box.

Similarly, the question, "Was FAC monitoring used for partial replacement for *E. coli*?" has options of *Yes* or *No*. If *No* is selected, the following two questions are inactive as they are irrelevant and therefore do not need to be answered. WINZ activates and deactivates questions to make it easy for you to see which questions need to be answered.

Default answers will exist for a number of questions. These will have been populated from information in your WINZ database, the same response as for last year's survey or the most likely answer (usually *No*). **Please note that defaults have been included to make it easier for you by reducing the amount of duplication; you can and should change any default values that are no longer accurate.**

4.3 Completing a form.

Once all active questions have been answered, you need to tick the box at the end of the record that says "Information is complete". (For the Monitoring questionnaire, this is found on the second (*ie,* Monitoring - 2) tab.)

When you indicate that the record is complete, WINZ checks that all required questions have been answered. If not, it reports where answers are still required. Complete these and then tick the box. Please note that where a zone or plant has one or many P2 determinands, the P2 questions must be completed before the record can be completed.

Once a record has been ticked as complete, it is locked and cannot be edited unless the tick-mark is first removed. Only "Completed" forms can be transferred electronically to other users. Monitoring and Audit forms need to be ticked as complete before they can be transferred.

4.4 What if the zone or plant has been decommissioned but is still on the Register?

Survey records are created for all Zones and Plants currently in your WINZ version of the DW Register. If a supply was decommissioned before the start of the survey year but was still on the Register, then a blank survey record will be added in WINZ. There is no need to fill in all the answers on the Annual Survey forms for supplies decommissioned **before** the start of the survey year. Instead, at the end of the Monitoring record (on the Monitoring - 2 tab), tick the "Supply is now closed" box and enter the date the zone or plant was closed.

If a supply was decommissioned **during** or after the survey year, fill in the answers for the time that it was operational. In the "Monitoring Notes" box (on the Monitoring - 2 tab) state when the supply closed and that it should now be removed from the Register then tick the "Information is complete" box.

4.5 When should Annual Survey forms be deleted or altered?

The need to delete an Annual Survey record should arise very rarely, especially if you imported the supply update contained on the enclosed floppy disk.

Records for decommissioned zones or plants should not be deleted but rather marked as "Closed" on the Monitoring - 2 screen.

When an error is noticed in the Registration details that are saved on an Annual Survey record, you need to inform ESR to change the Register then update your WINZ copy of the Register. The affected Annual Survey record should then be deleted and re-added. After a record has been deleted, clicking on the Add button will only add records that are not present and will not overwrite any existing records.

4.6 Checking which survey forms have been completed

When records have been ticked as being Complete, a small padlock icon is displayed at the top right of the screen.

To list which zones or plants have Monitoring survey records still to be completed, set the "Show" box to "Monitoring Incomplete". Likewise, incomplete Audit records can be displayed by selecting "Audit Incomplete".

4.7 Sending completed survey forms

If water suppliers complete the monitoring records using WINZ (see notes below), the completed records can be electronically transferred to the DHB.

Completed Monitoring and Audit records can be sent by DHBs to ESR for national reporting. Select Transfer from the WINZ main menu and select the Export tab. Set the button to Annual Survey and proceed as normal. The export file can be emailed to **WINZSurvey@esr.cri.nz** or put onto a floppy disk and mailed.

4.8 Can I change the answers on a completed Monitoring form?

If you find an error on a Monitoring records, it is imperative that it be corrected. To change the answer you have to:

Un-tick the Complete box on the Monitoring - 2 screen.

Change the answer and then re-tick the Complete box.

A word of caution. If the water supplier sends a Monitoring record in WINZ that needs to be changed, then before you change an answer you should discuss the matter with the water supplier. After the answer has been changed, you then

must also complete the Audit record for the supply and finalise that record also. This will ensure that if the water supplier sends you more records, then the one you changed will not be overwritten. It would also be good to get the water supplier to change their copy.

4.9 Do I have to complete all zone and plant forms before I send them to ESR?

No, you can send in the completed records as often as you please. Whatever is completed will be sent. The preferred practice is for you to complete some of your supplies and send them to ESR to ensure everything is working. Then, once everything is completed, send the lot.

4.10 Can I transfer forms to others within my organisation?

Yes, but there are a few conditions to keep in mind.

You need to define which is the **"main" copy of WINZ**. This copy will be the most complete and correct.

The main transfer rule is that once you have finalised Audit records, the Monitoring and Audit records for the finalised records will not be able to be updated /overwritten.

You want to transfer Annual Survey records within your organisation when:

- data is being captured onto a laptop and then transferred onto the "main" copy of WINZ. The Audit records can be completed and finalised either on the laptop or the main computer but it would be best if it was done on the main copy to avoid confusion;
- there are two or more offices (eg Whangarei, Kerikeri and Kaitaia) in your organisation. Each of the offices should complete and finalise the Monitoring and Audit Annual Survey records for their area. The outlying offices then transfer their records to the main office. The main office should not complete any records that the other offices have responsibility for.

4.11 Printing Annual Survey forms

A short report form of the zone and plant questionnaires can be viewed and printed if desired. These forms can be generated for any year's survey and for completed and un-completed records. Any P2 and plant filtration questionnaires are on the following page.

The monitoring and audit questions are summarised onto one page.

- Click the Report button on the Annual Survey workbench.
- Select one or many zones or plants from the list. To select a number of supplies, click on the first supply then hold down the Ctrl key on your keyboard. Any further supplies you click on will then be selected.
- Click on Preview (will load the preview screen).
- Click on Print.

HPOs can use these forms as review copies for water suppliers to check the responses and make corrections. They can also be used to allow filing of a hard-copy of the survey if required.

5. How is the Monitoring information completed?

Various possibilities exist for the completion of the Monitoring records:

- The water supplier completes the monitoring questions in WINZ (preferred option).
- The water supplier completes paper questionnaires.
- The HPO visits the water supplier and they complete the information together.
- The HPO phones the water supplier and enters the information directly into WINZ.

Each of these is discussed below.

5.1 The water supplier uses WINZ to enter the monitoring information

If a water supplier has the latest version of WINZ they can complete the records for their supplies. They add the records, answer the questions and tick that the record is complete as described above. Then they transfer them to the DHB.

When the DHB imports these records, they become part of their set of records. If the DHB finds mistakes in the monitoring information, they can either ask the water supplier to make the corrections then resend the records, or make the changes themselves (after discussing the matter with the water supplier). To make changes to the monitoring information, the Complete tick first needs to be removed. Changes can then be made. Then re-Complete the form. When the DHB is satisfied with the monitoring information, complete the Audit forms for these zones and plants.

5.2 The water supplier fills in paper questionnaires

Where the paper questionnaire forms are to be completed by the water supplier, the DHB prints the forms from WINZ. Once these questionnaires have been completed, the data are then entered into WINZ. This will ensure all required information has been completed.

Some DHBs have in the past produced their own forms to gather the Annual Survey monitoring information from water suppliers. They have then been able to include other questions for their own purposes. Where customised forms are used, the monitoring information needs to be entered into WINZ.

5.3 Visit the water supplier

Many DHBs choose to combine the completing of the Annual Survey with an annual visit to the water supplier. With the Annual Survey now in WINZ, there are a number of ways the survey can be completed when visiting the supplier.

- If the water supplier has WINZ, the monitoring records can be completed on their computer then transferred later to the DHB (see 5.1 above).
- You can complete the paper questionnaires. The appropriate forms need to be pre-printed from WINZ for this. Once completed, the information is transferred into WINZ (see 5.2 above).
- If the DHB has WINZ available on a laptop computer, monitoring data can be entered directly while visiting the water supplier. Where the copy of WINZ on the laptop is not the main copy for the DHB, the completed records should be transferred (using the export function) to the main copy of WINZ as described in 5.1 above.

5.4 Gathering the survey information over the phone

Particularly for small and simple supplies, it may be possible to phone the water supplier to gather the survey information. The information could be entered directly into WINZ as each question is asked.

6. Help!

If you have questions or problems, please contact:

Andrew Ball (03) 351-6019 andrew.ball@esr.cri.nz

or

Jacqui Ritchie (03) 351-6019 jacqui.ritchie@esr.cri.nz

for any matters relating to how to answer questions or about the Annual Survey in general,

or

Alan Ferguson (03) 351-6019, alan.ferguson@esr.cri.nz

for anything related to the Annual Survey in WINZ.

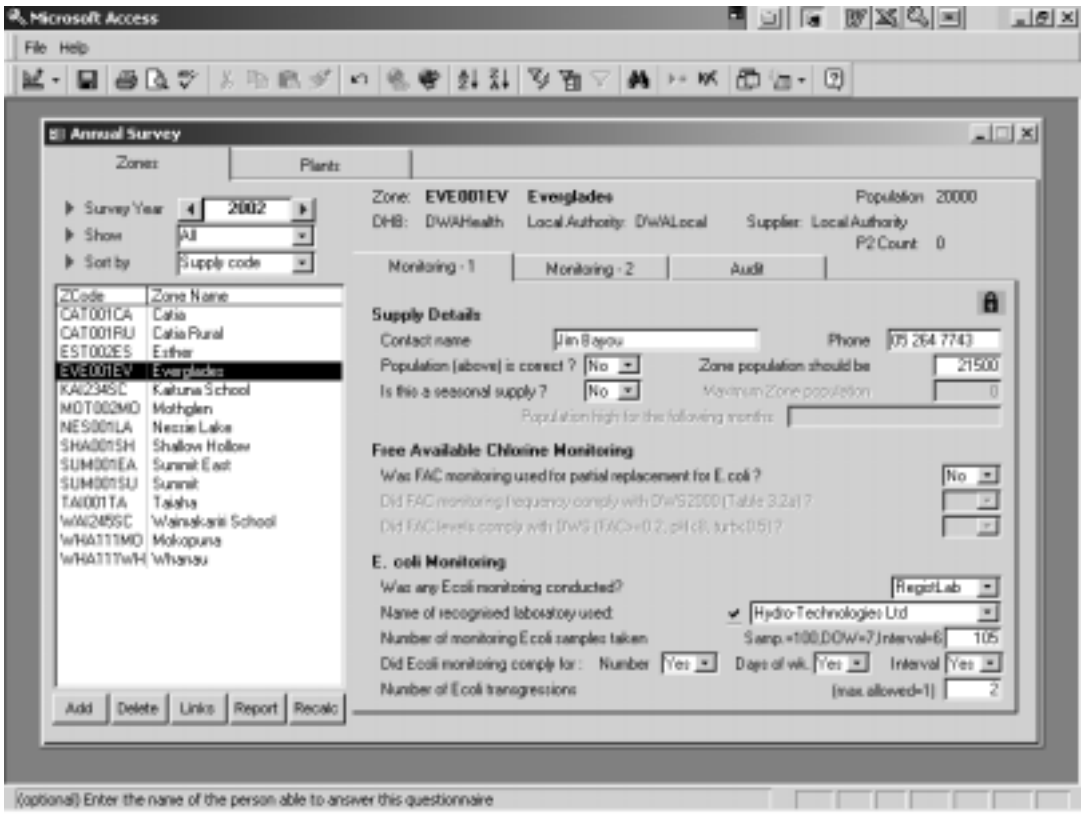
Remember, once the audit records are completed, email to: WINZSurvey@esr.cri.nz

DISTRIBUTION ZONE QUESTIONNAIRE

Each form contains a header that contains the following information from WINZ:

- Distribution Zone Name
- Zone Code
- Zone Population
- Local Authority
- Water Supplier
- Health Authority (*ie*, District Health Board)

FIGURE 2 ZONE MONITORING - 1 SCREEN



Supply Details

The first question is to check that the contact details for the supply are correct. (The name and phone number of the contact person will default to that given in the previous year's survey; this should be changed if no longer correct.)

The next question is to check that the zone population in the Register (shown on the header section) is correct.

Population (above) is correct? ☐ Yes ☐ No (Zone population should be: ……)
If the registered population is correct, tick *Yes*. If this population is not correct, tick *No* and enter the actual population in the space provided. (Please note that a change in population here will be used to update WINZ.) The default value is from WINZ so will need to be altered if you answer *No*.

The next question is to ascertain whether there is a significant variation in the zone population.

Is this a seasonal supply? ☐ No ☐ Yes (Maximum zone population: ……) (Population high for the following months: ……)
• If the population remains fairly static throughout the year, tick *No*. • If the zone displays significant seasonal variation in population, tick *Yes* and enter the maximum population in the box provided and list the months when the population varies markedly from that given in the next box. (eg. Jul-Oct)

The default values are taken from last year's survey.

If the microbiological monitoring programme to demonstrate compliance with the DWSNZ was not in place for the whole year, answer the remaining questions in Monitoring - 1 for the part of the year <u>after</u> it was implemented.

The above instruction is included so that recognition can be given to supplies in which the monitoring was improved during 2002. For example, a supply serving 3,000 people that was taking only monthly samples until June but then began weekly sampling as required by the DWSNZ can be marked as complying with the monitoring requirements and the month (*June*) when the appropriate sampling frequency commenced will be entered on the audit screen.

Free Available Chlorine Monitoring

This section will not be available unless the registered population is greater than 30,000.

Was FAC monitoring used for partial replacement for *E. coli*?
- ☐ No
- ☐ Yes

If FAC monitoring was carried out in the zone for the purposes of reducing the minimum *E. coli* monitoring during 2002, tick *Yes* otherwise tick *No*. If the answer is *No*, the following two questions will not be accessible as they are irrelevant.

The default value is from last year's survey.

Did FAC monitoring frequency comply with DWSNZ (Table 3.2a)?
- ☐ No
- ☐ Yes

If FAC monitoring was carried out in the zone at or greater than the minimum frequency as prescribed in Table 3.2a of the DWSNZ then tick *Yes*. If FAC sampling in the zone was less than the minimum prescribed in Table 3.2a, or if FAC monitoring records were inadequate, then tick *No*.

Did FAC levels comply with DWS (FAC>=0.2, pH<8, turb.<0.5)?
- ☐ No
- ☐ Yes

If FAC monitoring complied with the FAC, pH and turbidity criteria prescribed in *E. coli* criterion 2b of Section 3.2.2.2 in the DWSNZ then tick *Yes*. Otherwise tick *No*.

E. coli Monitoring

If total coliforms or faecal coliforms were monitored instead of E. coli then substitute these results for the E. coli results for the remainder of Section A.

Was any *E. coli* monitoring conducted?
- ☐ No
- ☐ Non-RegLab
- ☐ RegistLab

- Select *No* if no *E. coli* (or total coliform or faecal coliform) monitoring was conducted on water in the zone during 2002.
- Select the *RegistLab* option if the analyses were conducted by a laboratory on the list of *MoH-recognised Water Testing Laboratories*, which are the only ones accredited to undertake drinking-water microbiological compliance testing
- Select the *Non-RegLab* option if the analyses were conducted by a laboratory not listed as a *MoH-recognised of Water Testing Laboratories*.

If the answer to the above question was *No* or *Non-regLab*, then the following question will not be accessible.

The default value is taken from last year's survey.

Name of approved laboratory used

If the *RegistLab* box was selected, the name of the laboratory is to be written in the space provided.

- Select from the drop-down list of *MoH-recognised Water Testing Laboratories* if using the AnnualSurvey module of WINZ. If the water supplier used more than one laboratory to do their microbiological analyses during 2002, indicate the name of the laboratory currently used.

Please note that some laboratories on this list are not recognised providers of microbiological compliance testing; a tick will appear to the left of the box for those that are.

The default value is taken from last year's survey.

Number of monitoring *E. coli* samples taken (……)

Information about the number of FAC / *E. coli* (or faecal or total coliform) tests will be in WINZ provided results have been entered for the 2002 calendar year. In this case, if you are entering the data electronically, this value should appear automatically. However, if you have not completed all four compliance quarters this will default to *0*. The data in these fields can be overwritten if amendments are required.

If these data need to be entered manually, do not count any repeat samples taken during a corrective action process following a transgression as these are part of an 'event' and are not considered part of the compliance monitoring programme.

Did *E. coli* monitoring comply for:

Number	☐ Yes	☐ No
Days of week	☐ Yes	☐ No
Interval	☐ Yes	☐ No

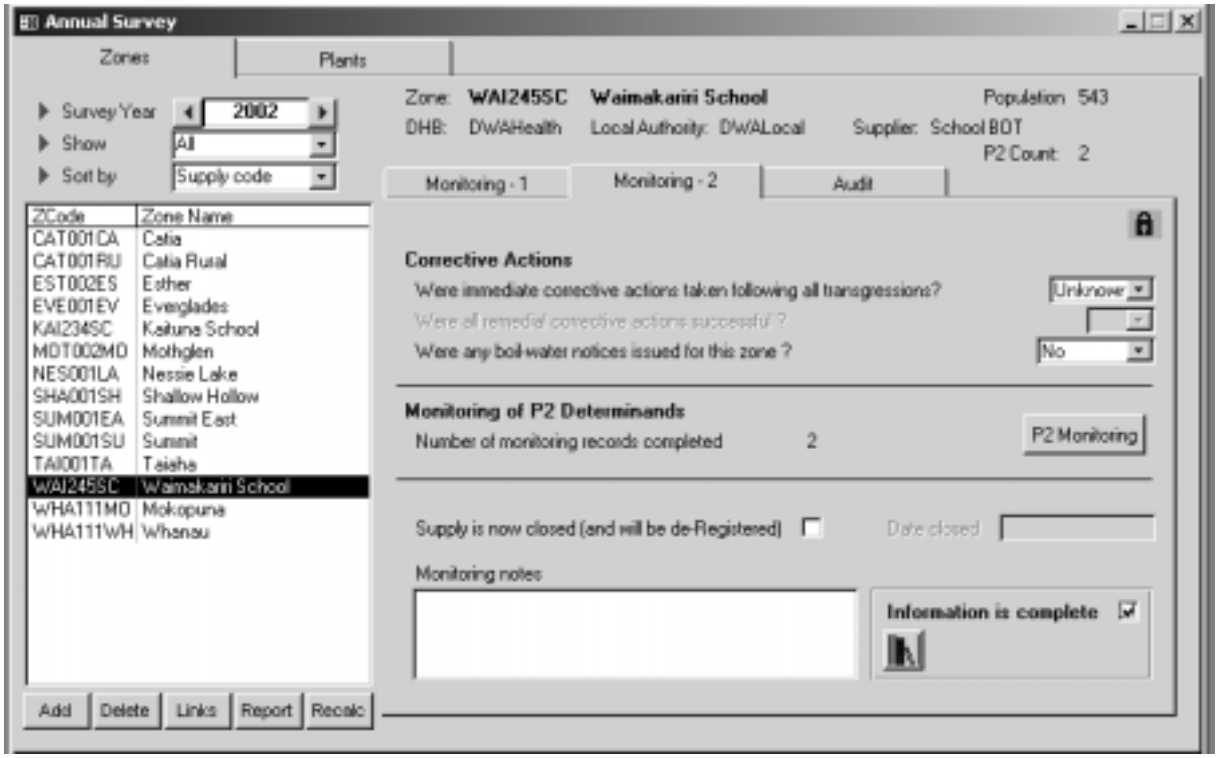
The answers to these question are dependent on the zone population and the number and frequency of monitoring samples taken during the year (as per Tables 3.2a and 3.2b in the DWSNZ). If you are entering the data electronically, the minimum number of samples and days of the week (DoW) on which sampling must occur, and the maximum interval between successive monitoring samples required for compliance is indicated to the left of the box for the answer to the previous question.

Number of *E. coli* transgressions (……..)

Information about the number of FAC / *E. coli* (or faecal or total coliform) transgressions will be in WINZ provided results have been entered for the 2002 calendar year. In this case, if you are entering the data electronically, this value should appear automatically. However, if you have not completed all four compliance quarters this will default to *0*. The data in these fields can be overwritten if amendments are required.

If these data need to be entered manually, do not count any repeat samples taken during a corrective action process following a transgression as these are part of an 'event' and are not considered part of the compliance monitoring programme.

FIGURE 3 ZONE MONITORING – 2 SCREEN



Corrective Actions

Were immediate corrective actions taken following all transgressions? ☐ Yes – Always immediate corrective action ☐ Delayed – No corrective action or was delayed ☐ Unknown – Information not recorded
If a sample transgresses the DWSNZ (*ie,* contains *E. coli* (or total coliforms or faecal coliforms - if used in place of *E. coli*), then the procedure outlined in Section 3.4.1.1 of the DWSNZ should be carried out by the water supplier. Select *Yes* if this procedure has been carried out correctly and in a timely manner after each and every transgression. Select *Delayed* if remedial corrective action was delayed or not carried out in accordance with Fig. 3.3. Select *Unknown* if you cannot determine from water supplier records what or when corrective action was carried out, or if there are no records to verify the detail of the corrective action.

Were all remedial corrective actions successful? ☐ Yes ☐ No or not documented
Select *Yes* if the cause of the transgression was determined and resolved then the remedial corrective action is considered to be successful. Select *No/not documented* if the cause of the transgression was not determined and resolved, or not documented.
Were any "Boil Water" notices issued for this zone? ☐ No ☐ Yes – issued for part of year ☐ Yes – notice issued for all of year
Select *No* if there were no boil water notices issued during 2002. If there were any "Boil Water" notices issued for this zone in 2002, indicate whether they were temporary or permanently applied during 2002.

Monitoring of P2 Determinands

Supply closure

If the distribution zone ceased to be used as a community supply during 2002, then the zone needs to be deactivated. This is done by:

- Ticking the "*Supply is now closed"* box at the bottom of the screen and entering the date at which the supply was closed.

This information will be transferred to WINZ and will serve as official notification by the water supplier of supply closure if this has not otherwise been notified. This question does not appear on the paper questionnaire.

Monitoring notes

The "Monitoring notes" box is to allow the water supplier to add any notes that may relate to the monitoring of the distribution zone. If *E. coli* testing was carried out by a non-recognised laboratory, a prompt will be given to insert the name of the laboratory in the "Monitoring notes" field.

Information is complete

The "Information is complete" box is to be ticked by the water supplier upon completion of the monitoring screens.
Failure to tick this box will mean that the information for this zone will not be passed on to the health authority and will appear as missing data in the survey.

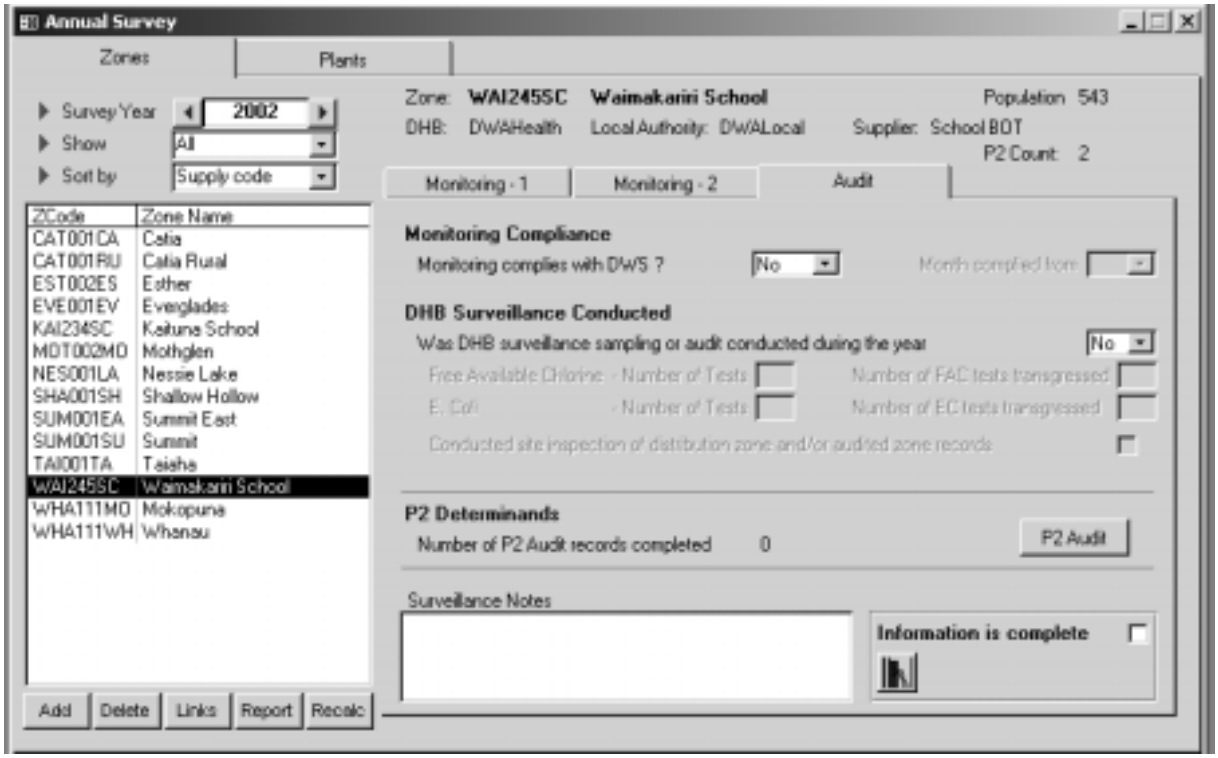
If an error or omission is detected after the "Information is complete" box has been ticked and the data has been sent to the health authority, it is very important to contact the HPO so they can release the equivalent part of the Audit screen.

Failure to do this will result in the corrections that have been made being ignored because the system will not recognise that a change has been made.

AUDIT

This section is entitled "Audit" and is only accessible to HPOs and not to water suppliers.

FIGURE 4 ZONE AUDIT SCREEN



Monitoring Compliance

Monitoring complies with DWS?

☐ Yes, for the entire year

☐ Yes, after …….. (month) when the sampling frequency complied with the requirements of DWSNZ

☐ No

- Select *Yes* if both sampling **and** results in the distribution zone comply with the DWSNZ
- If compliance monitoring was not carried out at the appropriate frequency or times for the first part of 2002 but the appropriate level of compliance monitoring was carried out after a certain date, after which both sampling **and** results in the distribution zone complied with the DWSNZ select *From* and select the first full month in which monitoring fully complied with the DWSNZ.
- Select No if during 2002, compliance monitoring was not carried out at all or at the appropriate frequency.

The answer to this question is normally calculated from the information provided on the previous screens; in particular, the zone population, the frequency and results of *E. coli* monitoring and, if undertaken, the conduct of any corrective actions carried out. However, this question is included to give the HPO some discretion. For example, in a supply serving 3,000 people where a weekly *E. coli* sample is required (*ie,* 52 samples / year), if only 51 samples were collected in 2002 then the monitoring frequency is deemed inadequate. (Indeed, WINZ will score this zone as non-compliant). However, if you, as HPO, determine that there were extenuating circumstances why the other sample was not taken, (e.g. the final sample of the year was broken in transit to the laboratory) this question gives you the discretion to tick the zone as compliant. However, please use your discretion sparingly (and note your reasons for doing so in the surveillance notes field of the Annual Survey module of WINZ). Failure to collect enough samples should normally result in non-compliance. For example, if the same zone missed a weekly sample earlier in the year, the water supplier could (and should) have taken an extra sample soon afterwards; failure to notice that one was missing implies that the water supplier's quality system is deficient. There is also a temptation to blame the occasional poor result on sampling error. This should not be accepted as an excuse as it is virtually impossible to demonstrate and furthermore a sampler who contaminates samples is indicative of poor training.

DHB Surveillance Conducted

This question is to ascertain the type and amount of surveillance carried out by HPOs during the year.

Was DHB surveillance sampling or audit conducted through the year?

☐ Yes

☐ No

- Select *Yes* if surveillance was carried out in the zone by or on behalf of the DHB during 2002 (*ie,* by taking surveillance samples or auditing, but not including this survey),
- Otherwise, select *No*.

If this answer was *Yes*, at least one of the following types of surveillance must have been carried out.

Free Available Chlorine – Number of Tests ……..Number of FAC tests transgressed ……..

E. coli – Number of Tests ……..Number of EC tests transgressed ……..

Conducted site inspection of distribution zone and/or audited zone records ☐

Information about the number of FAC / *E. coli* tests and the number of transgressions will be in WINZ provided results have been entered for the 2002 calendar year. In this case, if you are entering the data electronically, this value should appear automatically. However, if you have not completed all four compliance quarters this will default to *0*. The data in these fields can be overwritten if amendments are required.

If a site inspection of the zone and/or audit of zone monitoring records was carried out by an HPO during 2002, tick the box.

Auditing P2 Determinands

Surveillance notes

The "Surveillance notes" box is to allow the HPO to add any notes that may relate to the distribution zone.

Information is complete

The "Information is complete" box is to be ticked by the HPO upon completion of the audit screen. Failure to tick this box will mean that the information for this zone will not be passed on to ESR and will appear as missing data in the survey.

If an error or omission is detected after the "Information is complete" box has been ticked and the data has been sent to ESR, it is very important to contact Andrew Ball or Jacqui Ritchie so they can release the equivalent part of the National screen.
Failure to do this will result in the corrections that have been made being ignored.

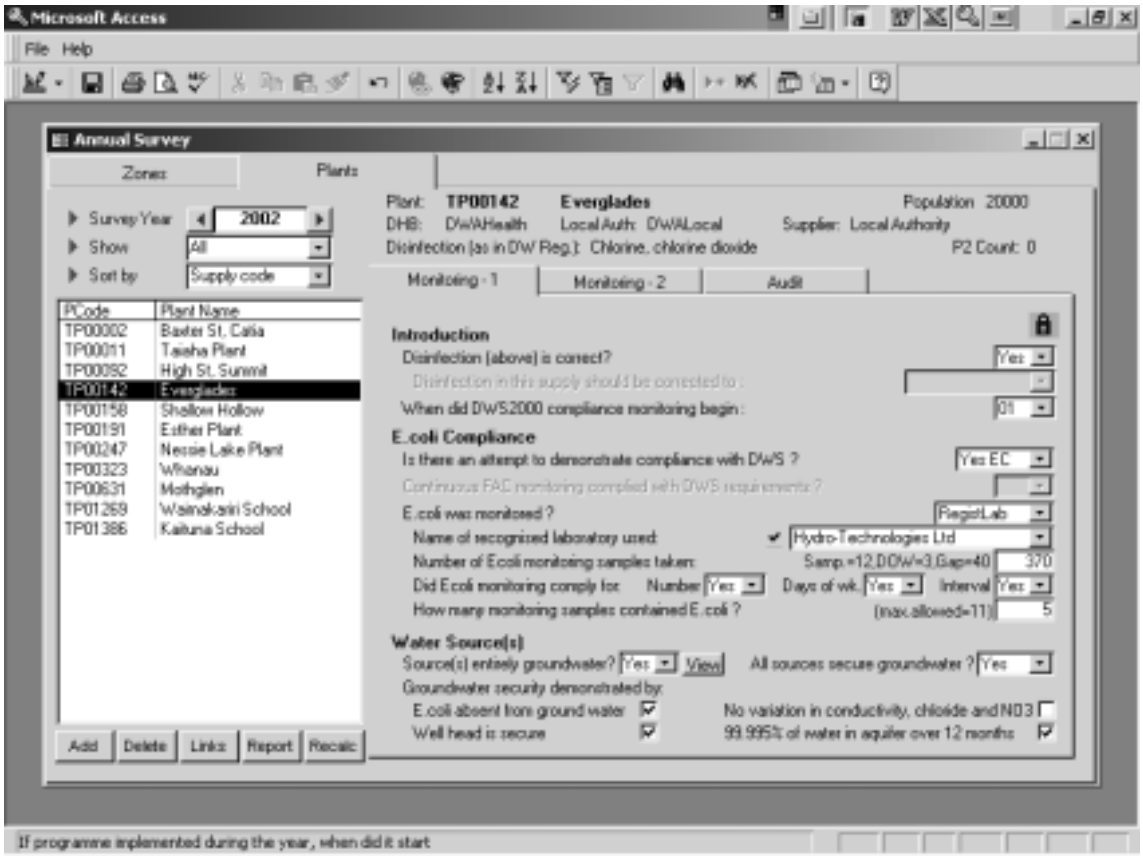
TREATMENT PLANT QUESTIONNAIRE

Each form contains a header that contains the following information from WINZ:

- Plant Code
- Plant Name
- Population
- Health Authority (*ie*,District Health Board)
- Local Authority
- Water Supplier
- Disinfection (as in DW Register)
- P2 Count

MONITORING 1

FIGURE 5 PLANT MONITORING – 1 SCREEN



Introduction

Disinfection (above) is correct?

☐ Yes

☐ No

disinfection in this supply should be corrected to: ……..

The type of disinfection treatment as registered in WINZ is shown in the header.

- If this was correct at the end of 2002, select *Yes*;
- otherwise select *No* and select the correct disinfection from the drop-down menu in the supplementary question box.

From which month did DWSNZ compliance monitoring begin?

This question is asking about the compliance monitoring programme that the water supplier needs to demonstrate microbiological compliance with the DWSNZ. By compliance monitoring we mean a testing programme that intends to demonstrate compliance (*ie*, the water supplier considered that the sampling programme was adequate and enough samples tested for *E. coli* and/or FAC to satisfy the sampling requirements of the DWSNZ) and not just a token number of samples that does not attempt to take the sampling frequency requirements of the DWSNZ into account. The responses to this question are given in the drop-down menu box.

- Select *Not* if there was no monitoring or that the monitoring programme was obviously inadequate to demonstrate compliance during 2002.
- Select *01* if the water supplier has conducted compliance monitoring throughout 2002.
- Otherwise, select the first full month in which appropriate compliance monitoring was carried out in 2002 #.

 # If the microbiological monitoring programme to demonstrate compliance with the DWSNZ was not in place for the whole year, answer the remaining questions in Monitoring 1 and Monitoring 2 for the part of the year after it was implemented.

The above instruction is included because we do not wish to discourage water suppliers by failing those who have initiated a compliance monitoring programme during the year. So where, for example, a treatment plant began the year with an inadequate frequency of samples but say in July the water supplier increased sampling frequency to at least that specified in the DWSNZ, then treat the plant as complying with respect to frequency for the monitoring section. Please note that this concession is not to be applied to the results of monitoring (*ie*, if *E. coli* are detected or the concentration of FAC is too low in the early part of the year, the plant does not comply).

E. coli Compliance

Was there an attempt to demonstrate compliance with the DWSNZ?

- ☐ Yes FAC — Yes - with continuous FAC
- ☐ Yes EC — Yes - using *E. coli* monitoring
- ☐ No — No or insufficient monitoring

Indicate how the treatment plant was monitored to demonstrate compliance.

- Continuous FAC (cFAC) measurement is normally an option only in large treatment plants, so if the cFAC option is marked for a small community, please check that it *does* use cFAC. For plants serving more than 10,000 people, continuous FAC monitoring is exactly that – continuous. For these supplies, hourly samples are not enough. However, for those serving 10,000 or fewer people, daily FAC monitoring is considered adequate.
- In the rare event that both cFAC and *E. coli* monitoring are both conducted, please select the *cFAC* option only (the *E. coli* details will be picked up later in the questionnaire).
- If samples were tested but there was an obvious deficiency in the monitoring frequency, select *No*.
- Select *No*, if no monitoring was carried out in 2002,

The default value is taken from last year's survey.

If cFAC measurement was used wholly or in part to demonstrate compliance, the following question must be answered.

Continuous FAC monitoring complied with DWSNZ requirements?

- ☐ Yes
- ☐ No

This will require a detailed appraisal of the FAC records by the water supplier/HPO.

- Select *Yes* if FAC is monitored continuously and it complies with the conditions prescribed in the DWSNZ (*ie,* FAC >= 0.2 mg/L; pH < 8, turbidity < 0.5 NTU; contact time >=30 min; down time less than 1 hour/week).
- Select *No* if the prescribed conditions were not met of if records are inadequate.

The default value is taken from last year's survey.

The next part of the questionnaire deals with the *E. coli* monitoring of water leaving the treatment plant during 2002. If faecal coliforms or total coliforms were monitored instead of *E. coli* then substitute the faecal coliforms or total coliform results for the *E. coli* results for the remainder of Monitoring 1. (If both are available, use faecal coliforms in preference to total coliforms.)

E. coli was monitored?

- ☐ RegistLab Name of approved laboratory used: ……
- ☐ Non-RegLab
- ☐ No

- Select *No* if no *E. coli* (or faecal or total coliform) monitoring was conducted on water leaving the treatment plant during 2002.
- Select *Non-RegLab* if the analyses were conducted by a laboratory not listed in the *MoH Register of Water Testing Laboratories.*
- Select *RegistLab* if the analyses were conducted by a laboratory listed in the *MoH Register of Water Testing Laboratories,* which are the only ones accredited to undertake drinking-water microbiological compliance testing. The name of the laboratory is to be written in the space provided. Select from the drop-down list of recognised laboratories if using the AnnualSurvey module of WINZ or the appended excerpt from the latest list of *MoH-recognised Water Testing Laboratories* if you are using the paper questionnaire. If the water supplier used more than one laboratory to do their microbiological analyses during 2002, indicate the name of the laboratory currently used.

Please note that some laboratories on this list are not recognised providers of microbiological compliance testing; a tick will appear to the left of the box for those that are.

The default value is taken from last year's survey.

Number of *E. coli* monitoring samples taken: (……..)

How many monitoring samples contained *E. coli* ? (……)

Information about the number of FAC / *E. coli* (or faecal or total coliform) tests and the number of transgressions will be in WINZ provided results have been entered for the 2002 calendar year. In this case, if you are entering the data electronically, this value should appear automatically. However, if you have not completed all four compliance quarters this will default to *0*. The data in these fields can be overwritten if amendments are required.

If these data need to be entered manually, do not count any repeat samples taken during a corrective action process following a transgression as these are part of an 'event' and are not considered part of the compliance monitoring programme.

Water Source(s)

Source(s) entirely groundwater?

- ☐ Yes
- ☐ No

The sources, as presently registered and in WINZ, can be viewed by clicking on the "View" button.

- Select *Yes* if all of the water comes from a bore or well.
- Select *No* if some or all of the water comes from roof water or surface water (*ie,* stream, river, lake, reservoir or spring).

The default value is taken from last year's survey.

All sources secure groundwater?

- ☐ Yes – and have records
- ☐ NoRec – no records to verify
- ☐ No – not all sources secure GW

- Select *Yes* if the entire water supply comes from a secure groundwater source as defined in Section 3.2.4 of the DWSNZ.
- Select *NoRec* if the water supplier considers the groundwater to be secure but cannot demonstrate it.
- Select *No* if the groundwater is not considered to be secure by the water supplier.

The default value is taken from last year's survey.

Groundwater security demonstrated by:

- ☐ *E. coli* was absent from groundwater
- ☐ Well head secure
- ☐ No variation in conductivity, chloride and NO_3
- ☐ 99.995% of water in aquifer for over 12 months

- Tick "*E. coli* was absent from groundwater" if the supply has been tested for *E. coli* (or faecal or total coliforms - if used in place of *E. coli*) on at least 12 occasions on a regular basis for at least the previous 12 months with negative results for all samples. The presence of faecal indicator bacteria in the groundwater means it is not a secure supply. Once the above testing has demonstrated the absence of faecal indicator bacteria over a 12-month period, monitoring can be reduced to once per quarter. However, "*E. coli* was absent from groundwater" should not be ticked if the water supplier fails to maintain the minimum sampling frequency or if faecal indicator bacteria are detected in the supply within the past 12 months.
- Tick "Well head secure" if the well head is secure. The measures needed to demonstrate a secure well head are defined on page 26 of the DWSNZ as:

  1) A sealed pumping and piping system including backflow prevention devices.

  2) Restrictions on any potentially contaminating land use or activity in the vicinity of the well.
- Tick "No variation in conductivity, chloride or NO_3 " if variations in characteristics do not exceed a coefficient of variation of more than:

  1) 3.0% in conductivity

  2) 4.0% in chloride concentration

3) 2.5% in nitrate concentration (standardised variance)

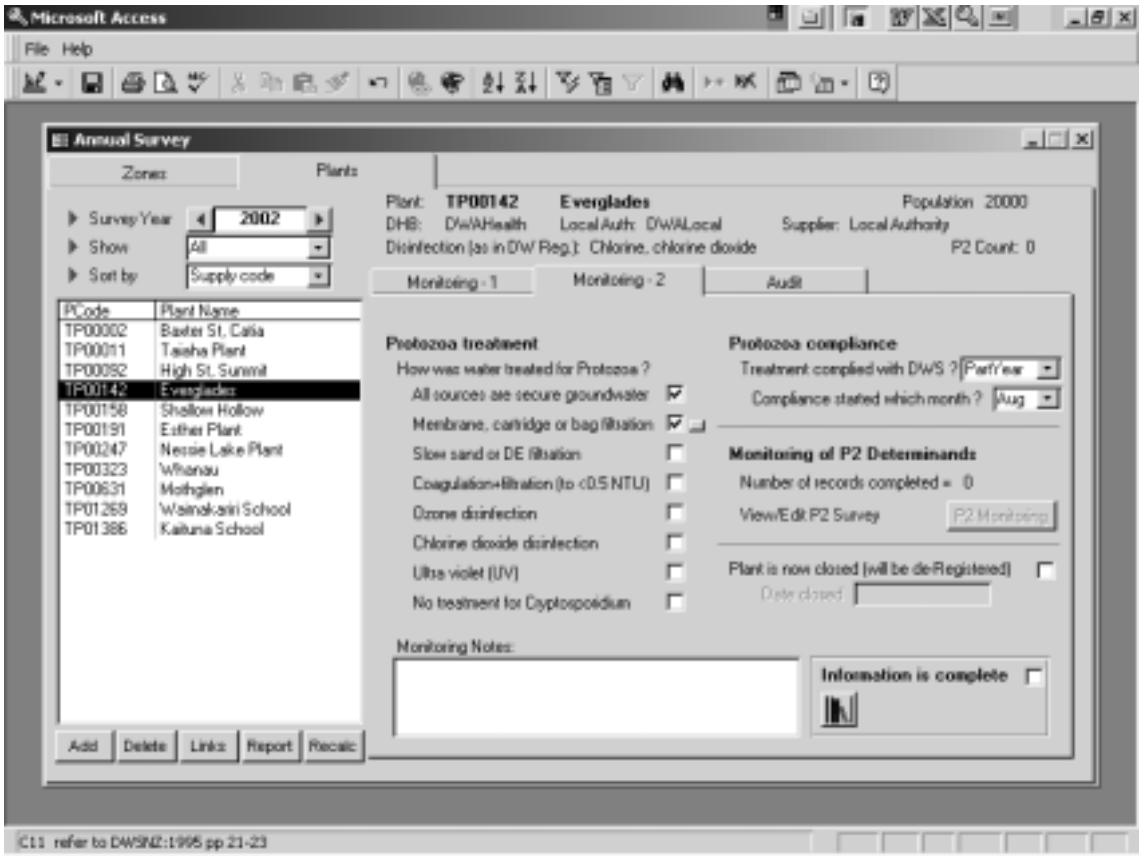
when measured at least 12 times at regular intervals over 12 – 36 months.

- Tick "99.995% of water in aquifer for over 12 months" if less than 0.005% of the water has been present in the aquifer for less than one year (demonstrated by the tritium and/or CFC methods.

The default value is taken from last year's survey.

MONITORING 2

FIGURE 6 PLANT MONITORING – 2 SCREEN



Protozoa Treatment

The next part of the questionnaire deals with the method of water treatment to remove or kill *Cryptosporidium* and other protozoan parasites.

How was water treated for protozoa?

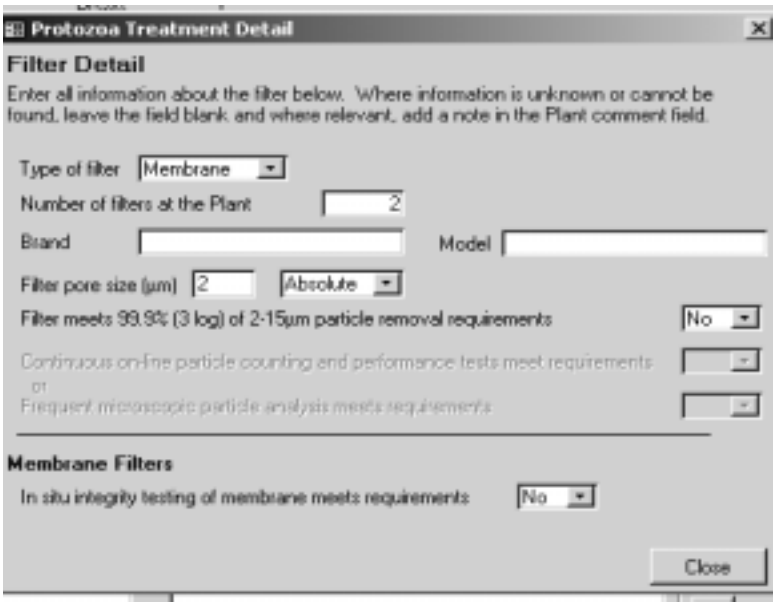
- ☐ All sources are secure groundwater
- ☐ Membrane, cartridge or bag filtration
- ☐ Slow sand or DE filtration
- ☐ Coagulation + filtration (to <0.5 NTU)
- ☐ Ozone disinfection
- ☐ Chlorine dioxide disinfection
- ☐ Ultra violet (UV)
- ☐ No treatment for protozoa

This question is asking how the water is treated for protozoa in 2002.

- Tick "All sources are secure groundwater" only if the water supply is demonstrated to have been secure in 2002. Do not tick this option if the water supplier considers it to be secure but cannot demonstrate its security according to the DWSNZ. If groundwater security is indicated by the responses on the Monitoring 1 screen, this box will be ticked automatically. If you consider this to be incorrect, the tick in this box can only be removed once the pertinent information has been amended in Monitoring 1.
- Tick "Membrane, cartridge or bag filtration" if a membrane, cartridge or bag filter has been fitted to the supply throughout 2002. This will cause an additional window seeking further information about the filtration process to appear.
- Tick "Slow sand or DE filtration" if the water is treated using either slow sand filtration or diatomaceous earth (DE) filtration. Ticking this option will cause an additional window seeking further information about the filtration process to appear. NB. Slow sand filtration uses a shallow filter with no filter nozzles and incorporates a biologically active slime layer called a schmutzdecke to filter water at a rate of about 0.2 m/hr (*cf*. 5-15 m/hr for rapid sand filters); very few exist in New Zealand.
- Tick "Coagulation + filtration (to <0.5 NTU)" for plants that use a combination of coagulation (flocculation) and filtration. This will cause an additional window seeking further information about the filtration process to appear.
- Tick "Ozone disinfection" if the water is treated with ozone to kill *Cryptosporidium*.
- Tick "Chlorine dioxide disinfection" if the water is treated with chlorine dioxide to kill *Cryptosporidium*.
- Tick "Ultra violet (UV)" if the water is treated with UV. This will cause an additional window seeking further information about the UV treatment to appear.
- Tick "No treatment for protozoa" (*no treatment*) if none of the above methods of protozoan treatment were used during 2002.

If you have ticked any of the filtration options an additional window will appear seeking further details of the filter and of the filtration compliance criteria.

FIGURE 7 ADDITIONAL FILTER DETAILS WINDOW



Type of filter: (……)
Please select the filter type from the drop-down menu.
Number of filters at the plant: (……)
Please enter the number in the space provided.
Brand: (……) Model: (……)
This question applies only to membrane, cartridge and bag filters. Please enter the brand and model number of the filter in the spaces provided.
Filter pore size (µm): (……) Absolute / Nominal / Unknown
This question applies only to membrane, cartridge and bag filters. Please enter the pore size in microns in the box on the left and select from *absolute*, *nominal* and *unknown* on the drop-down menu attached to the box on the right.
Filter meets 99.9% (3 log) of 2-15µm particle removal requirements: Yes / No
This question applies only to cartridge, bag, DE and slow sand filters. Select *Yes* if the filter complies with the compliance criteria in Sections 3.2.3.1 and 3.3.2.2 of the DWSNZ.

Otherwise select *No*.

Continuous on-line particle counting and performance tests meet requirements: Yes / No
This question applies only to cartridge, bag, DE and slow sand filters. Select *Yes* if the filter complies with the compliance criteria in Sections 3.3.1.2 and 3.3.2.2 of the DWS.

Otherwise select *No*.

Microscopic Particle Analysis meet requirements: Yes / No
This question applies only to cartridge, bag, diatomaceous earth and slow sand filters. Select *Yes* if the filter complies with the relevant compliance criteria in Sections 3.3.1.2, 3.3.2.2 and 3.2.3.1 of the DWSNZ.

Otherwise select *No*.

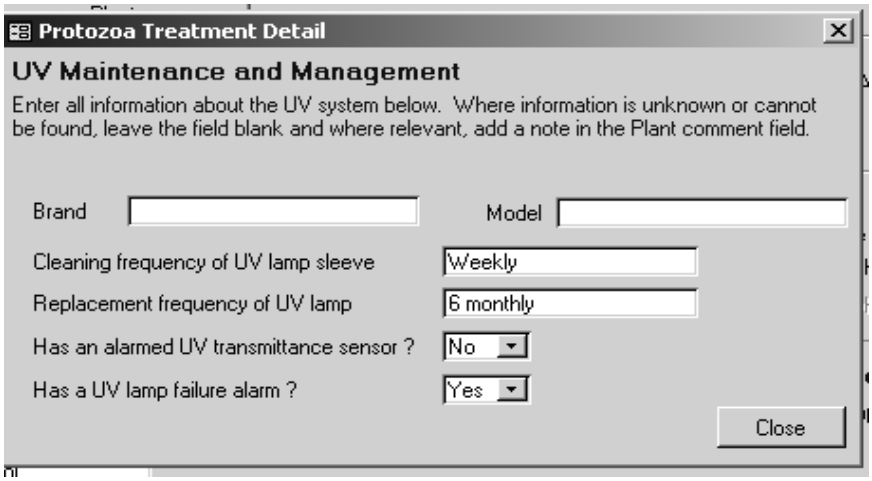
In situ integrity testing of membrane meets requirements: Yes / No

This question applies only to membrane filters. Select *Yes* if the filter complies with the compliance criteria in Sections 3.2.3.1 and 3.3.2.2.1 of the DWS.

Otherwise select *No*.

If you have ticked the UV option an additional window will appear seeking further details of the UV treatment device and maintenance.

FIGURE 8 ADDITIONAL UV TREATMENT DETAILS WINDOW



Brand: (……) Model: (……)
Please enter the brand and model number of the UV treatment device in the spaces provided.
Cleaning frequency of UV lamp sleeve: (……)
Please enter the approximate sleeve cleaning frequency in the box and select from the options provided in the drop-down menu.
Replacement frequency of UV lamp: (……)
Please enter the approximate replacement frequency of the UV lamp in the box and select from the options provided in the drop-down menu.
UV lamp has a failure alarm? Yes / No
Select *Yes* if an alarm is fitted. Otherwise select *No*

Protozoa Compliance

Treatment complied with DWS?

- ☐ Yes - Complied for the whole year
- ☐ PartYear - Complied for part of the year (Compliance started which month): ……
- ☐ Only1995 - Complied DWS1995 but not DWS2000
- ☐ No - Comply neither DWS2000 nor DWS1995

This question asks the protozoan compliance status of the treatment plant during 2002. To answer this question you will need to take account of the options marked for question about protozoa treatment above. The protozoa compliance criterion was met if:

1. The water was extracted from a verified secure groundwater source;
2. Water that was treated using membrane, cartridge, slow sand or diatomaceous earth filtration could demonstrate that at least 99.9% of particles of 2–15 μm were removed by the process (refer to Section 3.2.3.1 of the DWSNZ for details);
3. Water that was treated using coagulation (flocculation) and filtration and the water leaving the treatment plant was adequately monitored for turbidity (see Table 3.4 of the DWSNZ) and that the plant did not exceed the turbidity specifications defined in 3.2.3.1 of the DWSNZ. It will not comply if the turbidity was not adequately monitored or if turbidity ever exceeded 1.0 NTU or if it exceeded 0.5 NTU for more than 5% or more of the time or if sudden increases of more than 0.2 NTU occurred during any ten minute period;
4. Water treated using ozone had a C.t value of equal or greater than that prescribed in Chapter 13 of the DWSNZ;
5. Water treated using chlorine dioxide had a C.t value of equal or greater than that prescribed in Chapter 13 of the DWSNZ.

- Select *Yes* if any of the above five protozoa compliance criteria were achieved for the whole of 2002.
- Select *PartYear* if any of the above five protozoa compliance criteria were achieved after some point in 2002, and indicate the month after which the present treatment was instigated.
- Select either *No* or *Only1995,* if the protozoa treatment did not comply with the requirements of the DWSNZ. This depends on whether or not the treatment plant complied with the now out of date requirements of the DWSNZ:1995. The *Cryptosporidium* compliance requirements for the DWSNZ:1995 are listed below:

6. The water was extracted from a verified secure groundwater source;
7. Water was passed through a membrane or cartridge filter with pore size of not more than 5 μm absolute or 1 μm nominal;
8. Water was treated using either slow sand filtration or diatomaceous earth filtration and it can be demonstrated that at least 99.99% of particles of 3–15 μm were removed by the process;

9. Water was treated using coagulation (flocculation) and filtration and the water leaving the treatment plant was adequately monitored for turbidity (see Table 3.4 of the DWSNZ:1995) and that the plant did not exceed the turbidity specifications defined in 3.3.3.1(b) of the DWSNZ:1995. It will not comply if the turbidity was not adequately monitored or if it exceeded 0.5 NTU for 5% or more of the time or if sudden increases of more than 0.2 NTU occurred during any ten minute period;
10. Water was treated using ozone with a C.t value of equal or greater than that prescribed in Table 12.8 of the DWSNZ:1995;
11. Water was treated using chlorine dioxide with a C.t value of equal or greater than that prescribed in Table 12.8 of the DWSNZ:1995.

- Select *Yes* if the supply was taken solely from a verified secure groundwater supply.
- Select *Only 1995* if any of the above *Cryptosporidium* compliance criteria were achieved for the whole of 2002.
- Select *No* if the treatment plant did not comply with the *Cryptosporidium* removal criteria.

Monitoring of P2 Determinands

Supply closure

If the treatment plant ceased to be used for a community supply during 2002, then the plant needs to be deactivated. This is done by ticking the *Plant is now closed* box at the bottom of the screen and entering the date at which the supply was closed. This information will be transferred to WINZ and will serve as official notification by the water supplier of supply closure if this has not otherwise been notified.

Monitoring notes

The "Monitoring Notes" box is to allow the water supplier to add any notes that may relate to the treatment plant.

Information is complete

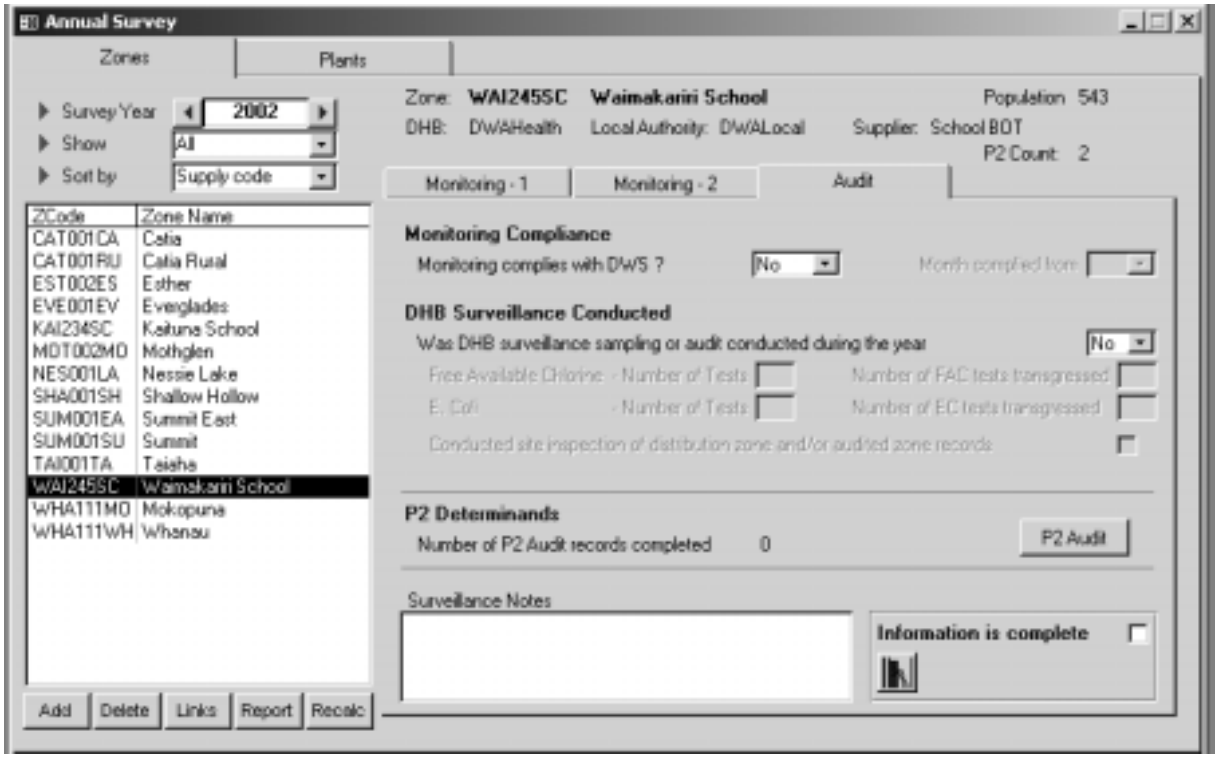
The "Information is complete" box is to be ticked by the water supplier upon completion of the audit screen. Failure to tick this box will mean that the information for this zone will not be passed on to ESR and will appear as missing data in the survey.

If an error or omission is detected after the "Information is complete" box has been ticked and the data has been sent to the health authority, it is very important to contact the HPO so they can release the equivalent part of the Audit screen. Failure to do this will result in the corrections that have been made being ignored.

AUDIT

This section is entitled "Audit" and is only accessible to HPOs and not to water suppliers.

FIGURE 9 PLANT AUDIT SCREEN



Monitoring Compliance

If the microbiological monitoring programme to demonstrate compliance with the DWSNZ was not in place for the whole year, answer the Monitoring Compliance question for the part of the year after it was implemented.

The answer to this question is normally calculated from the previous questions; in particular, the population supplied, the adequacy of cFAC monitoring (if used), the frequency and results of *E. coli* monitoring and the adequacy of protozoa treatment. However, this question is included to give the HPO some discretion. For example, in a supply serving 3,000 people where a weekly *E. coli* sample is required (*ie,* 52 samples / year), if only 51 samples were collected during 2002 then the monitoring frequency is deemed inadequate. (Indeed, WINZ will tick this plant as non-compliant). However, if you, as HPO, determine that there were extenuating circumstances why the other sample was not taken, (e.g. the final sample of the year was broken in transit to the laboratory) this question gives you the discretion to tick the plant as compliant. However, please use your discretion sparingly (and note your reasons for doing so in the *Audit Notes* field).

Failure to collect enough samples should normally result in non-compliance. For example, if the same plant missed a weekly sample earlier in the year, the water supplier could (and should) have taken an extra sample soon afterwards; failure to notice that one was missing

implies that the water supplier's quality system is deficient. There is also a temptation to blame the occasional poor result on sampling error. This should not be accepted as an excuse as it is virtually impossible to demonstrate and in addition, a sampler who can contaminate the sample indicates poor training.

E. coli – full compliance with DWS2000 ☐
Tick the box if both *E. coli* sampling **and** results in the treatment plant complied with the DWSNZ. If compliance monitoring at the plant was not carried out at all during 2002 or at the appropriate frequency, do not tick the box.
Protozoa – full compliance with DWS2000 ☐
Tick the box if appropriate protozoan monitoring was carried out at the treatment plant during 2002. This includes the type and frequency as well as the results of monitoring.
No *E. coli*/protozoa compliance with DWS2000 ☐
Tick this box if neither of the above two boxes could be ticked (*ie,* the treatment plant complied with neither the *E. coli* nor the protozoa compliance criteria as prescribed in the DWSNZ.
but protozoa complied with the DWS1995 ☐
Tick this box if the treatment plant did not comply with the DWSNZ protozoa criteria but did comply with the old compliance criteria as prescribed in the DWSNZ:1995 (see below).

The compliance requirements for the DWSNZ:1995 are listed below:

- the water was extracted from a verified secure groundwater source;
- water was passed through a membrane or cartridge filter with pore size of not more than 5 µm absolute or 1 µm nominal;
- water was treated using either slow sand filtration or diatomaceous earth filtration and it can be demonstrated that at least 99.99% of particles of 3–15 µm were removed by the process;
- water was treated using coagulation (flocculation) and filtration and the water leaving the treatment plant was adequately monitored for turbidity (see Table 3.4 of the DWSNZ:1995) and that the plant did not exceed the turbidity specifications defined in 3.3.3.1(b) of the DWSNZ:1995. It will not comply if the turbidity was not adequately monitored or if it exceeded 0.5 NTU for 5% or more of the time or if sudden increases of more than 0.2 NTU occurred during any ten minute period;
- water was treated using ozone with a C**.**t value of equal or greater than that prescribed in Table 12.8 of the DWSNZ:1995;
- water was treated using chlorine dioxide with a C**.**t value of equal or greater than that prescribed in Table 12.8 of the DWSNZ:1995.

DHB Surveillance / Audit of Treatment Plant

This question is ascertain the type and amount of surveillance carried out by HPOs during the year.

Was DHB surveillance sampling or audit conducted through the year?

☐ Yes

☐ No

If surveillance was carried out in the zone by or on behalf of the DHB during 2002 (*ie,* by taking surveillance samples or auditing, but not including this survey), select *Yes*. Otherwise, select *No*.

If this answer was *Yes*, at least one of the following types of surveillance must have been carried out.

FAC – Number of surveillance samples ……. Number of samples <0.2mg/L ……..

E. coli – Number of surveillance samples …….. Number of *E. coli* transgressions ……..

Turbidity – Number of surveillance samples …….. Number of samples >0.5 NTU ……..

Conducted site inspection of treatment plant and/or audited treatment plant records ☐

Information about the number of FAC / *E. coli* tests and the number of transgressions will be in WINZ provided results have been entered for the 2002 calendar year. In this case, if you are entering the data electronically, this value should appear automatically provided that the four compliance quarters have been completed. However, if you have not completed all four compliance quarters this information will not be transferred the AnnualSurvey module so will default to *0*. The data in these fields can be overwritten if amendments are required.

If a site inspection of the zone and/or audit of zone monitoring records was carried out by an HPO during 2002, tick the box.

Information about any turbidity testing that was carried out as part of a surveillance programme will not be stored in WINZ; any such data will need to be entered manually.

If a site inspection of the zone and/or audit of zone monitoring records was carried out by an HPO during 2002, tick the box.

Auditing P2 Determinands

Audit notes

The "Audit notes" box is to allow the HPO to add any notes that may relate to the treatment plant.

Information is complete

The "Information is complete" box is to be ticked by the HPO upon completion of the audit screen. Failure to tick this box will mean that the information for this zone will not be passed on to ESR and will appear as missing data in the survey.

If an error or omission is detected after the "Information is complete" box has been ticked and the data has been sent to ESR, it is very important to contact Andrew Ball or Jacqui Ritchie so they can release the equivalent part of the National screen. Failure to do this will result in the corrections that have been made being ignored.

P2 DETERMINAND INFORMATION

The grey area near the top of the right hand corner of the "Zone" and "Plant" screens contains a field labelled "P2 Count". A number other than "0" in this field indicates the zone/plant has official P2 determinands assigned to it, and therefore P2 monitoring and audit information must be completed.

Monitoring P2 Determinands

To complete the P2 monitoring information, click the "P2 Monitor" button located half way down the "Monitoring 2" tab on the "Zone" or "Plant" screens.

The box at the left of the P2 survey screen shows which determinands are official P2's for the supply component you are on. The monitoring details to the right of the screen must be completed for each determinand.

Laboratory is MOH-recognised:	☐	Name:	

If the laboratory that carried out the analysis of monitoring samples is MoH-recognised, tick the MoH-recognised box, then from the drop-down list, highlight the name of the laboratory that carried out the analysis of the samples (Note: Only MoH-recognised laboratories will appear on this list.)

If a non-recognised laboratory has been used, do not tick the MoH-recognised box, and type the name of the laboratory used in the text box.

Number of samples taken:	
Number of samples over the MAV:	
Number of samples 50% to 100% MAV:	

Type the number of monitoring samples taken throughout the year for the determinand highlighted in the box to the left of the P2 Survey Screen, the number of monitoring samples with results exceeding the MAV, and the number of monitoring samples with results exceeding 50% of the MAV but not greater than the MAV.

If there have been any samples taken with results exceeding the MAV, fill in the "Corrective actions taken" field

Maximum concentration found:	

Type the maximum concentration found in the monitoring samples.

Information can simply be typed into the fields detailed above, or it can be automatically copied from the data in WINZ as follows:

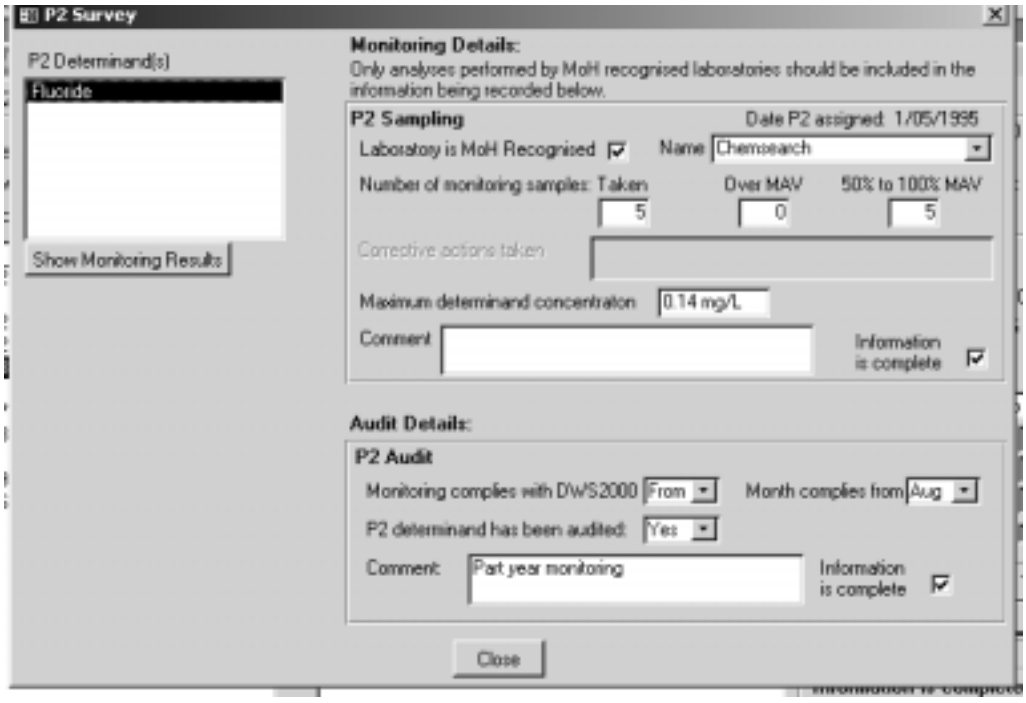
- Click the "Show Monitoring Results" button to show any monitoring results currently in WINZ.
- Highlight the result of maximum concentration found in the list, and click the "Copy Details" button. This will copy of a summary of the results available in WINZ to the monitoring details window.

If all your results have not been entered into WINZ, you may have to change some of the information after the summary results have been copied over. Any field within the monitoring details window can be manually over written to complete the information required. Note that results of tests performed at recognised and non-recognised laboratories can be shown by clicking on the appropriate button above the "Show Monitoring Results" list. When the results are audited, only those from recognised laboratories will be included as valid monitoring results.

Once all the available information for a determinand has been entered the "Information is Complete" box must be ticked. To complete monitoring details for any further determinands, use the mouse to highlight the next determinand in the box at the top left of the screen and repeat the process described above.

When the information is complete for all determinands listed, close the screen by clicking the "Close" button at the bottom of the screen.

FIGURE 10 ZONE AND PLANT P2 SURVEY WINDOWS



Auditing P2 Determinands

To audit P2 monitoring information, click the "P2 Audit" button located towards the bottom of the "Audit" tab on the zone or plant screens.

Monitoring information carried over from the monitoring tab will appear on the top half of the "P2 Survey" screen, with the fields required to complete the audit at the bottom of the screen.

The following questions must be answered to complete the audit:

Monitoring complies with DWSNZ: Y/From/N (month complies from)

Before answering this question, remember that monitoring compliance requires:

- No result exceeds the MAV
- Sampling was at the correct frequency
- Correct sampling location was used (eg extremity of distribution system for DBPs)
- An approved laboratory was used
- Required corrective actions have been followed, and documented, if the MAV was exceeded

If you have answered "From", state which month compliance was achieved from.

P2 determinand has been audited: Y/N

This question refers to the auditing of actual monitoring data, for example, having sighted hard copy reports, as opposed to simply auditing the monitoring information provided in this questionnaire.

Audit information must be completed for each determinand. (Use the mouse to highlight the determinand in the box at the top left of the screen.)

When information is complete for all determinands listed, close the screen by clicking the "Close" button at the bottom of the screen.