

NSW Department of Industry

Floodplain Harvesting Monitoring and Auditing Strategy Sensitivity Analysis Final Report – Milestones 1 - 6

July 2019

Prepared by:




Aquatech Consulting Pty Ltd
Water Resources and Irrigation Engineers

60 Maitland St
NARRABRI NSW 2390
Phone: 02 6792 1265
Mobile: 0429 902 584

Email: jim@aquatechconsulting.com.au
www.aquatechconsulting.com.au

Contents Amendment Record

This report has been issued and amended as follows:

<u>Issue</u>	<u>Revision</u>	<u>Description</u>	<u>Date</u>	<u>Prepared</u>	<u>Checked</u>	<u>Authorised</u>
1	1	Draft Milestone 1	24/03/19	JDP	JDP	
2	2	Final Milestone 1	29/03/19	JDP	JDP	
3	3	Modified Final Milestone 1	03/04/19	JDP	JDP	
4	1	Draft Final Complete Report	04/07/19	JDP	JDP	
5	2	Draft Modified Final Complete Report	05/07/19	JDP	JDP	
6	3	Draft Modified Final Complete Report	07/07/19	JDP	JDP	
7	4	Final Complete Report	26/07/19	JDP	JDP	

Disclaimer:

1. Aquatech Consulting Pty Ltd has taken all reasonable steps to ensure that the information contained in this publication is accurate at the time of production. In some cases, Aquatech Consulting Pty Ltd has relied on information supplied by the client.
2. This report has been prepared in accordance with good professional practice. No other warranty, expressed or implied, is made as to the professional advice given in this report.
3. Aquatech Consulting Pty Ltd maintains **NO** responsibility for the misrepresentation of results due to incorrect use of information contained within this report.
4. This report should remain together and be read as a whole.
5. This report has been prepared solely for the benefit of the client listed above. Aquatech Consulting Pty Ltd accepts no liability with respect to the use of this report by third parties without prior written approval.

Contents

1.0 Executive Summary	6
1.1 Scope of Works and Milestones:.....	6
1.2 Structure of Report	7
1.3 What Was Done	7
1.4 What Was Found.....	9
1.5 The Way Forward	11
Part A – Industry Issues and Concerns	12
A.1 Irrigation Industry Concerns with Draft Policy – October and December 2018 ..	12
A.1.1 List of Material Reviewed.....	12
A.1.2 Review of Submissions	12
A.1.3 Detailed Concerns Raised by Industry.....	13
A.2 Critical Issues	35
A.2.1 Partitioning Metered Water Supply and Other Inputs from FPH Take	36
A.2.2 Rainfall runoff.....	36
A.2.3 Irrigation Application Volume and Tailwater Return Volume.....	37
A.3 Water Balance for a Typical Farm.....	38
A.3.1 Inflows:	38
A.3.2 Consumption:	39
A.3.3 Losses: (in order highest to lowest)	39
A.3.4 Analysis.....	39
A.4 Reading, Recording, Calculation and Reporting	39
A.4.1 Reading	40
A.4.2 Recording	40
A.4.3 Reporting.....	41
A.5 Other Issues.....	41
A.5.1 Changes to Irrigation Infrastructure.....	41

A.5.2 Trading	41
A.5.3 Carry-over of FPH Take	42
A.5.4 Monitoring Equipment.....	42
A.5.5 Temporary Storage.....	42
A.5.6 Water Balance Concepts	42
Part B - Frequency Analysis for Rainfall Runoff and Overland Flow Events.....	43
B.1 Introduction	43
B.2 Basis of Analysis.....	43
B.3 Results	44
B.4 Discussion	45
Part C - Calculating Floodplain Harvesting Take	46
C.1 Introduction	46
C.2 Discussion	46
C.3 Instructions on Policy Assumptions.....	47
C.3.1 Testing a Simple Farm	48
C.4 Sensitivity of Calculated FPH Take Volume to Irrigation Volumes Used In-Field	49
C.5 Calculating Floodplain Harvesting Take Volume for a Complex Case.....	50
C.5.1 Complex Case Background.....	50
C.5.2 Complex Case – Farm Details.....	51
C.5.3 Complex Case – Farm Operation.....	54
C.5.4 Step by Step Calculation of Floodplain Harvesting Take	57
C.5.4.1 Event Start	57
C.5.4.2 Event End	59
C.5.4.3 Floodplain Harvesting Take Calculation.....	62
C.5.4.4 Staged Approach to Floodplain Harvesting Take Calculation.....	62
C.5.4.5 Discussion	64

ATTCHMENTS

ATTACHMENT 1 – Schedule A of Consulting Services Contract

ATTACHMENT 2 - List of Submissions to Draft Strategy.

- List of Issues from Consultation Meetings 2018.

FIGURES

FIGURE 6.1 – Climatic Data Narrabri

FIGURE 6.2 – Climatic Data Warren

FIGURE 7.1 – Farm Layout Details – Complex Case

TABLES

TABLE 6.1 – Rainfall Runoff and Overland Flow Events.

TABLE 7.1 – Annual Volume of FPH Take – Narrabri Sample Farm (ML)

TABLE 7.2 – Storage Curve - Permanent Storage

TABLE 7.3 – Storage Curve – Buffer Storage

APPENDICES

APPENDIX A –

Details of each concern from consultation meetings at Bourke, Moree, Narrabri and Narromine.

APPENDIX B –

Calculated Rainfall Runoff and Overland Flow Events in Narrabri and Warren for a Range of Years.

APPENDIX C – Calculated Floodplain Harvesting Take for a “Typical” Narrabri Farm.

APPENDIX D –

List of Information Required and Calculation Procedure for Floodplain Harvesting Take Calculation.

1.0 Executive Summary

In late February 2019 NSW Department of Industry, Lands and Water (DOI) awarded Aquatech Consulting Pty Ltd of Narrabri, NSW, the tender for “Floodplain Harvesting Monitoring and Auditing Strategy Sensitivity Analysis”.

Release of the Draft Floodplain Harvesting Monitoring and Auditing Strategy by DOI in November 2018 resulted in 28 written submissions outlining issues with the strategy. Public Information sessions in Bourke, Moree, Narrabri and Narromine resulted in more concerns raised on 136 topics.

This report addresses the stated **Project Objectives** to:

1. Assess the validity of concerns raised by industry in relation to the draft monitoring and auditing strategy.
2. Develop alternative options that address these concerns whilst not compromising the quality of monitoring and auditing data.

1.1 Scope of Works and Milestones:

The stated Scope of Works and Milestones for this consultancy are included in **Attachment 1** and are summarised as follow:

1. Development of a draft report that analyses the validity of concerns raised by the irrigation industry and any alternative options to address them (as required) that attempt to balance ease of implementation with data quality – for testing.
2. Development of a water balance spreadsheet (for two valleys over a two-year period [incl. wet and dry conditions]) to test the options detailed in the draft report.
3. Populate the water balance spreadsheet for the two valleys, testing up to 10 of the options presented in the draft report for each valley (the department will select options to test).

4. Amend the draft report to include an option analysis section using the outcomes of the water balance spreadsheet and a sensitivity analysis between options (where practical) as well as recommendations that are supported by the analysis.
5. Review of the supplied Floodplain Harvesting Recording Template to reflect the final monitoring and auditing approach being recommended by the department.
6. Following input from Department of Industry:
 - Prepare a step by step methodology to calculate floodplain harvesting take (FPH Take) that clearly sets out evidence requirements for all components.
 - Prepare an example calculation of the take for the most detailed case of an event during irrigation and including simultaneous metered water intake.
 - Collate and update the final draft report for Departmental comment.
 - Deliver the final collated report that addresses all Department comments.

1.2 Structure of Report

This report is broken up into three parts for clarity:

PART A – Industry Issues and Concerns

PART B – Frequency Analysis of Rainfall Runoff and Overland Flow Events

PART C – Calculating Floodplain Harvesting Take

1.3 What Was Done

Milestone 1 is covered in **PART A – Industry Issues and Concerns**.

Each concern raised was reviewed and discussed and potential modifications to the Draft Monitoring and Auditing Strategy proposed. **Appendix A** provides a summary of results.

Milestones 2, 3 and 4 are covered in **PART B – Frequency Analysis of Rainfall Runoff and Overland Flow Events**.

A rainfall runoff spreadsheet was developed to model the rainfall runoff from any farm based on daily rainfall records.

A sample 250ha irrigated cotton farm located near Narrabri, NSW and another similar farm near Warren, NSW were then modelled to determine the number of rainfall runoff (RRO) and overland flow (OLF) events. Each farm was modelled for four historical years:

- Driest;
- Wettest;
- Typical Dry: and
- Typical Wet.

This analysis provided an understanding of the frequency of RRO and OLF events.

Milestones 5 and 6 are covered in **PART C – Calculating Floodplain Harvesting Take**.

Calculation of the FPH Take for two farms was investigated.

The first farm was at the same location near Narrabri, NSW used for **PART B** and had 600ha of irrigated cotton and a 1,350ML storage.

A spreadsheet calculator was developed and the total volume of FPH Take calculated for a number of assumed irrigation volumes delivered to irrigation fields and the resulting tailwater return volumes coming back from the irrigation fields.

This was done to establish the sensitivity of the calculated FPH Take to assumed irrigation volumes.

A second farm was developed to demonstrate the procedure required to calculate FPH Take when a FPH event occurs during a typical irrigation event.

The data collection requirements and the step by step calculation procedures were demonstrated to calculate the FPH Take volume.

1.4 What Was Found

- a. Industry have valid concerns with the current FPH Monitoring and Auditing Strategy.
- b. On- farm storages are used to store other sources of water in addition to FPH and change in Permanent Storage volume is not just from FPH Take.
- c. The inclusion of rainfall runoff as part of floodplain harvesting significantly increases reporting frequency.
- d. Measuring Permanent Storage volume change using gauge boards has significant limitations and adopting continuous storage data loggers will address many of the concerns raised by stockholders because they:
 - Don't need to be read manually at critical times;
 - Are accurate and continuous; and
 - Provide tamper free recorded data.
- e. Water flows on a typical farm during a RRO event are significant and uncontrolled. Water will flow by gravity to the lowest area of the farm filling fields and surge areas regardless of the Permanent Storage volume status.
- f. Irrigation of fields cannot easily be stopped when rain falls and are generally not stopped.
- g. Irrigation tailwater continues to drain from fields after irrigation is stopped.
- h. Metered surface water and groundwater are often diverted to irrigate fields from the main supply channel and delivered to storage simultaneously.
- i. It is difficult to measure the volume of water delivered to a field during irrigation (ML/ha) and even harder to measure the irrigation tailwater volume (ML/ha) coming off that field.
- j. The sensitivity of total FPH Take volume to assumed irrigation water volumes is not high. This is provided the assumed water volume delivered to the fields (ML/ha) and the resulting tailwater volumes (ML/ha) draining bank (ML/ha) are within typically measured industry values.
- k. Calculating FPH Take is detailed, technical and onerous when a FPH event occurs during irrigation but it is possible. The resulting calculated FPH Take could be as little as 50% of the gross change in Permanent Storage volume and the detail calculation is considered worth the effort and cost.

- l. Basing the FPH Take on measured volume changes in Permanent Storage offers the potential for staged calculation of Take. Considering less inputs means an easier FPH Take calculation but could result in a higher Take volume compared to a full and detailed calculation as shown in Section C.5.4.4 Reducing detail and calculation should be done by irrigators realising the risk of overestimating actual FPH Take.
- m. It is reasonable and generally prudent to calculate all deductions from Permanent Storage volume change to account for non-floodplain harvesting inputs to storage during a FPH event.
- n. Most irrigators would probably not wish to develop their own detailed spreadsheets to calculate FPH Take. Commercial software would most likely be developed to complete these calculations. It may be prudent to have such software tested and certified as technically correct for FPH Take calculation and auditing.
- o. Separating RRO from OLF and basing the reported RRO Take on an historical percentage of actual rainfall was investigated to reduce FPH event frequency. While this is possible and would significantly reduce event frequency, it requires calculation or modelling of the actual RRO take to be able to identify the actual OLF component left. The reported FPH Take would therefore involve two modelling exercises one of which would need to be completed at each OLF event. Accuracy of the final FPH take volume would reduce because of the modelling. The complication of modelling each RRO event when OLF occurs could defeat the purpose of making calculation of FPH take less frequent.

Separating RRO from OLF and metering OLF onto the farm is an attractive option for some farms where this is possible. Time and date stamped approved flow meters and approved works would need to be installed solely for the purpose of measuring captured OLF events. RRO would then be based on measured rainfall and historical percentage of runoff.

This option is a significant departure from the current monitoring and auditing strategy and could only be considered on some farms where accurate measurement of OLF take could be done. A policy decision on this option is required.
- p. The process of developing an irrigation farm with landformed fields and a dedicated drainage system, and the act of irrigating fields prior to rain, means that

rainfall runoff from an irrigation farm is more than the rainfall runoff of the previously undeveloped area. There is therefore an equity issue that needs to be addressed with the calculated FPH Take. Should a discount be applied to the calculated FPH Take to account for this?

- q. The Policy on exceeding the FPH Allocation during wet seasons needs to be clarified and detailed.
- r. The operation of “Temporary Storages” need to be better defined.
- s. Trading of FPH Allocation would be problematic as the seller would still have the capability of capturing FPH Take.

1.5 The Way Forward

Reading, Recording, Calculating and Reporting of FPH Take is detailed, technical and onerous. This process and strategy is completely new to both NSW Government Departments and the irrigation industry. The necessary process and the requirements to calculate reasonably accurate volumes of FPH Take is the most detailed and onerous compliance task asked of the Australian Irrigation Industry to date. This task will not be popular with industry or NSW Department Auditors.

It is hoped that with time and experience the monitoring and reporting process will develop and simplify. Current industry irrigation practices will most likely change slightly to accommodate this.

The aim of this work by Aquatech Consulting is to provide technical and operational guidance on potential strategies and to assist with the development of a workable monitoring and auditing strategy.

Aquatech Consulting is not responsible for any policy decisions.

Part A – Industry Issues and Concerns

A.1 Irrigation Industry Concerns with Draft Policy – October and December 2018

A.1.1 List of Material Reviewed

Copies of all submissions to the Draft Floodplain Harvesting Monitoring and Auditing Strategy have been made available to Aquatech Consulting including a summary of Participant issues/comments/suggestions from consultation meetings held at Bourke, Moree, Narrabri and Narromine (see **Attachment 2** for list).

Each of Industry concerns from the consultation meetings is included in **Appendix A** along with comments on:

- Validity of concern;
- Priority of concern;
- Notes and solutions; and
- The section of this report covering the detail and potential solutions for each concern.

A review of **Appendix A** will provide a quick reference to the problems and suggested solutions to industry concerns.

A.1.2 Review of Submissions

The focus of this consultancy, and therefore this report, is addressing the monitoring and audit strategy.

Issues raised in detailed submissions that are not directly related to monitoring and auditing are not considered in this report.

The same concerns are obviously raised in slightly different ways by different contributors. The basic common concern is dealt with below.

A.1.3 Detailed Concerns Raised by Industry

The following is a summary of industry concerns from the consultation meetings held with industry (See **Appendix A** for full list). Each concern and potential solutions are provided.

Appendix A provides a brief summary of:

- each concern;
- the validity of the concern;
- the priority of the concern;
- brief notes and the **report sections** below that detail the problems and potential solutions; and
- brief notes on the solutions.

Concerns

- a. **The Frequency of recording and reporting is onerous, especially for multiple storages and would be impractical in a business operation.**

The proposal in the current draft strategy is:

Reading Frequency

Manual readings from the gauge boards for all storages and meters (in cases where there is direct temporary storage use via a meter) need to be collected and recorded by the licence holder as per the timeframes below:

- Daily—from the first day that floodplain harvesting is occurring on the property (including rainfall runoff harvesting) to the last day that this harvested water from that same event is being transferred into permanent storage
- Weekly—during the irrigation season (1 October to 28 February)
- Monthly—for all other times
- Monthly—for direct temporary storage use by meters.

Recording requirements

Recordings must at least include:

- the date of the reading;
- the storage levels;
- the storage volume (volumetric conversion via the storage depth);
- a reason for the change in volume (for example, floodplain take, tailwater return, irrigation use etc.); and
- who reviewed and recorded the storage levels.

Reporting requirements

Licence holders are required to self-report their total reportable take into the WaterNSW Water Accounting System (*iWAS*) within one calendar month of the end of a floodplain harvesting or rainfall runoff event. The licence holder must also upload the associated records to support their calculation into *iWAS*.

In addition, all licence holders must submit an annual report via *iWAS* within one calendar month of the conclusion of each financial year. This requirement is to ensure nil reports are captured to ensure that appropriate records are being maintained.

As part of the self-assessment and reporting procedures, licence holders are to report account exceedances and actions taken (for example, discharge in accordance with the Australian cotton industry: best management practices manual) to WaterNSW.

iWAS can be accessed at waternsw.com.au/iWAS.

Comments

This proposal is onerous particularly if manual readings are required in several storages for each rainfall runoff (RRO) event. There are both time concerns and accuracy issues if the event occurs at night during rainfall. Practical issues obtaining starting volumes when staff or owners will be required to grind through wet tracks to each storage at night.

This is not ideal, and data could be missed. There are also staff safety concerns with this data collection in poor conditions.

It is assumed that the storage curves also have storage water surface area versus water depth to enable storage evaporation and seepage loss calculations to be made if

necessary and to be able to calculate the volume of direct rainfall falling onto the storage water surface.

Solutions

Reducing the frequency of reading, recording and reporting is one obvious solution but data will be missed, and the volume of take will be inaccurate if frequency is reduced too much.

It would not be long before most irrigators would invest in automatic continuous storage meters or monitors to overcome the issues with manual reading and recording of storage changes.

Interpretation and partitioning of the gross volume changes in the storages into Floodplain Harvesting Take (FPH Take), irrigation tailwater return, metered surface and groundwater delivered and direct rainfall on the storage water surface will still take technical skill and detailed effort to analyse. Even using an automatic storage meters with telemetry download will not reduce the significant time and effort required to interpret the resulting FPH Take for each rainfall runoff event.

An alternative simple assessment of the RRO volume for FPH would be very beneficial. This could mean that each RRO event is no longer a FPH event unless overland flow (OLF) capture occurs. This would significantly reduce the number of FPH events and the necessity to read, record, calculate and report. The calculation of the volume of RRO take for FPH would also be simplified. In some cases, OLF could be metered directly onto the farm.

b. Difficult to disaggregate, measure and report 4 to 5 different sources of water – a milkshake effect.

This is a major concern and is valid. The task is difficult and requires measuring all volumes that can be measured such as:

- Metered regulated surface water (ML);
- Metered unregulated surface water (ML);

- Metered groundwater (ML);
- rainfall (mm);
- gross storage volume change (ML);
- changes in Main Supply Channel and Tailwater Return Drain Volumes;
- Volumes used for irrigation; and
- Volumes return as tailwater.

Appendix D lists the full requirements.

It would also be necessary to know which fields or part of fields were being irrigated during the event and how much of the above metered water was diverted directly to the irrigated fields on the way to the storage and how much went into storage. It would be also necessary to know how much irrigation tailwater (used irrigation water) came from the irrigated fields and how much of that was diverted into storage during the FPH event.

Without a meter in each field headditch (or a siphon meter or through the bank pipe meter in a typical siphon or pipe and the number of siphons or pipes in each field), the volume diverted to the fields for irrigation would have to be estimated. Similarly, the irrigation tailwater returned to the storage would have to be estimated to be able to determine the FPH take delivered to the storage.

Rainfall falling directly onto the Permanent Storage and Buffer Storage water surface would also need to be calculated. Storage curves need to include water surface area as well as water volume for each depth.

If all the above is known or measured, then the remainder of water delivered to the storage would be the FPH take for that event.

If the components above (particularly the two components of metered water delivered to irrigated fields between the meter and the storage and irrigation tailwater return) were not measured, then educated estimates would be required.

Similarly, if RRO was separated from overland flow (OLF), an estimate or modelled (calculated) actual rainfall runoff volume would have to be determined for each event based on measured rainfall, soil types and moisture conditions of each field on the farm (antecedent moisture condition).

This process is not only time consuming but also quite technical. Most irrigators would need technical help and/or a dedicated software program to complete these tasks. There is no practical way to meter all these components, so calculations and estimates are necessary to partition components of the total storage volume change. This would have to be done for “each rainfall runoff event” under the current strategy. This strategy is onerous, and irrigators would have real issues meeting these requirements.

Solutions

This problem has two components:

- the frequency of the task when each rainfall runoff event is included as a FPH event; and
- the detailed and technical nature of the calculations required to separate the components.

A simpler and less frequent option should be considered if possible.

The current method of estimating the basic landholder right may provide some guidance.

Basic Landholder Right

The concept of determining the volume of a surface water storage that does not require a licence in NSW is based on the nominal storage of 10% of the average regional runoff from the owner’s property.

The accurate determination of that volume would be complex and technical. The “correct” process would involve rainfall runoff calculations over the whole property for each property each year then analysis to confirm the storage of 10%.

Instead, WaterNSW provides an on-line calculator based on dam location and property size. This process is simple, works and is accepted. It would obviously not be “correct” or technically accurate in all cases, but the process is not too onerous on industry or WaterNSW or the Natural Resources Access Regulator (NRAR) and industry accepts it.

It is, therefore, worth considering a similar approach when determining the capture of rainfall runoff from an irrigation farm.

Rainfall Runoff Calculation for FPH

Rainfall runoff volume could be determined based on an average modelled percentage of actual rainfall based on location zones. The average runoff volume percentage could be based on the modelled runoff from historic daily rainfall records for each zone from the late 1800’s to now.

The rainfall runoff take for FPH could then be the historic volume of runoff that would have come from the developed farm area in its natural pre-developed state. This is the volume of runoff which is no longer being allowed to drain into the natural drainage system and ultimately to the Murray-Darling system as a result of the farm development.

The reportable FPH Take volume from rainfall runoff could simply be calculated from the actual weighted average rainfall over the developed irrigated area multiplied by the developed area and by the historical percent of rainfall that would have been runoff.

The frequency of reading, recording, calculation and reporting of FPH Take would be significantly reduced to a more manageable task. Only events where the capture of water flowing across floodplains as OLF need to be considered a FPH event.

The partitioning of overland FPH take from other flows into the storage would still be required when an unmetered flow of water across the floodplain was diverted into a

storage. The calculated actual rainfall runoff component during that event would also need to be calculated using modelling making the calculation of FPH Take more complicated but less frequent.

This option requires two modelling exercises:

- a. The initial one-time long-term RRO modelling to establish the average long-term percentage of rainfall which would be run-off; and
- b. The rainfall runoff modelling for each FPH event to establish the actual RRO volume coming from the developed area into storage during the event.

Both these modelling calculations introduce errors into the final FPH Take volume. This must be balanced against the potential reduction in FPH frequency. There is also the potential problem of proving that an OLF event actually occurred.

Options to measure overland flow take at the point/s of entry into the developed farm area then become more useful and attractive to industry as that is the only measurement required to record and report FPH Take as well as actual rainfall.

Basing the RRO component of FPH Take on historical rainfall and historical land use and vegetation rather than current actual runoff would also remove the significant objection from industry that developing an irrigation farm with well drained fields and a comprehensive drainage system then irrigating the fields before rain will increase runoff above natural conditions.

Industry feels that the increase in runoff is the result of investment by the irrigator in expensive infrastructure and because of the application of irrigation water to the fields.

While the actual increase in runoff between pre-development and post-development would depend on the cropping program and when the fields were last irrigated in relation to the rainfall event, this concern by industry is valid.

A review of the actual rainfall runoff and the modelled historical runoff could be made in the future and the calculated average percentage of runoff used for calculating runoff take could be adjusted, if necessary.

c. The Northern Valleys Irrigators Groups all agreed that rainfall is scarce and estimating rainfall (runoff) based on historical events would be an easier solution.

Agreed – see **Section b** above.

It would obviously be more rigorous to directly measure the captured rainfall runoff at each event. This would only be possible, however, in the events where rainfall runoff was the only input to the gross storage volume increase measured. This would be rare.

d. The inclusion of rainfall runoff is creating an overly complex monitoring methodology and is central to recording and reporting difficulties.

This concern has considerable merit. Including every rainfall runoff event as a FPH event increases the frequency of FPH reading, recording, calculating and reporting.

It also means irrigators need to manually read gauge board before and after each rainfall event. This would be unpleasant and potentially dangerous during a rainfall event especially in the middle of the night. Events would be missed and accuracy of the reported FPH take would suffer.

Section b above offers one solution.

e. The industry has historically been required to capture rainfall runoff.

Any rainfall runoff from an irrigation farm (any farm in fact) potentially contains:

- Insecticides;
- Herbicides;

- Nutrients; and
- Silt.

Discharge of that potentially contaminated runoff into a river system would be an offence under the NSW Clean Water Act 1970.

The irrigation industry worked with the NSW EPA in December 1993 (Environment Guidelines for the Management of Irrigation Farms, by Barrett Purcell & Associates Pty Ltd, Narrabri NSW – December 1993) to manage the problem of stormwater runoff being discharged from irrigation farms and other issues.

It was decided to manage the issue by capturing and holding, on farm, the first flush runoff. The volume was originally based on 12mm of runoff over the developed area.

This runoff was to be held in storage on farm until the contaminants had broken down. Alternatively, any stormwater runoff was to be tested for contaminants before discharge from the farm. Unfortunately, reliable and affordable field-testing equipment for water did not eventuate.

The depth of runoff to be held as first flush runoff changed several times since 1993 and a depth of 15mm over the developed area is now generally accepted.

Discharge of contaminated water from an irrigation farm is still an offence under the Clean Waters Act 1970.

Discharge of stormwater runoff from an irrigation farm during a storm is therefore very problematic. New discussions with NSW EPA may have merit to clarify their current position.

Industry requires clarification on what they should do with stormwater runoff if their FPH allocation is already captured.

It is unreasonable to put an irrigator in the position of either breaching the Clean Waters Act or breaching his FPH licence conditions.

FPH Account Going into Debit

The current FPH Strategy allows an irrigator to go up to 0.55ML/ha over the allocation to allow for holding contaminated first flush runoff. The nominated 15mm over the developed area is equivalent to 0.15 ML/ha. The account debit approach, therefore, allows for 3.7 first flush storm event captures over and above the total FPH full allocation.

While it would make more sense to allow for 4 events (0.6ML/ha), the irrigator has the option of deducting the over allocation take from the next “available water determination”.

The definition of the next “available water determination” needs to be clarified and the process for cancelling the debit or overtake needs to be very clear.

If the deduction comes from a regulated or unregulated licence, the irrigator would then suffer the seepage and evaporation losses while storing the water until it is required for irrigation. If the allocation deduction happens soon after the event the loss is small. If the over capture of first flush happens at the end of a crop season or just after the last irrigation of the cropping season, the seepage and evaporation losses before use of the water could be high.

Irrigators need to fully understand the process so they can make decisions to not take FPH or discharge some stored water back to the riverine environment or deduct the overtake from the next water inflow.

f. Is reading and reporting expected for every storage?

It would have to be unless a storage was not able to store captured FPH Take. If a storage is connected to the supply or drainage system, it can normally store FPH Take.

g. Concern regarding reporting a FPH take when moving water through multiple storages.

If it was necessary to have inter-storage transfers during an FPH event, this would further complicate partitioning of storage volume changes to account for FPH Take but could be done.

It would normally be possible to stop inter-storage transfers once an FPH event started and record the storage volumes.

h. How is reporting done when a rainfall event occurs in only part of the farmed area?

This would be relatively common on large farms. On any farm it is possible to split the farm into zones and treat them separately. Unfortunately, this would only increase the already onerous reading, recording, calculation and reporting task.

The FPH Take can still be determined using the farm as a whole as it is only necessary to determine the gross water volume change in the storages and then subtract the other sources of water which are not FPH Take.

It would be good practice to have rainfall gauges at each Permanent and Buffer Storage and elsewhere over the farm. It is common practice to have several rainfall gauges set up over different sections of a farm. This is done to help the irrigator know the moisture status of the irrigated fields.

If the average annual runoff percentage option detailed in **Section b** above was adopted, then the same approach would need to be taken.

Both options are manageable but would add to the reading, recording, calculating and reporting task for the irrigator.

i. How are evaporation and seepage losses offset in the account balance?

Every time water is added to an earthen drain, channel or storage losses occur as:

- initial wetting of the channel, drain or storage floor and side batters;
- continuing seepage losses through the floor and sides of the channels, drains and storage; and
- evaporation losses from the exposed water surface of the channel, drain or storage.

Seepage and evaporation losses in storages covering large areas is the largest water loss to an irrigation enterprise over the irrigation season. Seepage and evaporation losses from channels and drains are significantly less because the water surface area and the floor and side areas are significantly less than for a storage.

Evaporation losses can be linked to measured reference evapotranspiration (Eto) provided by the Bureau of Meteorology from the SILO Data Set available for any location in Australia (Lat. and Long.) The evaporation loss from an exposed water surface is generally around 1.0 x Eto but can vary from 0.8 to 1.2 x Eto. Evaporation losses can therefore be calculated if required.

If an automatic storage meter collects continuous storage water depth loss when there is no water inflow or outflow, then the rate of water depth loss is known. Further, the depth loss can be divided into evaporation and seepage components using a regression technique analysis developed by the University of Southern Queensland, Toowoomba with Aquatech Consulting in the early 2000's. A summary of the measurement and analysis methods can be found in "Storage Seepage and Evaporation, Final Summary of Results, Cotton Storage Project 2011 by Cotton Catchment Communities CRC, 2011."

The losses from evaporation and seepage can therefore be calculated for locations and soil types for channels, drains and storages as required.

The seepage and evaporation losses from a FPH Take, however, would be very small because of the length of time involved in capturing and storing the water. The losses are further reduced during an FPH event if there is rainfall during the event.

The largest potential loss in capturing FPH water would occur when the take is initially diverted into a dry storage (Permanent, Buffer or Temporary) and held for some weeks. The main loss would be in wetting up the floor of storage on initial fill. A loss of between 0.5 and 2.5 ML/ha of storage area is possible.

This loss would not be included in the reported FPH Take if the take is based only on the change to the Permanent Storage volume.

Even if a set of gauge boards and/or a storage meter was installed in the Buffer or Temporary storage, the wetting up of the floor and sides of the embankment is still a loss against the FPH Take. The same applies to a Permanent Storage that is dry when the FPH take is diverted into the storage. Evaporation losses are also a loss to FPH Take in any gauged storage but are small if the total time for the FPH event is short. It is unlikely that calculation of storage evaporation and wet seepage losses is worthwhile, as they would be very small during a typical FPH event.

If it was decided to allow for soil wet-up losses in any storage, channel or drain, then added recording complication and calculations would be required for each FPH take. The losses recorded would be relatively small, however, and a policy decision would be needed to handle this.

The present strategy measures the FPH Take based on changes to the Permanent Storage volume. Evaporation and seepage losses during storage and use of that FPH take are, therefore, against the irrigator. This is the same for metered surface and groundwater held in storage.

j. Is the environment (assumed to be the “Environmental Water Holders”) as a licence holder charged for rainfall runoff?

The Commonwealth and NSW Environmental Water Holders deliver water from regulated storages on the river systems to environmental assets in the river systems.

The environmental water holders do not capture and store FPH take (including rainfall runoff) and therefore are not “charged for rainfall runoff”.

k. Consideration should be given to event-based reporting better reflecting the irregular nature of the business activity. Event based triggers would alleviate the reporting burden and challenges of keeping iWAS continually live. The trigger can be a major river flow or rainfall runoff event.

The current definition of a FPH event is “the collection, extraction or impoundment of water flowing across floodplains, including rainfall runoff. It excludes water taken under a category of access licence other than a floodplain harvesting licence, a basic landholder right, a relevant licence exemption or used irrigation water.”

The concept of event-based reporting would be impractical to adequately meet the requirements of the current Draft Floodplain Harvesting Monitoring and Auditing Strategy and FPH definition.

FPH Take is not just take from river or creek floods but from on-farm rainfall runoff and from any water flowing across floodplains. Flows from heavy rainfall events could generate significant runoff from local catchments on the floodplain without causing flooding in rivers or creeks.

It would be almost impossible to manage event-based triggers from anywhere except the farm involved.

l. Some irrigators would be challenged as they do not have the capacity to provide the level of detailed information required.

This is a valid concern. Compared to the reading, recording and reporting requirements for other licenced take from regulated or unregulated surface water and groundwater, the FPH requirements are onerous. The proposed policy is likely to require the most onerous reading, recording, calculation and reporting ever seen in the Australian Irrigation Industry.

A mixture of measurement, activity recording and modelling/calculating and estimation is required on nearly all farms during the irrigation season when the irrigation infrastructure is being used to irrigate crops. It is not a simple task.

Any options to simplify these tasks would be very beneficial to the irrigator and the NSW Government Departments managing and auditing the FPH Take.

There also needs to be clarification of what records need to be kept by the irrigator and what detail needs to be reported.

Some concern was voiced about the potential for over collection of data and the need for a more streamlined process.

The current proposal will impact significantly on the cost of data collection and analysis for both industry and NSW Government Departments.

m. Will the existing *i*WAS Water Accounting System be capable of handling the data required for FPH take?

Concern was raised that the current *i*WAS system had some issues handling current licence reporting requirements and would need significant upgrading to handle FPH recording requirements.

This is a legitimate concern and it is almost inevitable that some modifications to *i*WAS will be required.

It was also noted that a convenient way of monitoring account balances for FPH take would be required and *i*WAS may be able to facilitate that.

n. Could a FPH event only be triggered when an irrigator pumps?

Under the current strategy, this is unworkable. FPH Take can simply be water flowing over the floodplain that enters the farm infrastructure by gravity and is captured in a storage without pumping.

o. It is better to take more water from large events and less in low to medium events. How can this be encouraged?

The present policy of allowing 0.55 ML/ha of over allocation in wet years when discharge of first flush rainfall runoff is not prudent goes some way towards this goal.

Having variable allocations depending on the seasonal conditions, however, would only add more complexity to an already onerous and complex strategy.

The benefits would be useful but not large.

p. Holding FPH take in temporary storages which are not metered may reduce the FPH take measured but will lead to inefficient use of captured water.

Definition

The current definition of a temporary storage is “surge areas, sacrifice fields, supply channels, water distribution networks and other areas where water is collected or impounded opportunistically and for periods of less than a few weeks.”

“The practice of using temporary storages to collect or impound floodplain water will be permitted but will be subject to the following conditions:

- Direct extraction from temporary storages must be measured, either by routing through a monitored permanent storage or via a meter that meets the requirements of the NSW Water Metering Framework. Direct extraction from temporary storages via a meter must also be recorded as flood plain harvesting use”.
- Diversion (such as through a pump, pipe, regulator or channel) into sacrificial fields can only be undertaken when monitored permanent storages are full. For the purpose of this condition uncontrolled flood flows overtopping into the field or rainfall run-off from that field are not classified as diversion”.

“Direct temporary storage extraction via a meter must only be undertaken if this is permitted by the relevant water supply work approval. Note that an amendment to the initial water supply work will be required if this practice is intended”.

The definition and operation of Temporary Storages is, therefore, quite well defined in the draft strategy. The only “grey area” is the length of time that water can be stored in the temporary storage. It may be better to specify a 21 day maximum to prevent any confusion about “a few weeks”.

Operation

If a Buffer or “Temporary storage” is used for more than say 21 days, then it should be monitored as a “Permanent Storage”. Ultimate transfer to the main Permanent Storage would then be recorded as inter-storage transfer.

An irrigator then has the option of using the Buffer Storage as a temporary or permanent storage under the FPH definitions depending on how the irrigator would like to use the farm infrastructure.

The process of “routing through a monitored permanent storage” in Condition 1 above will generally result in additional pumping costs and may or may not save water

depending on the surface area of the permanent storage and whether the Permanent Storage contains water or is dry.

These decisions must be left to the irrigator to run the farm infrastructure as he/she wishes.

Most irrigators will have to use temporary storage before the permanent storage is full because the capacity of farm infrastructure to pump into the permanent storage is insufficient to match the rainfall runoff flow to the permanent storage. The second condition above may need modification to account for this.

Metering of temporary storages would be the same as for the permanent storages. Initially, gauge boards and logbooks, then more refined automatic storage meters as required.

In this way metering multiple entry points which is typical of temporary storages will not be required.

q. Irrigators require flexibility to allow water to be used directly from temporary storages as it may be costly and inefficient to pump all FPH water through a permanent storage. This could lead to business inefficiencies.

This is a legitimate concern and is covered adequately in the draft strategy (see **Section p**).

r. The requirement to use temporary storages only when permanent storages are full is impractical and difficult to accomplish in large events. Unnecessary enforcement issues could result.

The detail in Condition 2 above needs to be confirmed to reduce confusion. It appears that the definition of “surge areas” as Temporary Storages covers the concern and “uncontrolled flows” appears to cover rainfall runoff flow that requires the use of surge areas before the permanent storage is full. This, however, needs to be confirmed.

It is unclear why this condition, that the Permanent Storage must be full, is necessary. If an irrigator wants to flood a sacrificial field or fill a surge area to improve FPH take or drain cropped fields when the permanent storage is partially full, then that should be permitted provided that take is included in the FPH Take. It may be necessary, depending on the farm infrastructure and the way rainfall runoff is handled, to automatically divert uncontrolled flows into sacrificial fields in the low section of a farm well before the Permanent Storage is full.

- s. Rainfall Runoff captured from an irrigation farm will all have nutrients and potentially some herbicides and pesticides. Discharge of rainfall runoff after “first flush” is therefore problematic. The release or discharge of captured rainfall runoff is therefore problematic even if the FPH allocation is about to go into debit. A clear definition of the debit volumes and conditions are required.**

The current strategy allows a FPH allocation debit of 0.55ML/ha, which would then be “deducted from the next available water determination”.

A clear definition of how the “over allocation or debt” would be “deducted from the next available water determination” is required.

It is also necessary to define whether the 0.55 ML/ha is applied over the developed area or the cropped or “green” area.

Discharge of captured FPH take from a storage after a settlement period to allow break-down of “pollutants” is theoretically possible but is still problematic.

Firstly, the period of settlement for pollutant breakdown is unknown, and the availability of reliable and practical water testing is also unknown. Secondly, it is often difficult to discharge stored water “back to the environment”. Where does the irrigator discharge the water to and what additional delivery infrastructure is required to allow discharge?

It would be pointless and wasteful to “run the water out on the ground beside the irrigated area”. Carry over of debit and reduction of the next water take seems the most reasonable option provided the conditions are clear.

The comment that the Department of Industry should re-open discussions with the NSW EPA regarding first flush capture and storage may have merit.

The adoption of a first flush capture approach was a “compromise decision” in 1993 between NSW EPA and the cotton industry to negate the need to licence pollution from every irrigation farmer in NSW.

The first flush “solution” does not, and never did, indemnify an irrigator from polluting the riverine environment by releasing rainfall runoff from the irrigation farm.

- t. What happens if the FPH entitlement is not sufficient to meet the long-term average rainfall runoff? This could push irrigators back to being a polluter as some rainfall runoff will have to be discharged to the riverine environment.**

This is a hypothetical situation but does reinforce the need to clearly understand how the FPH entitlement can go into debit.

It is always possible that an irrigator may decide not to capture FPH if his entitlement and cropping program does not suit.

- u. There are concerns over the onus of proof and the difficulty in verifying the management of water from diffuse sources based on modelling and estimation.**

This is a valid concern as the task of determining the correct FPH Take can be complex and technical and based on modelling, calculation and estimation as detailed

above and in **Part C** below. The onus is on the irrigator to get it right or face non-compliance enforcement.

Realistic enforcement and assistance to comply would be very beneficial as the industry has not faced reading, recording, calculating and reporting conditions anything like this for water take before.

v. Concern that the Department requires very detailed recording and reporting but only requires gauge boards and logbook entries to verify the details.

This observation is correct and valid. From irregular observations and recordings from gauge boards in storages and water meters on river pumps and bores, the irrigator is expected to identify FPH Take. To do this it is necessary to partition water from various sources flowing through irrigation supply, storage and drainage infrastructure for different purposes simultaneously. Some of these flows like irrigation tailwater return (used irrigation water) and water diverted from metered water inflows to irrigate fields are not measured. Neither is rainfall runoff measured at any point (only rainfall). This is a complex and technical task and requires estimation (best guesses at times), modelling and water balance calculations (see **Part C** and **Appendix D**).

This issue is a large problem for both the industry and WaterNSW and NRAR. Any modification to simplify this process should be encouraged.

w. Enforcement of the FPH take would be difficult because the proposed strategy is too complex to defend in Court.

This is a legal question, but the court action would be complex for both parties.

x. How accurate is remote sensing and, in particular, LiDAR to be used to verify compliance.

It is proposed to use LiDAR and other satellite based remote sensing to check compliance for FPH Take.

The accuracy of the remote sensing presently available may not be as accurate as gauge boards and not as accurate as storage meters, but the remote sensing will pick up date stamped water level changes and an approximate magnitude of that change.

This would be the first step in further investigations.

The use of LiDAR for storage depth/volume/surface area curves (Storage Curves) is satisfactory when a storage is empty provided the right software is used to “smooth-out” the raw data. If the storage inlet/outlet is above the lowest internal borrow depth, then the zero-water depth must be modified.

y. How will the Department verify the amount of tailwater returned from different farms?

This is discussed above and in **Part B** below. There will be some occasions where reasonable measurements are possible, but this may have to be done just for that purpose to establish the typical tailwater return volume.

Modelling of typical fields using the Sirmod or SISCO computer modelling could also be used.

These processes, however, are not commonly done now and may have to be done just to provide a basis for determining irrigation supply and tailwater return volumes from irrigation.

z. How would tailwater from a neighbouring farm be managed and accounted for?

This is an unusual situation because irrigation tailwater is a low volume and controlled drainage component and nearly every irrigation farm now recycles and reuses its own irrigation tailwater. Those that do not, should.

A more common situation is where the uncontrolled rainfall runoff from a neighbouring farm would “blow-out” from that farm drainage system to a downstream neighbour. This would occur when the flows exceed the first farm’s infrastructure capacity. This water could then be captured by a downslope or downstream farm.

This situation would mean the water flowing over the floodplain from an upstream farm and captured by the downstream farm is FPH Take in the hands of the downstream or downslope farm.

a.1 Some farms may need targeting for compliance while others don’t. Farms operate differently, how will the department determine who to monitor?

This draft FPH monitoring and auditing strategy clearly details how “verification, auditing, investigating and enforcement” will be handled.

NRAR will be applying a “risk based” approach “to ensure compliance monitoring is focused on issues that are the most important or have the highest potential consequence”.

This is a reasonable approach.

A.2 Critical Issues

From the above a number of critical issues have emerged.

These include:

1. Partitioning metered Supply Water and other inputs to storage from FPH Take;
2. How to handle Rainfall Runoff;
3. How to determine the irrigation application volume and tailwater return volumes; and
4. How to handle “Temporary Storage”.

Appendix D has a comprehensive list of the information required to calculate FPH take as well as the calculation procedure.

A.2.1 Partitioning Metered Water Supply and Other Inputs from FPH Take

The measured change in Permanent Storage volumes read and recorded by either gauge boards or storage meters before and after a FPH event is not only caused by FPH Take. Metered water from surface and groundwater sources are directed to storage via the farm supply channels. This metered water is also diverted simultaneously to irrigate fields on the way to storage and the tailwater coming back from fields being irrigated also needs to be accounted for. As well, any volume changes from supply channels, tailwater drains and Buffer Storages needs to be considered. In some cases, storage losses from seepage and evaporation and the wetting-up of the soil in dry storages also needs to be allowed for. There is currently no measurement of water onto fields or tailwater return from fields. This makes managing FPH take event by event very difficult. Modelling, sample measurement and estimation of components of the water balance is necessary. This is not ideal.

A.2.2 Rainfall runoff

Treating each on-farm rainfall runoff event as a FPH event will increase reading, recording, calculation and reporting frequency significantly. The reading, recording, calculation and reporting requirements for the current FPH Strategy are the most onerous requirements seen in the Australian Irrigation Industry.

A balance is required between frequency of reading, recording calculation and reporting and the complication of modelling actual rainfall runoff as detailed in **Section A.1.3.b** above.

Separating RRO from OLF will reduce frequency but add complication and reduce accuracy.

Irrigators feel strongly that the increased runoff from a developed irrigation farm due to the act of irrigating fields before rain and providing landformed fields and a drainage system should not be part of the FPH Take.

Modelling rainfall runoff for the greenfield land conditions (predevelopment) over the developed irrigation area to establish FPH Take seems an equitable method of establishing the take but again this introduces complication. Not separating RRO from OLF and allowing a discount for additional runoff is another option.

If the final strategy retains RRO from the developed farm as part of FPH Take, and each rainfall runoff event is defined as a FPH event, then there is no need to separate a FPH event into the components of RRO and OLF. The FPH take is simply the total take as calculated using the procedures detailed in **Appendix D** below.

A.2.3 Irrigation Application Volume and Tailwater Return Volume.

One option to establish the volumes onto and off fields during irrigation involves a combination of measuring typical siphon or pipe through the bank flows onto typical fields, the water advance rates down the field and the furrow shape and slope. This would allow surface irrigation modelling (Sirmod or SISCO) to calculate the volume of water applied to the field and the volume of tailwater coming off the field.

This process would calculate typical supply volume in ML/ha onto irrigation fields and a tailwater return volume in ML/ha from the fields which could be extrapolated over the farm. This would fill in two of the water balance variables needed to calculate FPH Take on an event by event basis. This process, however, is time and labour consuming and costly.

The volume of water applied onto and draining off a field will also, however, change with different flow rates onto the field and different irrigation set times (irrigation practice). It is therefore important to re-establish and modify the calculated volumes on and off irrigation fields if irrigation practice changes.

Direct measurement of the volume of water delivered from storage to a field or group of fields and the tailwater return volume coming back off the same fields to the storage may also be possible to establish these parameters. This would probably require a special operation specifically to separate and establish these volumes. Care would be necessary to hold the irrigation tailwater in the drainage system until all

irrigation water is supplied. After storage measurement, the tailwater could then be returned and measured separately. This process is also time and labour consuming and may not be part of the normal irrigation practice.

Typical volumes of water delivered onto irrigation fields and coming off as tailwater for common furrow irrigation have been measured since the early 2000's using the Irrimate™ measuring and modelling system.

A public Final Report from the Cotton Catchment Community CRC – Project Number 1.02.28 – Tilted “Benchmarking furrow irrigation efficiency in the Australian Cotton Industry” is useful to determine typical irrigation practices.

The volume of water applied to fields from centre pivot or lateral move sprinkler machines is easy to measure using a meter in the pipe.

A.3 Water Balance for a Typical Farm

A potential auditing tool for both irrigators and NRAR would involve completing an annual on-farm water balance to check the total available water against crop water requirements and system water losses. If the FPH Take is correct, these two elements should be equal.

A.3.1 Inflows:

- Metered surface water;
- Metered ground water;
- Direct rainfall (onto fields and onto storage, drains and channels) (calculated);
- Captured rainfall runoff from fields delivered to storage (modelled);
- Captured overland flow FPH from outside the development area delivered to storage (metered or calculated);
- Change in storage volumes start to end (measured); and
- Change in soil moisture reserve in green fields start to end (measured or estimated).

A.3.2 Consumption:

- Crop water use (crop evapotranspiration calculated from Eto and crop factors).

A.3.3 Losses: (in order highest to lowest)

- Evaporation and seepage from the storages (permanent and temporary - calculated);
- In-field irrigation application losses (deep percolation- measured or modelled);
- Evaporation and seepage from the supply system (calculated);
- Evaporation and seepage from the drainage system (calculated); and
- Operational losses like overtopping channels and drains resulting in water lost from development area (measured or estimated).

A.3.4 Analysis

Software programs are commercially available like WaterTrack™ to complete the whole farm water balance. Alternatively, dedicated spreadsheets and calculators can be developed and used.

The “out of balance” value between available water and consumption plus losses will provide an accuracy check on reported FPH Take.

A.4 Reading, Recording, Calculation and Reporting

The requirements set out in the Draft Strategy are suitable but the onerous. Significant calculation is also required after recording and before reporting.

Policy issues raised by Industry and discussed in this report need to be finalised and policy set before the final reading, recording, calculation and reporting details can be determined.

Appendix D outlines the reading and calculation requirements for the current draft strategy.

Continuously reading and recording automatic storage meters with telemetry are strongly recommended for accuracy and convenience and would also allow for collection of other necessary data required for FPH calculation. This additional data would also be very beneficial for auditing.

A.4.1 Reading

Continuous and preferably automatic storage monitoring of depth, storage volume and water surface area of all Permanent Storages and Buffer Storage is recommended strongly. Gauge boards would still be required to allow NRAR to easily check storage meter accuracy on site. Gauge boards also provide a robust back-up to measure when storage meters are down or damaged. All normally metered inflows of surface and ground water should be available but require date and time stamped output to allow for critical measurements at the start and end of a FPH event. All zones of the developed irrigation area must have rainfall gauges and all storages should also have gauges.

If OLF needs to be separated from FPH take, a continuous time stamped metered structure at the entry point of all overland flow FPH should be installed.

Appendix D outlines the reading and recording information required based on the current draft strategy.

A.4.2 Recording

Appendix D details the necessary data that needs to be recorded to calculate FPH Take based on the current draft strategy.

Storage seepage and evaporation loss calculation and recording may not be necessary for FPH event which only last for less than 10 days because the losses are too small.

Longer events may require storage evaporation and seepage loss calculation.

Losses caused by diverting FPH Take water into dry storages (including Buffer Storages) will have significant initial wet-up water losses and should be calculated depending on the final policy details.

A.4.3 Reporting

The aim is to:

- Report FPH take as required by the Draft Strategy; and
- Complete a water balance annually on 30th June (due 31st July).

Industry have three main concerns with reporting:

- (i) The frequency and detail required;
- (ii) The responsibility on the irrigator to self-report and to get it right; and
- (iii) Will the existing iWAS system handle the detail required for FPH Take reporting.

A.5 Other Issues

General submissions from outside the industry consultation meetings were received and reviewed. Much was made of sustainable diversion limits and environmentally sustainable level of take and how the currently unmonitored FPH take would “fit in”. Because the focus of this report is the Monitoring and Auditing Strategy these have not been discussed.

The following additional issues on monitoring and auditing were detailed by industry groups and individuals.

A.5.1 Changes to Irrigation Infrastructure

Any changes to the irrigation infrastructure which could potentially change FPH Take must be approved by WaterNSW and noted on any licenced works.

A.5.2 Trading

Not much was said at the industry consultation meetings about trading, but the general submissions received did have concerns.

Most were regarding the continued ability of a FPH seller to be able to capture FPH Take and how that is handled. Is it necessary to remove licenced works or block-off

uncontrolled inflows? What happens to the RRO capture which will still happen on the seller's farm?

These issues need to be addressed in the yet to be finished "Trading Framework". Trading FPH take has its limits and is problematic as rainfall runoff will still occur on the seller's farm.

A.5.3 Carry-over of FPH Take

There shall be water years when little or no FPH take is available. Do carry-over rules apply?

A.5.4 Monitoring Equipment

Many non-industry submissions strongly supported use of the more accurate automatic and continuous recording storage meters which download data by telemetry.

The use of gauge boards, logbooks and self-reporting did not get support outside of the industry. The feeling was that the proposed gauge board, logbook and self-reporting system was too open to abuse and was not accurate.

A.5.5 Temporary Storage

Non-industry submissions could not understand why temporary storages were required and felt they should not be used. This indicates a lack of understanding about how an irrigation farm operates during rainfall runoff.

A.5.6 Water Balance Concepts

Some submissions recommended an annual whole farm water balance option without really understanding how that could be done (see above). Whole farm water balance requires detailed recording and calculation and is currently done using commercial software packages like WaterTrack™. It is quite detailed and technical to complete a whole farm water balance by hand or using simple spreadsheets.

Whole farm water balance does have a place for auditing and self-checking of FPH Take, however.

Part B - Frequency Analysis for Rainfall Runoff and Overland Flow Events

B.1 Introduction

To assist with understanding the frequency of FPH events (and therefore the reading, recording, calculation and reporting time requirements) an analysis of the number of RRO and OLF events for a farm near Narrabri and a farm near Warren, NSW was completed.

B.2 Basis of Analysis

Two fictional farms with 250 ha of irrigated cotton located at the Mollee (Narrabri) and Haddon Rig (Warren) Bureau of Meteorology rainfall stations were selected to determine the number of RRO and OLF events in wet and dry years.

The RRO analysis was based on the daily rainfall records at each Bureau Station. The runoff was calculated using the daily rainfall runoff model developed by the US Soil Conservation Service, Department of Agriculture (USDA, 1971).

The analysis was based on straight row cropping with soil group “C” (“medium soils and shallow soils having below-average infiltration when thoroughly wetted. For example, clay loams”)

The soils were assumed to be in good hydrologic condition with a Catchment Index (KII Value) of 83.

The analysis was based on identifying the 5-day antecedent rainfall to select one of three catchment index values. The threshold rainfall depths to change catchment indices are assumed to change between summer and winter seasons.

B.3 Results

Appendix B contains the full details of the analysis of the Warren and Narrabri cases for the:

- Driest Year;
- Wettest Year;
- Typical Dry Year; and
- Typical Wet Year.

The selection of the wet and dry years for analysis was based on **Figure 6.1** and **Figure 6.2**. The selected years are highlighted.

Table 6.1 details the number of RRO and OLF events for each case and each farm and the average annual percentage of rainfall runoff.

The volume of RRO in the last column of the spreadsheets in **Appendix B** is based on the rainfall runoff volume in megalitres from 250ha. A rainfall runoff event with less than 5ML of runoff from 250ha is ignored and not counted as an event. Rainfall runoff of less than 5ML would normally just remain in the tailwater return drain until the next irrigation. Narrabri on 3rd February 1994 is an example of such a small event. This is an arbitrary selection criterion based on practical tailwater operation. Different RRO event counts would result if this 5ML cut-off criteria was changed. Alternatives can easily be checked using the last column in the spreadsheets in **Appendix B**.

Table 6.1 – Rainfall Runoff and Overland Flow Events

	Number of Events			
	Driest 1994	Wettest 2004	Dry 1982	Wet 1998
Narrabri Farm (Mollee Bureau Station)	5 x RRO	10 x RRO	4 x RRO	10x RRO
	0 x OLF	1 x OLF	0 x OLF	2 x OLF
	19% Runoff	31% Runoff	13% Runoff	17% Runoff
	Driest 1994	Wettest 1950	Dry 1986	Wet 1969
Warren Farm (Haddon Rig Bureau Station)	1 x RRO	8 x RRO	3 x RRO	11 x RRO
	0 x OLF	2 x OLF	0 x OLF	2 x OLF
	4% Runoff	21% Runoff	7% Runoff	13% Runoff

B.4 Discussion

Rainfall Runoff

The calculation of the RRO from the developed area (assumed to have an irrigated cotton crop for this exercise) is straight forward. The USDA rainfall runoff model was selected because Aquatech Consulting has done previous work comparing measured catchment performance against the USDA modelled results and the annual performance correlated well. Like all rainfall runoff models, individual event results will vary predominantly because of rainfall intensity. Until rainfall intensity is measured and recorded, the USDA model is considered as good as any other model currently used.

Overland Flow

There is no simple way of calculating the OLF component of FPH Take based on farm daily rainfall. Each farm has a unique position in the floodplain and will experience OLF capture under different circumstances.

Generally, there needs to be general heavy rain over the district before overland flow occurs. Predicting OLF is quite difficult without regional modelling.

For this exercise an “educated guess” at the number of OLF events has been made based on the number and magnitude of on-farm RRO events from each wet period shown in the last column of the spreadsheets in **Appendix B**.

Regional Modelling from the Department’s own work and reference to the Floodplain Harvesting Behaviour Survey results may be able to better define the OLF component of FPH take.

Part C - Calculating Floodplain Harvesting Take

C.1 Introduction

This section of the report addresses four objectives:

- (i) To develop a simple FPH Take Calculator and use it on a sample farm;
- (ii) Complete a number of FPH calculations on the sample farm to determine the sensitivity of FPH Take volume to assumptions about the volume of water applied to irrigation fields and the volume of irrigation tailwater (used irrigation water) draining off the fields after irrigation;
- (iii) To develop a comprehensive step by step process to calculate FPH Take based on policy assumptions provided; and
- (iv) Complete a sample complex FPH Take calculation and provide a list of the information required to be read and recorded and an explanation of the process used to complete the FPH Take calculation.

C.2 Discussion

Unfortunately establishing FPH Take volume is not a simple matter of reading and recording a meter or a gauge board in Permanent Storages.

FPH Take consists of a RRO component and an OLF component. The current Draft Floodplain Harvesting Monitoring and Audit Strategy is based around measuring volume changes in Permanent Storages during a FPH event.

As detailed in **Part A** above, the volume change in storage during a FPH event can consist of components from:

- RRO;
- OLF;
- Some or all of metered surface water brought onto the farm during the event;
- Some or all of metered groundwater brought onto the farm during the event;
- Irrigation tailwater drained from fields being irrigated during or just prior to the event; and
- Direct rainfall onto the storage water surface.

While seepage and evaporation losses in channels, drains and storages during a FPH event over a 10 or 20 days would be very small and can be ignored, capture of a FPH event into an empty and dry storage could result in significant losses of between 0.5 to 2.5ML/ha of storage area wetting up a dry floor and walls. This could be a significant volume and should be included in the FPH take volume.

While not all the components above will contribute to the FPH take for each event, a “FPH Calculator” must be capable of including each component required for a complex FPH event occurring while an irrigation event is also occurring.

C.3 Instructions on Policy Assumptions

Following several phone meetings between late April and early June 2019 between Aquatech Consulting Pty Ltd and Department of Industry, a list of assumptions was provided to clarify the basis of FPH calculations as follows:

1. That we will use continuous storage data loggers to measure on-farm storage volume changes.
2. Seepage and evaporation from water entering into a dry storage is not included in the modelling for floodplain harvesting entitlements and therefore does not need to be accounted for as floodplain harvesting take unless landholders would like to claim direct rainfall on storage (please see method below).
3. The default position for determining floodplain harvesting take will be based on the net change to on-farm storage during a floodplain harvesting event i.e. any rainfall runoff or overland flow event where water is transferred to permanent storage.
4. To claim tailwater returns, a landholder must keep an irrigation diary for all irrigation fields. The volume of tailwater returns claimed during a floodplain harvesting event must be no greater percentage of tailwater returns than the average from normal irrigations cycles without floodplain harvesting in the previous cropping season. This percentage is to be determined by an analysis of continuous storage level data collected throughout the previous season.
5. To claim direct rainfall on the storage, a landholder must keep daily on-farm rainfall records. The volume claimed must be no greater than what results from the following calculation. Daily direct net rainfall on storage = daily storage surface area * (daily rainfall - daily evaporation - daily seepage). Surface area would be calculated based on the corresponding surface area to storage depth at the time.

6. To claim other licensed water returns to storage, a landholder must keep a diary of when this occurs. The volume claimed must not exceed the metered volume taken. We assume that all this water is likely to be metered with a time stamp attached to the take of this water so there should be an almost direct time correlation between water pumped from the river or groundwater and an increase in storage volume.

C.3.1 Testing a Simple Farm

The Farm

To demonstrate the use of a simple FPH calculator and to test total FPH Take sensitivity to assumptions, a “typical” farm at Narrabri was selected. This farm had 600ha of irrigated cotton with a 1350ML storage with a water surface area of between 15 and 23ha.

The full 600ha of crop was irrigated over 6 days for each irrigation cycle at 100ha per day from a combination of metered river and groundwater and storage water with irrigation cycles starting on:

- September 23rd;
- December 15th;
- December 30th;
- January 10th;
- January 20th;
- January 30th;
- February 11th; and
- February 26th.

The Results

Appendix C contains the results of calculated FPH Take for the selected “typical” Narrabri farm.

The rainfall used for calculation is the actual rainfall taken from January 2004 to December 2004 from the Bureau of Meteorology rainfall station at Mollee near Narrabri. That is, the actual rainfall from Mollee was used for 1/7/04 to 31/12/04 and the actual rainfall from Mollee from 01/01/04 to 30/06/04 was used in the analysis for January 2005 to June 2005.

This was done because the RRO for Mollee near Narrabri in 2004 had already been calculated and is shown in **Appendix B**.

The results of the calculated annual FPH Take for various irrigation volume assumptions is detailed in **Appendix C** and summarized in **Table 7.1**

C.4 Sensitivity of Calculated FPH Take Volume to Irrigation

Volumes Used In-Field

A simple sensitivity check was completed to test the resulting volume of FPH Take calculated based on different assumptions for irrigation volume (ML/ha) delivered to the fields being irrigated during the FPH event and the assumed volume of irrigation tailwater coming back into storage from those fields irrigated during the event.

Table 7.1 shows the changes in the calculated FPH take for the same farm and rainfall but with different assumptions for water on and off irrigated fields during the FPH event.

The maximum variation in total annual FPH Take for this Narrabri example was 346ML/ year or 20% between assuming 0.8ML/ha was being delivered to the fields irrigated with 40% irrigation tailwater (1746ML) to 2.5 ML/ha delivered with 10% tailwater (2092ML).

Of interest is that in a wet year like 2004 with 10 irrigations and 10 FPH events, only two FPH events occurred while irrigation was in progress.

A FPH event occurring during an irrigation cycle is a random occurrence. A lower annual rainfall year could have more FPH events during irrigation based entirely on rainfall timing.

The example presented in **Appendix C** is just an indicator of the sensitivity of irrigation volume assumptions.

As shown in **Table 7.1** the range of irrigation volumes tested is large. These volumes are based on actual measured irrigation events taken by Aquatech Consulting using the Irrimate™ measurement system between 2002 and 2010.

As noted on **Table 7.1**, the “normal” range of application would be between 0.8ML/ha to 1.2ML/ha onto the field. Based on that assumed range, the total annual FPH take would vary between 1746ML to 1858ML or a difference of 112ML/year or 6%.

Application volumes of 1.4ML/ha would be on a very dry field in a limited water irrigation year and volumes of 2.0 to 2.5 ML/ha would normally only be seen on pre-irrigation of dry previously cropped fields before planting.

While calculations for other years and other valleys would refine these results, this brief analysis show that the sensitivity of annual FPH Take to assumed (non-measured) values for irrigation volumes on and off a field is not high.

Volume Applied to Irrigation Fields (ML/ha)	Annual Volume of FPH Take - Narrabri Sample Farm (ML)				Comments
	10% Irrigation Tailwater	20% Irrigation Tailwater	30% Irrigation Tailwater	40% Irrigation Tailwater	
0.8	1786	1770	1754	1746	Industry "Normal"
1	1822	1802*	1782	1762	Industry "Normal"
1.2	1858	1834	1810	1786	Industry "Normal"
1.4	1894	1866	1838	1810	Dry Season Irrigation
2.0	2002	1962	1922	1882	Pre-Irrigation
2.5	2092	2024	1992	1942	Dry Pre-Irrigation
	*Assumed Default Values				Table 7.1

C.5 Calculating Floodplain Harvesting Take Volume for a Complex Case.

To demonstrate the procedure required to calculate FPH Take volume in a more complex situation where a FPH event occurs during a typical irrigation event, another sample farm is explored below. This calculation process is completed in order to provide:

- a. A detailed list of the information required to calculate FPH take; and
- b. A step by step process for calculating FPH take.

C.5.1 Complex Case Background

This complex FPH calculation case is not on a complex farm (see **Figure 7.1**) but rather has a FPH event occur during irrigation when water is used for a number of purposes simultaneously.

During an irrigation cycle water is being delivered onto the farm and simultaneously being:

- Delivered to storage from surface and groundwater sources;
- Delivered to fields for irrigation from surface and groundwater;
- Drained from fields as tailwater and then delivered to other fields and storages; and
- Both the Permanent Storages and Buffer Storages are being used to receive and deliver water before, during and after the FPH event.

It is also necessary, particularly on larger farms, to account for any changes during a FPH event in the volume of water held in:

- The Main Supply Channels;
- The Tailwater Return Drains; and
- The Buffer or temporary storages.

On larger farms with several storages, it may also be necessary to divide up the farm into smaller sub-sections which work around each Permanent Storage. It would then be necessary to allow for Storage Transfers in and out of the storages between sections.

C.5.2 Complex Case – Farm Details

To understand the calculation of FPH Take it is first necessary to understand the farm. Below are the physical and operational details of the sample shown in **Figure 7.1**.

1. Irrigation Operations

Started irrigating 6:00am 31st January. Each irrigation set irrigates part of each of the five fields. As explained in **Section C.5.3 (3)** below, each irrigation set irrigates 71ha over 10 hours. Irrigation of the total irrigated area of 852ha takes 6 days.

From previous measurements on the farm typical irrigation volumes are:

- Water applied to fields – 1.2ML/ha;
- Irrigation tailwater flowing off fields – 0.4ML/ha; and
- Water infiltrated into soil in fields – 0.8ML/ha.

Each day set starts at 6:00am and stops at 4:00pm

Each night set starts at 7:00pm and stops at 5:00am next day.

That is, each 10 hour irrigation set applies (71ha x 1.2ML/ha) 85.2ML onto the fields, has (71ha x 0.4ML/ha) 28.4ML runoff the fields as irrigation tailwater and achieves (71ha x 0.8ml/ha) 56.8ML of water infiltrated into the soil in the fields.

Please note that irrigation set times and flow rates vary from farm to farm and from irrigator to irrigator depending on preference. Ten years ago, it was common to run 12-hour shifts from 6:00am to 6:00pm then again 6:00pm to 6:00am because of the convenience for farm labour. This practice was, unfortunately, over irrigating the fields and reducing irrigation efficiency.

The trend now is for 10 or 8 hour irrigation sets.

2. Surface Water

- a. The River Pumping Station is capable of delivering 220ML/day from the river to storage or fields via the Main Supply Channel.
- b. The Storage Pumping Station is capable of pumping up to 220ML/day and completing the following tasks:
 - Main Supply Channel to Storage by gravity;
 - Main Supply Channel to Storage by pumping;
 - Tailwater Return Drain to Main Supply Channel by pumping;
 - Tailwater Return Drain to Storage by pumping;
 - Storage to Main Supply Channel by gravity; and
 - Storage to Main Supply Channel by pumping.

3. Groundwater

There are two bores each delivering 8ML/day into the Main Supply Channel.

4. Permanent Storage

The two celled Permanent Storage has a total storage volume of 1,200ML when both 600ML cells are full.

Each cell has a water surface area of 10ha when full with 6m of water stored above ground.

Table 7.2 Storage Curve - Permanent Storage (each cell)

Depth (m)	Volume (ML)	Surface Area (ha)
0.0	0	0.0
0.1	10	4.0
0.2	20	4.1
0.3	30	4.2
0.4	40	4.3
0.5	50	4.4
0.6	60	4.5
0.7	70	4.6
0.8	80	4.7
0.9	90	4.8
1.0	100	4.9
1.1	110	5.0
1.2	120	5.1
1.3	130	5.2
1.4	140	5.3
1.5	150	5.4
1.6	160	5.5
1.7	170	5.6
1.8	180	5.7
1.9	190	5.8
2.0	200	5.9
2.1	210	6.0
2.2	220	6.1
2.3	230	6.2
2.4	240	6.3
2.5	250	6.4
2.6	260	6.5
2.7	270	6.6
2.8	280	6.7
2.9	290	6.8
3.0	300	6.9
3.1	310	7.0
3.2	320	7.1
3.3	330	7.2
3.4	340	7.3
3.5	350	7.4
3.6	360	7.5
3.7	370	7.6
3.8	380	7.7
3.9	390	7.8
4.0	400	7.9
4.1	410	8.0
4.2	420	8.1
4.3	430	8.2
4.4	440	8.3
4.5	450	8.4
4.6	460	8.5
4.7	470	8.6
4.8	480	8.7
4.9	490	8.8
5.0	500	8.9
5.1	510	9.0
5.2	520	9.1
5.3	530	9.2
5.4	540	9.3
5.5	550	9.4
5.6	560	9.5
5.7	570	9.6
5.8	580	9.7
5.9	590	9.8
6.0	600	9.9

A look-up Table (Storage Curve) of depth versus volume versus surface area is shown in **Table 7.2** for each cell at 10cm depth increments.

5. Buffer Storage

A Buffer Storage is located in the low corner of the farm and fills automatically by gravity from the tailwater return drain. It holds 210ML when full, with a surface area of 24ha. **Table 7.3** details the Storage Curve.

6. Main Supply Channel

It holds 210ML when operating (based on length x cross-sectional area)

7. Tailwater Return Drain

The Tailwater Return Drain is below ground and receives tailwater from each field and delivers the water to the Buffer Storage and/or the Permanent Storage Pumping Station. It holds 109ML when full (based on length x cross-sectional area)

8. Event Start

Heavy rain starts at 8:00am 1st February and rains until 7:30pm 1st February. The total rainfall measured at the Permanent Storage is 96mm.

9. Event Finish

The last of the RRO is pumped from the buffer storage by 6th February at 3:00pm.

C.5.3 Complex Case – Farm Operation.

To understand how the FPH take is calculated, the farm operational details need to be stated and understood.

The following operations are assumed for this case:

1. Surface Water

Metered surface water is pumped into the Main Supply Channel by the River Pump. This water is delivered to the Permanent Storage and irrigates fields simultaneously.

2. Groundwater

Metered groundwater is pumped into the Main Supply Channel from the two bores and is delivered to the Permanent Storage and irrigates fields simultaneously.

Depth (m)	Volume (ML)	Area (ha)
0	0.0	0.0
0.1	10.5	1.5
0.2	21.0	3.0
0.3	31.5	4.5
0.4	42.0	6.0
0.5	52.5	7.5
0.6	63.0	9.0
0.7	73.5	10.5
0.8	84.0	12.0
0.9	94.5	13.5
1.0	105.0	15.2
1.1	115.5	15.9
1.2	126.0	16.8
1.3	136.5	17.7
1.4	147.0	18.6
1.5	157.5	19.5
1.6	168.0	20.4
1.7	178.5	21.3
1.8	189.0	22.1
1.9	199.5	23.1
2.0	210.0	24.0

3. Irrigation Procedure

Irrigation is done by irrigating part of each of the five fields per set. Each set uses 100 siphons at 2 metre spacing along the headditch. Each field is 710 metres long and therefore irrigates (200x710m) 14.2ha of each field. Each set runs for 10 hours. Each 10-hour set irrigates a total of (5x14.2) 71ha. Based on 2 x 71ha sets irrigated per 24 hours, the whole 852ha is irrigated in 6 days.

Irrigation water can be supplied from the river pumps, bores or from the Permanent Storage and/or the Buffer Storage as required to suit the daily operation and storage volumes.

4. Irrigation Tailwater

The irrigation tailwater coming off the fields is delivered to the Tailwater Return Drain by the field taildrains. This tailwater is returned to the Permanent Storage pumping station via the Buffer Storage and is either:

- a. Stored temporarily in the tailwater return drain and Buffer Storage: or
- b. Pumped into the twin cell Permanent Storage; or
- c. Pumped into the farm Main Supply Channel to be used directly for irrigation of the next fields; or
- d. All of the above.

5. What Happens to Irrigation Sets During Rain

When a FPH Take event from rainfall occurs during an irrigation set, a decision must be made whether to stop the irrigation set or not.

Normally an irrigation set which is part completed once rain starts is not stopped early. This is because stopping the irrigation set may result in a partly irrigated section of a field. Normally the irrigation set is stopped once the irrigation streams in the field furrows have reached the end of the field and have run into the taildrain for a short time even while it is raining. Basically, the irrigation is run the same way as it would have been if it was not raining.

This ensures that this section of the field is completely irrigated and can fit into the next irrigation cycle in 8-10 days time during summer.

The rain will obviously slightly reduce the total volume of water applied to the field during rain and may slightly increase the tailwater volume leaving the field as well. Estimating the volume difference from a “normal” dry irrigation set from one during rain is complex and not worth doing because of the small volume difference involved.

C.5.4 Step by Step Calculation of Floodplain Harvesting Take

Appendix D contains a list of Information Required for FPH Take calculation and the Calculation Procedure for FPH Take for the four potential cases required.

The calculation procedure for the most detailed case, Case 3, is used below for this sample farm.

Any FPH Take Calculator should be capable of all of these calculations although not every FPH event would require all of the potential calculations. This sample case, however, will occur during the irrigation season at least a couple of times per year in a wet year as shown in **Section C.4**

C.5.4.1 Event Start

The FPH Event starts at 8:00am 1st February with heavy rain.

Data collected for starting conditions at 8:00am 1st February:

- River Pumps (time stamped meter reading): 804ML
- Bore Pumps (time stamped meter reading):
 - Bore 1 - 156ML
 - Bore 2 - 64ML
- Permanent Storage (storage meter or gauge boards):
 - Cell 1 - 175ML
 - Cell 2 - 250ML
- Buffer Storage Volume (storage meter or gauge boards):
 - 105ML
- Water held in Main Supply Channel (calculated based on water depth) – 209ML
- Water held in Tailwater Return Drain (calculated based on water depth) – 58ML

Irrigation Details (Diary Notes):

Irrigation volumes (based on 8 hours of a 10 hour set):

- Water Applied –

$$0.8 \times 71\text{ha} @ 1.2\text{ML/ha} = 68.2\text{ML}$$

- Irrigation Tailwater returned –

Irrigation tailwater has an extra dimension to consider. The concept is to identify the volume of irrigation tailwater that is returned to the tailwater return drain and/or the storages during the FPH event. Because tailwater only starts running from a field towards the end of an irrigation set, some tailwater could be returning to the tailwater return drain from an irrigation set already finished just before the FPH event. This volume of tailwater return effects the gross volume change in the storages and/or tailwater return drain and must be included.

Because the FPH event started at 8:00am and the previous night irrigation set finished at 5:00am on the same morning, some tailwater from the irrigation fields irrigated that night would still be draining into the tailwater return drain during the FPH event.

There is no convenient or accurate way of measuring this volume so an estimate of the percentage of the tailwater still coming needs to be made.

In this case the irrigator estimated 25% of the full tailwater return volume was still coming into the drains at 8:00am 1st February.

The volume of tailwater from a full set (100%) is $71\text{ha} @ 0.4\text{ML/ha} = 28.4\text{ML}$

The total volume of tailwater coming into the tailwater return drain after 8:00am is therefore 25% of the night set and 100% of the day set started at 6:00am.

The volume of tailwater is therefore

$$1.25 \times 71\text{ha} \times 0.4\text{ML/ha} = 35.5\text{ML}$$

- Irrigation water infiltrated into field –

$$0.8 \times 71\text{ha} @ 0.8\text{ML/ha} = 45.4\text{ML}$$

C.5.4.2 Event End

The last of the RRO is pumped into the permanent storage by 3:00pm 6th February. The tailwater return drain in this case still had some water left in it at the end. The Buffer Storage had no water left in it at the end. Some room was left in Cell 1 of the Permanent Storage for operational flexibility rather than completely filling both cells.

Data Collected for End Conditions at 3:00pm 6th February:

- River Pumps (time stamped meter reading): 987.3ML
- Bore Pumps (time stamped meter reading):
 - Bore 1 – 198.4ML
 - Bore 2 – 106.4ML
- Permanent Storage (Storage meter or gauge boards):
 - Cell 1 – 431.4ML
 - Cell 2 - 600ML
- Buffer Storage Volume (Storage meter or gauge boards):
 - 0ML
- Water held in Main Supply Channel (calculated) – 209ML
- Water held in Tailwater Return Drain (calculated) – 109ML

- Rainfall on Cell 1 – Area = 5.65ha
 - Rain = 96mm
 - Volume of Rainfall Collected = 5.4ML

- Rainfall on Cell 2 – Area = 6.4ha
 - Rain = 96mm
 - Volume of Rainfall Collected = 6.1ML

- Rainfall on Buffer Storage – Area = 15.2ha
 - Rain = 96mm
 - Volume of Rainfall Collected = 14.6ML

- Storage Losses –
 - a. Basis of calculation:
 - Seepage loss (identified from storage meter during season)
= 2mm/day;
 - Evaporation loss (identified from storage meter during season) as storage factor x Eto from Bureau of Meteorology
1.1 x Eto (mm); and
 - Wetting-up of dry empty storage:
 - very dry 2.5ML/ha
 - dry 1.5ML/ha
 - recently wet 0.5ML/ha

b. Eto:

From the SILO data base from Bureau of Meteorology:

Date	Eto (mm)	Evaporation Loss (mm)
01-Feb	7.0	7.7
02-Feb	6.6	7.26
03-Feb	7.1	7.81
04-Feb	7.5	8.25
05-Feb	7.2	7.92
06-Feb	7.5	8.25

c. Allowing for evaporation losses for part days:

A recent study by Matthew R Hipsey from the Centre for Water Research, University of Western Australia. September 2006 titled – “The Significance of Night-time Evaporation from Irrigation Farm Dams” was completed for the National Program for Sustainable Irrigation and Published by Land and Water Australia.

This study showed that night-time evaporation in February is around 45% of Total daily evaporation.

Therefore, Evaporation on 1st February:

$$\begin{aligned}
 8:00\text{am till midnight} &= (10/12 \times 0.55) + (6/12 \times 0.45) \times 7.1 \\
 &= 5.26\text{mm}
 \end{aligned}$$

Evaporation on 6th February:

$$\begin{aligned} \text{Midnight till 3:00pm} &= (6/12 \times 0.45) + (9/12 \times 0.55) \times 8.25 \\ &= 5.26\text{mm} \end{aligned}$$

d. Therefore, the Evaporation during event =

5.26
+7.26
+7.81
+8.25
+7.92
<u>+5.26</u>
41.76mm

e. Seepage: 1st February – $(16/24 \times 2)\text{mm} = 1.33\text{mm}$

6th February – $(15/24 \times 2)\text{mm} = 1.25\text{mm}$

Therefore total seepage = $(1.33 + (4 \times 2) + 1.25)\text{mm}$

= 10.58mm

**TOTAL SEEPAGE AND EVAPORATION LOSS DURING EVENT = 52.34mm
or 52mm**

Volume of Storage Losses –

Cell 1 (5.65 to 8.2)ha – loss = 3.6ML

Cell 2 (6.4 to 9.9)ha – loss = 4.2ML

Buffer Storage (15.2 to 0)ha – loss = 4.0ML

TOTAL STORAGE LOSS = 11.8ML

C.5.4.3 Floodplain Harvesting Take Calculation

Based on Sections C.5.4.1 and C.5.4.2 above, the calculation of FPH take is:

FPH Take =

	% of FPH Take	Ranking High - Low
606.5ML (Gross change in storage 600 + 431.4 – 175 - 250ML)		
- 5.4ML (Rainfall on Cell 1)	1.8	10
- 6.1ML (Rainfall on Cell 2)	2	9
- 14.6ML (Rainfall on Buffer Storage)	4.8	7
- 183.3ML (Metered Surface Water 987.3 – 804ML)	60.5	1
- 84.8ML (Metered Groundwater 198.4 + 106.4 – 156 – 64ML)	28	3
+ 68.2ML (water Applied to Fields)	22.5	4
+ 35.5ML (Irrigation Tailwater)	11.7	6
- 0ML (Reduction in Main Supply Channel Volume)	-	11
+ 51ML (Reduction in Tailwater Return Drain Volume)	16.8	5
-105ML (Reduction in Buffer Storage Volume 0 – 105ML)	34.7	2
+ <u>11.8ML</u> (Total Storage Losses)	3.9	8
= 303ML		

C.5.4.4 Staged Approach to Floodplain Harvesting Take Calculation.

Looking at the calculation procedure for FPH Take above and applying a staged approach to the complex case detailed in Section C.5.4.3, the following options could be available to an irrigator:

- 1. Case 1 – Appendix D** or the Default Option – if no other details are available except the gross volume change in the Permanent Storage, then the FPH Take for the example in Section C.5.4.3 would be 606.5ML or an **over estimation of 304.5ML (+100%)** This is the most simple estimate requiring no calculation and would be the default case if no records were available.

2. Case 2a – Appendix D Estimated FPH Take =

606.5ML

- 5.4ML (Rainfall on Cell 1)
- 6.1ML (Rainfall on Cell 2)
- 14.6ML (Rainfall on Buffer Storage)
- + 11.8ML (Storage losses)

= 592ML

Or an Over estimation of 289ML (+95%)**3. Case 2b – Appendix D Estimated FPH Take =**

606.5ML

- 5.4ML (Rainfall on Cell 1)
- 6.1ML (Rainfall on Cell 2)
- 14.6ML (Rainfall on Buffer Storage)
- 183.3ML (Metered Surface Water)
- 84.8ML (Metered Groundwater)
- 0.0ML (Reduction in Main Supply Channel Volume)
- + 51.0ML (Reduction in Tailwater Return Drain Volume)
- 105.0ML (Reduction in Buffer Storage Volume)
- + 11.8ML (Storage Losses)

= 270ML

Or under estimation of 33ML (-11%)**4. Case 3 – Appendix D****Calculated FPH Take – 303ML**

C.5.4.5 Discussion

The calculation of FPH Take for the example in **Section C.5.4.3** above includes a thorough calculation of all inputs and losses to arrive at an accurate FPH Take.

The calculations are detailed, time consuming and relatively technical. It is envisaged that commercial software programs would be developed with drop down menus to make these calculations automatic and relatively pain free for irrigators and auditors.

The process of manually making the calculations to determine the 303ML FPH Take above has highlighted which components of the of the calculation are the most important. Each component of the calculation for this particular case is assigned a percentage value of the total FPH Take and ranked in numerical importance in **Section C.5.4.3**.

This shows that rainfall on storage (2 to 5%) and seepage and evaporation losses during a six-day event (4%) are small.

It also shows that metered water coming onto the farm during the event is high at a combined 88% of Take and management of Buffer Storages at 35% of Take is also high.

Irrigation water applied to fields is 22% and tailwater return is 12%.

It is important to note that each event will have different rankings of water operations, but this exercise is still instructive.





























Given the high productive value of each ML of irrigation water and the scarcity of water, most irrigators will want to minimise the reported FPH Take. Having access to a comprehensive software package which is accurate and easy to use will become a priority.

ATTACHMENT 1





Services	
Name	Description of Milestones/Deliverables
Project initiation	<p>Contract signed and inception meeting held to discuss:</p> <ul style="list-style-type: none"> • Clarification of the project scope, methodology and timing. • Project background, objectives and key risks. • Communication protocols and confidentiality. • Data selection. • Selected properties/key parameters for the sensitivity analysis. <p>Minutes will be recorded and circulated to ensure all outcomes and actions are clear to project participants.</p>
Milestone 1	<p>Development of a draft report that analyses the validity of concerns raised by the irrigation industry and any alternative options to address them (as required) that attempt to balance ease of implementation with data quality – for testing:</p> <ul style="list-style-type: none"> • Review of all current stake holder concerns. • Categorisation of concerns. • Assessment of concerns highlighting critical and relevant issues. • Development of strategies to reduce or eliminate concerns. • Report on concerns and potential actions. • Develop potential processes to incorporate within water model for a typical farm.
Milestone 2	<p>Development of a water balance spreadsheet (for two valleys over a two year period [incl. wet and dry conditions]) to test the options detailed in the draft report:</p> <ul style="list-style-type: none"> • Development of a water balance spreadsheet for a typical farm in 2 different valley systems within northern NSW. • Apply the water balance model to analyse water take, storage volumes and losses over 2-year period to assess and quantify floodplain harvesting. • Analyse water balance model for typical wet and dry years. • Assess, quantify and create draft report.
Milestone 3	<p>Water balance spreadsheet populated for 2 two valleys, testing up to 10 of the options presented in the draft report for each valley:</p> <ul style="list-style-type: none"> • Populate the water balance spreadsheet for the two valleys, testing up to 10 of the options presented in the draft report for each valley (to be selected by the department) • Amend the draft report to include an option analysis section using the outcomes of the water balance spreadsheet and a sensitivity analysis between options as well as recommendations that are supported by the analysis.
Milestone 4	<p>Draft report amended to include option analysis section using the outcomes of the water balance spreadsheet and sensitivity analysis between options (where practical) as well as recommendations that are supported by the analysis.</p>
Milestone 5	<p>Review of Appendix A: floodplain harvesting recording template to reflect the final monitoring and auditing approach being recommended by the department.</p>

ATTACHMENT 2

- List of Submissions to draft Strategy

 2018-11-29 NSWIC Submission - F...	Adobe Acrobat Document	287 KB	No	307 KB	7%	04-Mar-19 3:37 PM
 Angus Moore	Microsoft Word Document	12 KB	No	15 KB	19%	04-Mar-19 4:27 PM
 Anonymous - passed on my Liz Livi...	Microsoft Word Document	13 KB	No	16 KB	18%	04-Mar-19 4:32 PM
 Desmond Connellan	Adobe Acrobat Document	157 KB	No	163 KB	4%	04-Mar-19 4:29 PM
 EDO NSW submission	Adobe Acrobat Document	320 KB	No	337 KB	6%	04-Mar-19 4:24 PM
 Joint submission by The Australia L...	Adobe Acrobat Document	896 KB	No	937 KB	5%	04-Mar-19 4:39 PM
 Ken Stump	Adobe Acrobat Document	697 KB	No	738 KB	6%	04-Mar-19 4:25 PM
 Leanne Hall floodplain harvest mo...	Microsoft Word Document	266 KB	No	283 KB	6%	04-Mar-19 4:05 PM
 Mark Hamblin	Adobe Acrobat Document	45 KB	No	47 KB	5%	04-Mar-19 4:23 PM
 Melissa Gray	Adobe Acrobat Document	145 KB	No	149 KB	4%	04-Mar-19 4:28 PM
 Mike Carberry	Adobe Acrobat Document	107 KB	No	111 KB	4%	04-Mar-19 4:25 PM
 Narwie Partners	Adobe Acrobat Document	3,966 KB	No	4,750 KB	17%	04-Mar-19 4:40 PM
 Nick Gardiner	Adobe Acrobat Document	180 KB	No	186 KB	3%	04-Mar-19 4:26 PM
 Northern Valleys Joint Submission...	Adobe Acrobat Document	247 KB	No	269 KB	9%	04-Mar-19 3:18 PM
 NSW Department of Industry Mail ...	Adobe Acrobat Document	147 KB	No	152 KB	4%	04-Mar-19 3:39 PM
 NSW Department of Industry Mail ...	Adobe Acrobat Document	147 KB	No	152 KB	4%	04-Mar-19 4:01 PM
 NSW Department of Industry Mail ...	Adobe Acrobat Document	141 KB	No	145 KB	3%	04-Mar-19 3:43 PM
 NSW Department of Industry Mail ...	Adobe Acrobat Document	149 KB	No	154 KB	4%	04-Mar-19 4:17 PM
 NSW Department of Industry Mail ...	Adobe Acrobat Document	147 KB	No	152 KB	4%	04-Mar-19 3:39 PM
 NSW Department of Industry Mail ...	Adobe Acrobat Document	142 KB	No	147 KB	4%	04-Mar-19 3:41 PM
 NSW Famers	Adobe Acrobat Document	215 KB	No	223 KB	4%	04-Mar-19 4:01 PM
 Orange and Region Water Security ...	Adobe Acrobat Document	235 KB	No	239 KB	2%	04-Mar-19 4:14 PM
 Paul Cameron	Adobe Acrobat Document	155 KB	No	161 KB	4%	04-Mar-19 4:35 PM
 Paul Cameron letter to Nicola Mead	Microsoft Word Document	16 KB	No	19 KB	16%	04-Mar-19 4:36 PM
 PT and RM McLellan - flood plain h...	Microsoft Word Document	12 KB	No	15 KB	19%	04-Mar-19 4:08 PM
 Richard Wright	Adobe Acrobat Document	144 KB	No	148 KB	4%	04-Mar-19 4:30 PM
 Sarah Kennedy	Adobe Acrobat Document	147 KB	No	152 KB	4%	04-Mar-19 4:28 PM
 SMK consultants on behalf Seery fa...	Adobe Acrobat Document	155 KB	No	162 KB	4%	04-Mar-19 4:33 PM

- List of Issues from consultation meeting 2018

 Bourke FPH Monitoring and Auditing meeting issues for review 06 Dec 2018	Microsoft Word Document	16 KB	No	19 KB	16%	04-Feb-19 12:54 PM
 Moree FPH Monitoring and Auditing meeting issues for review 03 Dec 2018	Microsoft Word Document	13 KB	No	16 KB	18%	04-Feb-19 11:02 AM
 Narrabri FPH Monitoring and Auditing meeting issues for review 03 Dec 2018	Microsoft Word Document	15 KB	No	18 KB	16%	04-Feb-19 3:47 PM
 Narramine FPH Monitoring and Auditing meeting issues for review 05 Dec 2018	Microsoft Word Document	18 KB	No	21 KB	15%	04-Feb-19 11:54 AM

Narrabri (Mollee) (053026) Annual rainfall

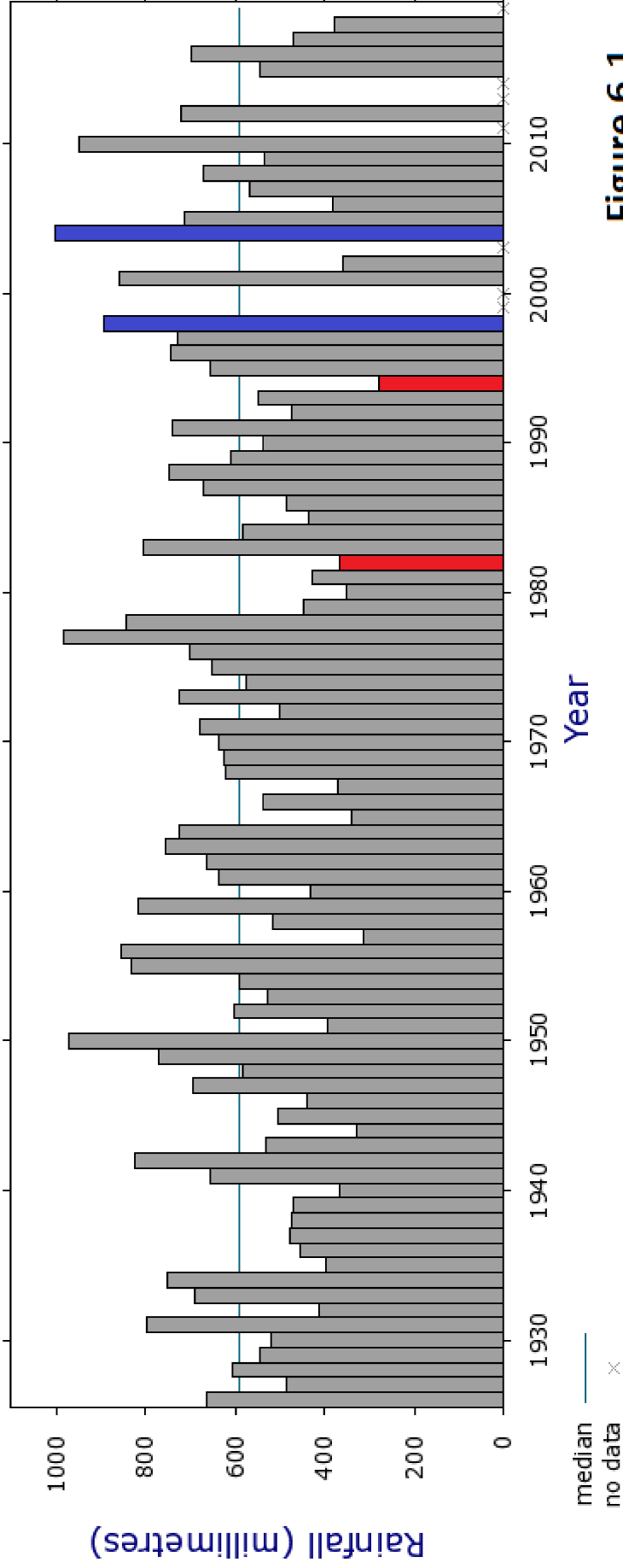


Figure 6.1

Climate Data Online, Bureau of Meteorology
Copyright Commonwealth of Australia, 2019

Warren (Haddon Rig) (051025) Annual rainfall

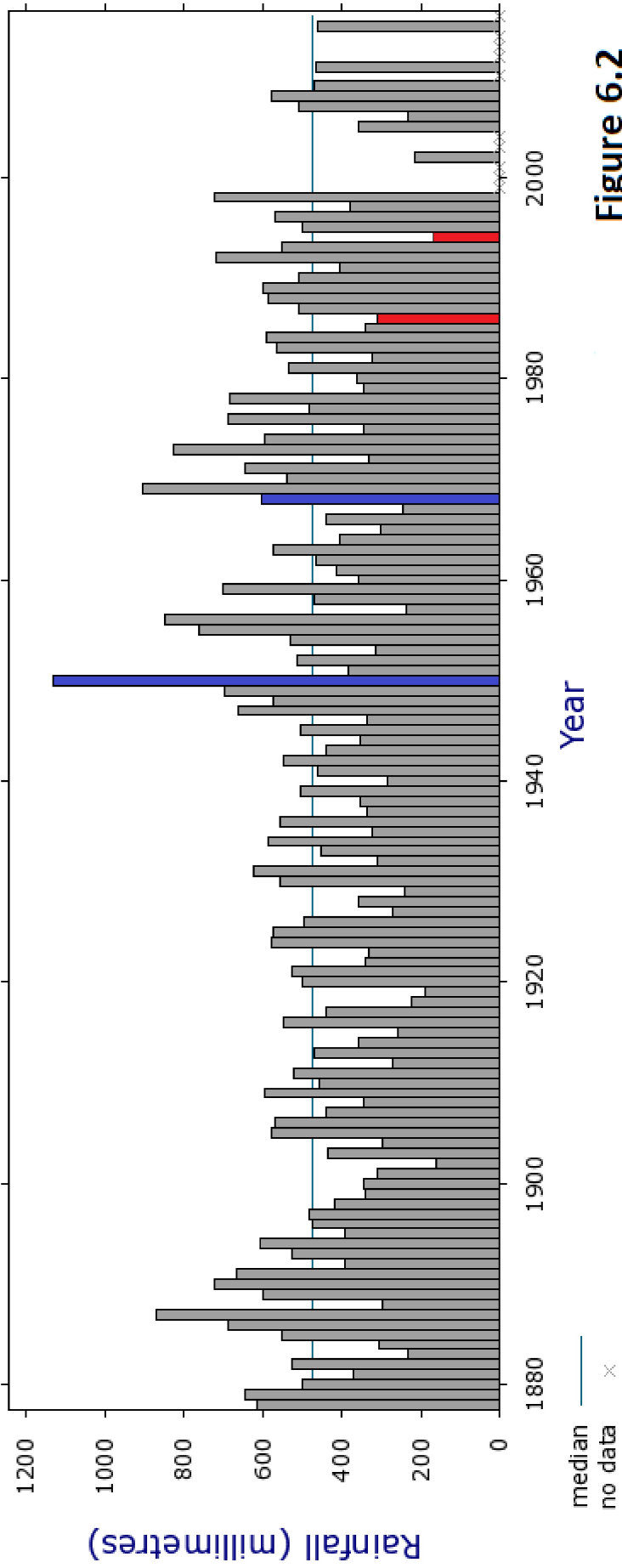


Figure 6.2

Climate Data Online, Bureau of Meteorology
Copyright Commonwealth of Australia, 2019

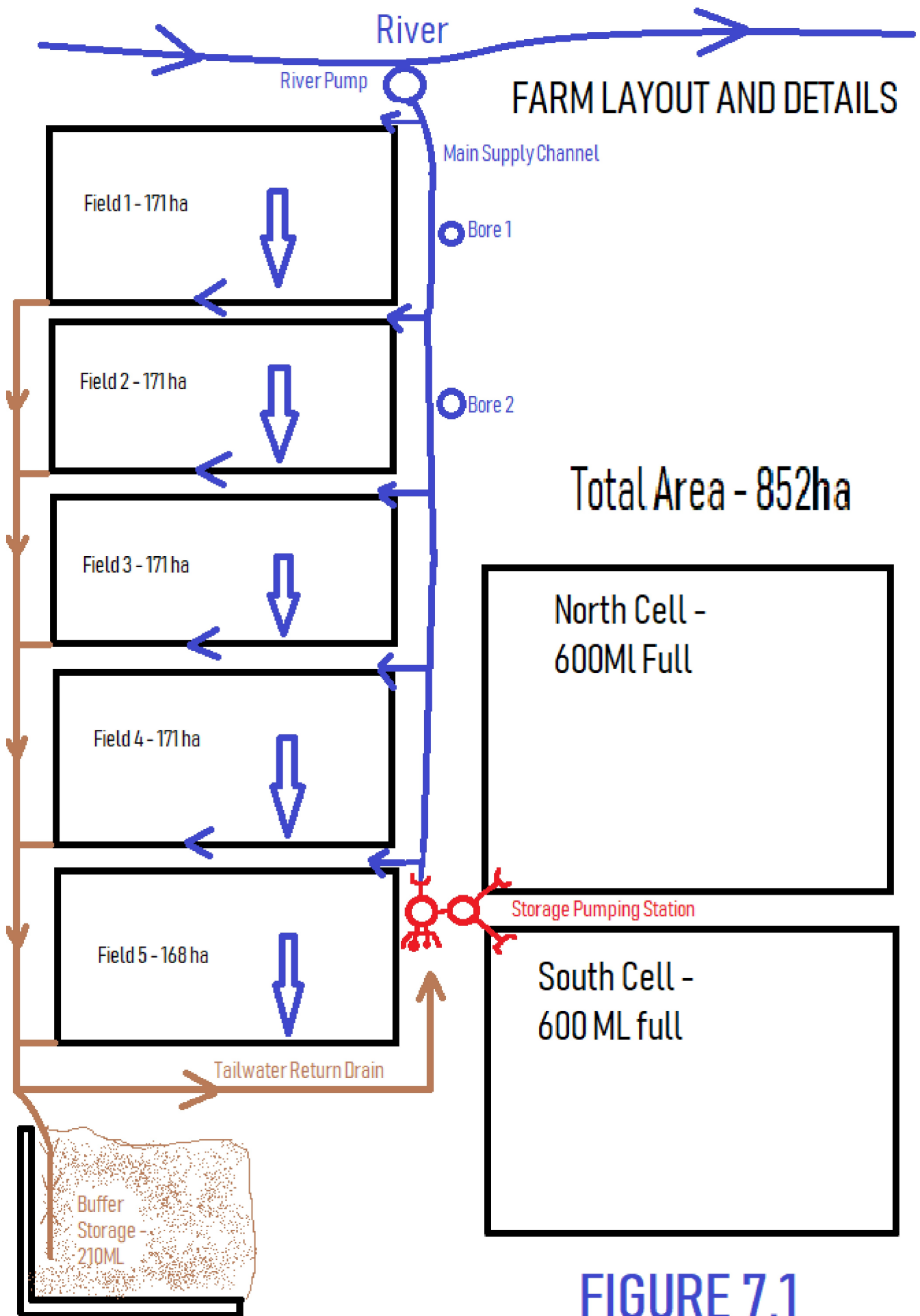


FIGURE 7.1

APPENDIX

A

Bourke

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
1	Concern in the BD that time-and-event meter volumetric conversion has not been properly investigated to establish true historical take and a valley cap. Participants strongly felt that without this conversion, real take cannot be established, ultimately affecting fph entitlements and business outcomes.					N/A
	There is uncertainty when and how this will be done. The issue has been outstanding since 2007 although successive efforts have been made by industry to communicate with different departmental units.					N/A
2	Concerns raised that the frequency of recording is onerous – farmers are doing 10 things per day. Requirement to check boards on every storage, every day and record data is an impractical business operation.	✓		H	Major Issue A.1.3 (a)	Change how RRO is Handled A.1.3 (a)
3	Some participants questioned the environmental benefit the department is trying to achieve for the amount of rain.					N/A
	Shared opinion that the department is adding regulation on regulation when there is no real risk in the BD.					N/A
4	All participants agreed that rainfall is scarce and estimating rainfall based on historical events and data would be an easier solution in determining RRO.	✓		H	Agree A.1.3 (a) A.1.3 (c)	Change how RRO is Handled A.1.3 (a) A.1.3 (c)
5	Comment made that an estimated 32000ha of BD is developed, as such rainfall variability is a small component.					N/A
	Growth and unauthorised diversion infrastructure is a greater threat.					N/A
6	General concern that irrigators will need to develop complex excel sheets to track river, RRO, first-flush and tail-water take. Difficulty in tracking and monitoring the re-routing of water.	✓		H	Agree A.1.3 (b)	Change RRO and meter overland flow A.1.3 (b)
	This will require staff expertise beyond current operational capability.	✓		M	Agree A.1.3 (b) A.1.3 (l)	A water consulting service my be required A.1.3 (b)
7	One irrigator stated that he has tried to measure take from his own records, but the data is confusing with water going in and out of different storages.	✓		H	Agree A.1.3 (b)	Change is required A.1.3 (b)
8	Suggestion for a 12 month trial on a farm in BD to test assumptions, sort out issues and uncover any real threats.					N/A
9	Suggestion for reporting to be triggered only when you pump.		✗	L	A.1.3 (n)	A.1.3 (n)

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
10	Concerns that if you have just irrigated (e.g. 500ha) you will have massive runoff after a rain event. If you have not irrigated you would have hardly any runoff. Concern that irrigation practices inducing runoff are not being properly accounted for.	✓		M	Partially correct A.1.3 (b)	Base RRO on pre-developed condition. A.1.3 (b)
11	Concern raised with iWAS - not user friendly to upload data.	✓		M	A.1.3 (m)	Could require modification A.1.3 (m)
12	Statement that in wet years, landholders may exceed account limit. Historically water is taken in large events. Better to do this than impact low to medium flows. Better outcome for downstream users. How can this be encouraged?	✓		H	Managing overtake is required A.1.3 (o) A.1.3 (s) A.1.3 (t)	Overtake rules need to be clear. A.1.3 (o) A.1.3 (s) A.1.3 (t)
13	Historically infrastructure was built to impound and take water and prevent it from impacting other farms. The change in policy to release it comes with difficulties especially with over bank flows into storages such as billabongs where there is no means to get rid of it. Infrastructure will need to be put in at a cost and this needs to be considered.	✓		M	Releasing RRO water is problematic A.1.3 (e)	Infrastructure may be required to release water A.1.3 (e)
14	Historically the Bourke District have kept that rain on the farm.	✓		M	A.1.3 (e)	A.1.3 (e)
	A lot of money, time and effort will be spent on monitoring and auditing for no identified benefit.					N/A
Temporary Storages						
15	Routing to permanent storage will change industry behaviour to be more inefficient.	✓		M	Could happen A.1.3 (p)	Rules need to be clear A.1.3 (p)
16	Concerns that metering temp storages is difficult due to multiple intake points.		✗	M	Should not be necessary A.1.3(p)	Use gauge boards and/or storage meters A.1.3 (p)
First flush						
17	Industry questioned the difference between rainfall and contaminated runoff since it must be contained. Not much in 13-14inch rainfall.	✓		H	Both contain "pollutants" A.1.3 (e)	Releasing FPH take back is problematic A.1.3 (e)
18	Statement that rainfall in the BD has been historically required to be intercepted and retained due to contamination and therefore it is logical not to include it.					N/A
19	Chemicals may have residual for many months. How can this be accounted for?	✓		H	Try not to release back A.1.3 (e)	Overtake rules need to be clear. A.1.3 (e)
20	It may rain 100mm overnight and therefore 15mm does not apply?	✓		H	Agree A.1.3 (e)	Overtake Rules A.1.3 (e)
Tail-water return						

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
21	How do you deal with contaminated tail-water? Mixing of waters is difficult to disaggregate and measure.	✓		H	Mixing of waters is a major issue A.1.3 (b) A.1.3 (e)	A new approach is required A.1.3 (b) A.1.3 (e)
Verification and compliance						
22	Suggestion to map growth using remote sensing.	✓		M	Will Be done	
23	Issue of self-regulation and compliance. The monitoring system is very complex and open to public speculation. May compromise the social licence to operate.	✓		H	Difficult to measure and partition water A.1.3 (b)	A more simple approach to RRO is required A.1.3 (b)
24	Concern that if the department is concerned with enforcement and successful prosecution, the proposed system is too complex to defend in court.	✓		L	Complex court action - messy A.1.3 (w)	
25	Some farms may need targeting whilst others don't. Farms are doing things differently, how will the department determine who to monitor?	✓		L	Draft strategy will define A.1.3 (a1)	Draft strategy OK N/A
Other						
26	Concerns with trading and entitlements concentrating within certain upstream areas. Potential to impound flow and cut connectivity to some sections and tributaries. Questions raised as to the science behind trading and its effect on downstream users.				A trading framework is yet to be finalised. Problems with seller still catching RRO and overland flow A.6.2	Trading is problematic
27	Some participants expressed concern with equity issues and the lack of regulation in other agricultural sectors growing food and fibre – sheep/wool production, plantations etc. Concern that the irrigation industry is being treated unfairly.					N/A
28	Compliance concern raised as to what happens if you are away from the farm. Water may enter storages and evaporate.		✗		This is a problem with gauge boards alone	Automatic continuous storage meters should be used
Moree						
1	Frequency of recording (daily, weekly and monthly) for multiple storages considered onerous given the rarity of floodplain harvesting events (potentially once every 5-7 years). Not many storages will change in that time.	✓		H	A major issue with the draft strategy A.1.3 (a)	RRO needs to be handled differently A.1.3 (a) A.1.3 (b)
	Concern with over-regulation for no real productivity.					N/A
	Monitoring during Irrigation season – it's all allocated water – if there's rainfall or runoff during that period, its FPH – so why monitor rainfall?		✗			N/A

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
2	Participants strongly emphasised the impractical nature of disaggregating and recording water from overflows, runoff and tail water during flood events due to the uncontrollable nature of these events and re-active business decisions made at all hours of the night.	✓		H	A major issue with Draft Strategy A.1.3 (b)	RRO needs to be handled differently A.1.3 (b)
	Suggested provided that instead of maintaining continuous records, the department should consider event based reporting, better reflecting the irregular nature of the business activity. Event based triggers would alleviate the reporting burden and challenges of keeping iWAS continually live. This can be triggered by major flow of RRO.		✗	L	Can't be done for overland flow A.1.3 (k)	A.1.3 (k)
3	Concern was raised that some irrigators would be challenged as they did not have the capacity to provide the level detailed information required.	✓		H	Agree A.1.3 (l)	A water consulting service may be required A.1.3 (l)
4	Issues raised with iWAS:					
	a) Requires improvement to handle current telemetered data.	✓		H	A.1.3 (m)	iWAS may need modifying
	b) Concerns the system will be incapable of handling storage required by the strategy for over 400 farms across the north.	✓		M	A.1.3 (m)	iWAS may need modifying
	c) Inflexible, difficult and time consuming to correct errors.	✓		H	A.1.3 (m)	iWAS may need modifying
	d) Is onerous to input required data.	✓		H	A.1.3 (m)	iWAS may need modifying
	Question raised if the detail of recording is adding value to the calculation process or just a record keeping exercise for no great outcome?		✗			
5	Participants questioned whilst it is their responsibility to monitor account balances, where do they do this? Will iWAS facilitate this?	✓		H	A.1.3 (m)	iWAS may need modifying
6	Participants required further clarification as to what records need to be kept as to what needs to be reported. Many participants voiced concerns with over collection of data and the need to better streamline the process.	✓		H	Agree A.1.3 (a) A.1.3 (b)	RRO needs to be handled differently A.1.3 (a) A.1.3 (b)

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
Temporary Storages						
7	Landholders expressed that there needs to be flexibility allowing water to be used directly from temporary storages as it is costly and inefficient to pump all floodplain water through a permanent storage. Participants believed that such a policy decision could drive business inefficiencies.	✓		M	Draft Strategy adequately handle this A.1.3 (p)	Length of time for temporary storage needs to be clearer. Condition for full permanent storage should be removed A.1.3 (p)
8	Participants disagreed that excluding temp storage use from monitoring would promote behaviour change in preference of temp storages. Landholders provided cases that it is far more efficient to use water sitting in a surge area, due to evaporation losses and proximity, than to pump from a permanent storage.	✓		M	Some behaviour change could occur A.1.3 (p)	Rules need to be clear. Temporary storages can be monitored as permanent ones. A.1.3 (p)
	Participants expressed concern that the use of temp storages was being assigned a far greater level of risk than what is actually practiced. "Industry has transitioned away from this practice over the last 10-15 years and reduced their reliance in favour of permanent storage efficiencies". This needs to be factored into the department's behavioural assumptions.		✗		M	Some may use Temporary Storage to reduce FPH take A.1.3 (p)
9	Participants expressed concerns that the requirement to use temp storages only when permanent storages are full is impractical during high floods as it is impossible to control. Concerns with compliance and potential enforcement action if they are caught with water in their temp storages after a flood event and seepage from other areas.	✓		H	Agree A.1.3 (p)	Rules need to be clear and flexible A.1.3 (p)
10	One participant provided a simplified solution to measure storages before and after an event and hectares of crop irrigated during this time to determine an end volumetric take.		✗	L	Not that simple. Losses need to be calculated Appendix D	Appendix D
First flush and tail-water return						
11	Industry confusion as to disaggregating first flush from rainfall runoff, supplementary water (either sourced from overland flow or river) and tail-water return.	✓		H	Agree A.1.3 (b)	Releasing FPH water is problematic because of quality and infrastructure issues. A.1.3 (b)
Verification						
12	Some concerns over the onus of proof and the difficulty in managing water from diffuse sources including river, cotton fields, paddocks and grazing country during a flood event.	✓		H	Agree A.1.3 (b) Appendix D	A more simple solution is required A.1.3 (b) Appendix D

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
Other						
13	Question asked about cross-border NSW/QLD floodplain harvesting.					N/A
	iWAS not available in QLD. How will interstate monitoring reporting/information be managed? How will this affect licencing and trading in the short term?					N/A
14	Question raised with the use of Lidar to detect storage curves assuming an internal borrow. External borrow will have to be done a different way. How easy will it be to flag and get something corrected on Lidar before landholders are issued with a work approval?	✓		M	A.1.3 (x)	LIDAR ok A.1.3 (x)
<u>Narrabri</u>						
1	Concerns raised that the frequency of recording and reporting is onerous, especially for multiple storages. Not feasible given storage distances.	✓		H	Agree A.1.3 (a)	RRO needs to be handled differently A.1.3 (a)
2	Difficult to disaggregate, measure and report 4 to 5 different sources of water – ‘milkshake’ effect.	✓		H	Major Issues A.1.3 (b)	RRO needs to be handled differently A.1.3 (b)
3	The inclusion of rainfall runoff is creating an overly complex monitoring methodology and is central to recording and reporting difficulties. The industry has historically been required to capture RRO.	✓		H	Agree A.1.3 (b) A.1.3 (d) A.1.3 (e)	RRO needs to be handled differently A.1.3 (b) A.1.3 (d) A.1.3 (e)
4	Concerns with recording storage levels and employee safety during rain and high flood events. Channel banks likely to be unstable for access.	✓		M	Agree A.1.3 (d)	Automatically continuous storage meters are required A.1.3 (d)
5	The strategy’s daily, weekly, monthly readings departs from initial departmental discussions on monitoring. Irrigators were told monitoring would be a simple monthly water balance at the end of a pumping event.					N/A
	Many expressed concern that if you have 4 or 5 storages you would spend hours in the office.	✓		M	Agree A.1.3 (a)	Strategy needs changing A.1.3 (a)
6	One participant strongly questioned the constitutional basis for government to tax RRO.					N/A
7	Concerns that smaller irrigators would be challenged as they did not have the capacity to provide the data required.	✓		H	Agree A.1.3 (l)	Current strategy would probably require a consulting water service A.1.3 (l)

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
8	Concern that department staff proposed the RRO policy change and advice to cabinet without proper industry consultation.					N/A
	Suggestion that a monthly or six monthly storage balance through a process of elimination would provide the same results. Concern that the department is putting in a lot of time and effort for RRO and proposing something that is complex and difficult. Ultimately the number can be determined through the elimination of other water licences. Concern that when irrigators signed up to monitoring, it was going to be a six monthly process. The cost of proposing an overly complex methodology should be borne by the department, not landholders.		X		Not that simple	N/A
9	Concern raised that previous monitoring consultation was not based on a daily basis. Whilst industry agrees that storage curves are an essential first step, asking people to do it on a daily basis is much more difficult. The department is operating on a narrow scope and the strategy is not workable in the way it is being implemented with RRO and temp storages. In flood events there is a massive volume of water and the department is aiming for a level of accuracy that isn't practical.	✓		H	Agree A.1.3 (a) A.1.3 (b)	Strategy on RRO needs to be changed A.1.3 (a) A.1.3 (b)
	The department's outcomes need to be clarified.					N/A
10	Concern expressed that the department acknowledges the difficulty of including RRO but has transferred the difficulty of monitoring to industry.	✓		H	Agree A.1.3 (b) A.1.3 (d)	Strategy on RRO needs to be changed A.1.3 (b) A.1.3 (d)
Temporary Storages						
11	Concern that pumping to permanent storage will create business inefficiencies. Policy disregards the utilisation of storage proximities over large distances. Impractical to install meters on multiple take points.	✓		M	Agree A.1.3 (p)	Conditions need to be clear. Need to use temporary storage before permanent storage is full A.1.3 (p)
12	Policy assumption disregards industry efficiencies gained over the last 30 years and positive behaviour change. Using temp storages is not a big risk as most irrigators have improved their infrastructure to be more efficient.					N/A
13	Concern with the definition of temporary storage – both what is included and for how long (4 weeks, couple, few). Request for the department to provide a clear definition.	✓		M	Agree A.1.3 (p)	Definitions need clarity A.1.3 (p)
First flush						

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
14	Concern expressed that first flush does not include nutrients and sediments. Request that it be considered due to the effect on algal blooms.	✓		L	RRO on-farm should be captured A.1.3 (e)	Overtake of FPH needs clarity A.1.3 (e)
15	Statement raised that irrigators understand best practice because they wrote it and the department is trying to impose an incompatible first flush provision on how they operate.	✓		M	Depends on the volume of FPH take available A.1.3 (e)	Overtake of FPH needs clarity A.1.3 (e)
16	Request for the department to provide certainty how RRO and first flush will be managed, especially when close to account limits.	✓		H	Agree A.1.3 (e)	A.1.3 (e)
	Concerns that if you use all FPH and go into debit, both FPH calculations and account rules must be accurate. There needs to be greater clarity with first flush if landholders have no FPH – how far they can go into debit and at what stage are they compelled to release contaminated water?	✓		H	Agree A.1.3 (e)	Overtake of FPH needs clarity A.1.3 (e)
	Concern that at some point you won't be able to take a contaminated flush because you will have run out of account. Contaminated water does not arrive in the first 10% it comes at different times from different fields.	✓		H	Agree A.1.3 (e)	A.1.3 (e)
17	Concern raised with department's RRO calculations. Based on modelling in the Gwydir there was not enough FPH entitlement to meet the long term average runoff.					N/A
	Significant risk that the legislation will push agriculture back to being a net polluter because someone will have a FPH entitlement that doesn't match their current development. Unless modelling is corrected there won't be enough provision for RRO to meet first flush provisions let alone the actual runoff through clearing and drainage.	✓		M	Could be a problem A.1.3 (t)	Operating rules for overtake need clarity A.1.3 (t)
Tail-water return						
18	Question raised how the department will verify that the amount of tail-water returned is reasonable given all farms are different. Concern with compliance issues if there is an error/overestimation.	✓		M	Agree A.1.3 (y)	Some measurement and modelling required A.1.3 (y)
19	Concern raised how tail-water from a neighbouring farm will be managed and accounted for.	✓		M	Blow-out water A.1.3 (z)	Inflow to downstream farm is FPH A.1.3 (z)

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
Verification						
20	Concern why the department is requiring very detailed recording and reporting given the level of monitoring verification technology available.					N/A
Other						
21	Some participants expressed equity issues with RRO and dryland farming practices which are not being regulated.					N/A
22	Question raised in relation to the exemptions for applications for work approvals for advertising and appeal. Concern that landholders cannot report unauthorised works if they do not know about them.					N/A
23	Concern if the Minister can place a S324 order on RRO or an overland flow event. How 324 interacts with this work.					N/A
	Participant suggested an easier way to measure is metering pipe to pipe (inflows and outflows).	✓		H	Agree A.3.3	Can be done on some farms A.3.3
24	Participants expressed concern floodplain harvesting works typically incorporate with other works that control field runoff and allow general security and supplementary river water to be accessed at the same time.	✓		H	Agree A.1.3 (b)	RRO needs to be handled differently to reduce the number of FPH events. A.1.3 (b)
	Suggestion that the department consider a water balance system similar to that proposed at the Moree meeting. A water balance system, adding up metered river water and field runoff estimates, to be deducted off increases in storage volumes. Impounded water on the flood plain would be measured by a formula of the area covered and the depth of water in that area.	✓		H	Not that simple A.4 Appendix D	Could be used with modification A.4 Appendix D
25	Some concern with the calibration of floodplain levels, mapping and lack of consultation with affected landholders.	✓		L	Datum for a storage curve is a non-issue	
26	Request for the department to treat the consultation as a submission. Further to this, request for the Namoi EO to provide submission that represents irrigator members.					N/A
<u>Narromine</u>						

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
1	Frequency of reporting onerous, especially when there is no event.	✓		H	Agree A.1.3 (a)	RRO needs to be handled differently A.1.3 (a)
	Risk of landholder complacency if forced to report in dry periods.	✓		M	Agree A.1.3 (a)	
2	Suggestion provided that reporting should be triggered through iWas similar to a supplementary event.		✗	H	Not possible for overland flow A.1.3 (k)	A.1.3 (k)
3	Question raised if reading and reporting is expected for every storage?	✓		H	A.1.3 (f)	YES
4	Concerns with reporting when moving water through multiple storages over large expanse – rainfall event in some area and not in others. Makes recording potentially complicated.	✓		M	Agree A.1.3 (g) A.1.3 (h) Appendix D	Can be done A.1.3 (g) A.1.3 (h) Appendix D
	Moving water internally – operational complexity of farm operations – especially during a general rain event.	✓		H	Agree A.1.3 (b) Appendix D	Strategy needs changing for RRO events A.1.3 (b) Appendix D
5	Collective suggestion to estimate RRO and simply the process.	✓		H	Agree A.1.3 (b)	Should be done A.1.3 (b)
6	Concerns that evaporation and seepages are not offset in account balance.	✓		M	A.1.3 (i)	Can be done A.1.3 (i)
7	Participants believed the department has lost focus and trying to monitor in real time what can be achieved in an annual reporting return similar to a tax return. Department should keep focus on capping historic use.					N/A
8	Concern RRO will make recording and reporting difficult due to operational, landscape and rainfall variables.	✓		H	A.1.3 (b) Appendix D	RRO needs to be handled differently A.1.3 (b) Appendix D
	General concern that irrigator operations will be restrained given the detailed monitoring and recording requirements. Industry expressed general concern of having to defend estimates taken under risky flooding conditions. Policy is too ridged and susceptible to NRAR prosecution.	✓		H	Agreed A.1.3 (a) A.1.3 (d) Appendix D	RRO needs to be handled differently to reduce monitoring A.1.3 (a) A.1.3 (d) Appendix D
9	Question if the 'environment' as a licence holder is charged for RRO.		✗	L	NO A.1.3 (j)	NO A.1.3 (j)
10	Strong views expressed that Macquarie landholders have not been consulted on: · the inclusion of RRO · the mapping of Macquarie floodplain. As such, RRO should not be included in the Macquarie. Concerns that not enough time or explanation has been provided nor feedback sought.					N/A

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
11	Suggestion made that the Macquarie is unique and only experiences occasional rainfall events. It would be easy to separate the two by providing an estimate for rainfall. Not like the northern valley.					N/A
	Accounting rules are different for the valleys and the same should be done for monitoring.					N/A
12	Suggestion to run a pilot program in the Gwydir valley to test strategy and assumptions.				Some Merit	N/A
13	Concern and request for further information on the allocation and extraction figure for the Macquarie.					N/A
14	Concerns that irrigators are being charged for taking water from a creek and saturating a soil profile and when it rains they are charged again for the artificially created runoff.	✓		L	Some Merit	Base RRO calculation on pre-development condition A.1.3 (b)
	Concerns that irrigators are also disadvantaged if their paid runoff goes onto neighbouring dryland paddock.					N/A
Temporary Storages						
15	Concerns that pumping to a permanent storage will create business inefficiencies.	✓		M	In some cases A.1.3 (p)	Strategy clear but the need for a full permanent storage is unnecessary A.1.3 (p)
	Impossible to meter temp storages due to multiple inlets points.		✗	M	Can meter with storage meters A.1.3 (p)	A.1.3 (p)
First flush						
16	Chemicals (urea/nitrogen) are applied during all seasons with multiple watering. There is no first flush as water is at most times contaminated. First flush may push irrigators to release contaminated water because they do not want to go into debit. How far does the debit limit apply?	✓		M	Agree A.1.3 (e)	Overtake rules need to be clear A.1.3 (e)
	Strong views that rainfall is creating the issues and should be excluded.					N/A
17	Tail-water maybe mixed with contamination – issue that needs to be addressed.	✓		M	Agree A.1.3 (e)	Discharge is problematic A.1.3 (e)
	Rainfall issue rejected due to complication.					N/A

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
18	Statement that irrigators have been required by EPA to collect 1ML/ha of rainfall pre 2008 to control contamination runoff. Suggested that this should be grandfathered into the policy. (required to have storage for 100mm rain prior to 2008)		X		15mm first flash over developed area	
	Just because Gwydir have agreed to RRO does not endorse it for the Macquarie.					N/A
19	Suggest that department discuss first flush with EPA.	✓		H	Agree A.1.3 (e)	Would be beneficial A.1.3 (e)
Tail-water return						
20	Question, if you are required to release water, how do you manage contaminated tail-water runoff on a 50mm rainfall event? It all ends up as a 'milkshake'.	✓		H	Agree A.1.3 (e)	Should be stored A.1.3 (e)
Verification and compliance						
21	Questions raised regarding Lidar accuracy and what it has been resampled to.	✓		M	A.1.3 (x)	LIDAR ok A.1.3 (x)
	Has the department ground-truthed Lidar?	✓		M	A.1.3 (x)	LIDAR ok A.1.3 (x)
22	Question on how much verification technology is going to cost?					N/A
23	What applies in the Gwydir does not apply elsewhere.					N/A
	Suggestion to pilot strategy in one valley and correct any problems before it's rolled out across 5, and potentially southern valleys. This will provide a robust framework and industry confidence.	✓		M	Has some merit	Timeline could be a problem
	Industry needs more time to understand requirements and build capacity.	✓		H	Yes	Rushing policy does not work
24	Concern that the department is making the job of monitoring much harder than what it needs and placing a cost on the system that will affect water prices.					N/A

	Concern	Valid	Not Valid	Priority (Low, Med, High)	Notes (Report Section)	Solution (Report Section)
25	Some irrigators expressed concern that they do not have the resources to monitor and record to the level of detail required by the department. The policy disadvantages the small farmer - turning them into a bad guy because they cannot monitor well. Industry corporates have greater resources.	✓		M	A problem for all irrigators A.1.3 (I) Appendix D	Reduce requirements by estimating RRO take A.1.3 (I) Appendix D
	General concern of being guilty until proven innocent.					N/A
Other						
26	Out of session – to be followed up by the department.					N/A
	Concern raised regarding the Burrandong mitigation area and harvesting. No compensation for government alienating land and using it as a storage – damage to crops.					N/A
27	Question raised with respect to the requirement of metering devices on non-FPH storages used for domestic/stock purpose. In these circumstances will irrigators be charged for rainwater?					N/A
	Licensing concerns with storages post 2008. General dissatisfaction about work approvals and cut off dates.					N/A
28	Equity issues expressed concerning lack of regulation in relation to dryland farming, contour farming (water ponding) and plantations that exploit rainfall runoff interception.					N/A
	Irrigators feel that they are being treated unfairly.					N/A
29	Out of session – to be followed up by department.					
	Beleringar and Gunningba creeks – issue with regulator changing water flows.					N/A
30	Comment that the floodplain mapping has changed on the Marthaguy and realigned to the east. Not the same as 4 years ago. General confusion regarding new mapping as there are no guidelines. Lack of consultation.					N/A

APPENDIX

B

Narrabri Driest Year - 1994

Day	Date	Rainfall	ETo	Kc	Etc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @250 ha (ML)
			0	103.05	0						
1	01-01-94	0	0	1.15	0		0	68	0.00		0.00
2	02-01-94	0		1.15	0		0	68	0.00		0.00
3	03-01-94	0		1.15	0		0	68	0.00		0.00
4	04-01-94	0		1.15	0		0	68	0.00		0.00
5	05-01-94	0		1.15	0		0	68	0.00		0.00
6	06-01-94	0		1.15	0		0	68	0.00		0.00
7	07-01-94	0		1.15	0		0	68	0.00		0.00
8	08-01-94	0		1.15	0		0	68	0.00		0.00
9	09-01-94	0		1.15	0		0	68	0.00		0.00
10	10-01-94	0		1.15	0	100	0	68	0.00		0.00
11	11-01-94	0		1.15	0		100	95	0.00		0.00
12	12-01-94	0		1.15	0		100	95	0.00		0.00
13	13-01-94	0		1.15	0		100	95	0.00		0.00
14	14-01-94	0		1.15	0		100	95	0.00		0.00
15	15-01-94	0		1.15	0		100	95	0.00		0.00
16	16-01-94	0		1.15	0		0	68	0.00		0.00
17	17-01-94	0		1.15	0		0	68	0.00		0.00
18	18-01-94	0		1.15	0		0	68	0.00		0.00
19	19-01-94	0		1.15	0		0	68	0.00		0.00
20	20-01-94	0		1.15	0	100	0	68	0.00		0.00
21	21-01-94	0		1.15	0		100	95	0.00		0.00
22	22-01-94	0		1.15	0		100	95	0.00		0.00
23	23-01-94	0		1.15	0		100	95	0.00		0.00
24	24-01-94	0		1.15	0		100	95	0.00		0.00
25	25-01-94	0		1.15	0		100	95	0.00		0.00
26	26-01-94	0		1.15	0		0	68	0.00		0.00
27	27-01-94	0		1.15	0		0	68	0.00		0.00
28	28-01-94	0		1.15	0		0	68	0.00		0.00
29	29-01-94	0		1.15	0		0	68	0.00		0.00
30	30-01-94	0		1.15	0	100	0	68	0.00		0.00
31	31-01-94	0		1.15	0		100	95	0.00		0.00
32	01-02-94	0		1.15	0		100	95	0.00		0.00
33	02-02-94	0		1.15	0		100	95	0.00		0.00
34	03-02-94	4.4		1.15	0		100	95	0.21		0.52
35	04-02-94	0		1.15	0		104.4	95	0.00		0.00
36	05-02-94	0		1.15	0		4.4	68	0.00		0.00
37	06-02-94	9		1.15	0		4.4	68	0.00		0.00
38	07-02-94	0		1.15	0		13.4	68	0.00		0.00
39	08-02-94	0.4		1.15	0		13.4	68	0.00		0.00
40	09-02-94	0		1.15	0		9.4	68	0.00		0.00
41	10-02-94	0		1.15	0		9.4	68	0.00		0.00
42	11-02-94	0		1.15	0	100	9.4	68	0.00		0.00
43	12-02-94	16		1.15	0		100.4	95	6.74		16.84
44	13-02-94	34.8		1.15	0		116.4	95	22.83		57.08
45	14-02-94	0		1.15	0		150.8	95	0.00		0.00
46	15-02-94	0		1.15	0		150.8	95	0.00		0.00
47	16-02-94	0		1.15	0		150.8	95	0.00		0.00
48	17-02-94	0		1.15	0		50.8	83	0.00		0.00
49	18-02-94	2		1.14	0		34.8	68	0.00		0.00
50	19-02-94	3.4		1.13	0		2	68	0.00		0.00
51	20-02-94	1		1.12	0		5.4	68	0.00		0.00
52	21-02-94	0		1.11	0		6.4	68	0.00		0.00
53	22-02-94	0		1.10	0		6.4	68	0.00		0.00
54	23-02-94	0		1.09	0		6.4	68	0.00		0.00
55	24-02-94	0		1.08	0		4.4	68	0.00		0.00
56	25-02-94	0		1.07	0		1	68	0.00		0.00
57	26-02-94	0		1.06	0	100	0	68	0.00		0.00
58	27-02-94	0		1.05	0		100	95	0.00		0.00
59	28-02-94	20.2		1.04	0		100	95	10.05		25.11
60	01-03-94	21		1.03	0		120.2	95	10.70		26.76
61	02-03-94	0		1.02	0		141.2	95	0.00		0.00
62	03-03-94	0		1.01	0		141.2	95	0.00		0.00
63	04-03-94	0		1.00	0		41.2	83	0.00		0.00
64	05-03-94	0		0.99	0		41.2	83	0.00		0.00
65	06-03-94	0		0.98	0		21	68	0.00		0.00
66	07-03-94	0		0.97	0		0	68	0.00		0.00
67	08-03-94	0		0.96	0		0	68	0.00		0.00
68	09-03-94	11.8		0.95	0		0	68	0.00		0.00
69	10-03-94	24		0.94	0		11.8	68	0.00		0.00
70	11-03-94	0		0.93	0		35.8	68	0.00		0.00
71	12-03-94	0		0.92	0		35.8	68	0.00		0.00
72	13-03-94	0		0.91	0		35.8	68	0.00		0.00
73	14-03-94	0		0.90	0		35.8	68	0.00		0.00
74	15-03-94	0		0.89	0		24	68	0.00		0.00
75	16-03-94	0		0.88	0		0	68	0.00		0.00
76	17-03-94	0		0.87	0		0	68	0.00		0.00
77	18-03-94	0		0.86	0		0	68	0.00		0.00
78	19-03-94	0		0.85	0		0	68	0.00		0.00
79	20-03-94	0		0.84	0		0	68	0.00		0.00
80	21-03-94	0		0.83	0		0	68	0.00		0.00
81	22-03-94	0		0.82	0		0	68	0.00		0.00
82	23-03-94	0		0.81	0		0	68	0.00		0.00
83	24-03-94	0		0.80	0		0	68	0.00		0.00
84	25-03-94	0		0.79	0		0	68	0.00		0.00
85	26-03-94	0		0.78	0		0	68	0.00		0.00
86	27-03-94	0		0.77	0		0	68	0.00		0.00
87	28-03-94	0		0.76	0		0	68	0.00		0.00
88	29-03-94	0		0.75	0		0	68	0.00		0.00
89	30-03-94	0		0.74	0		0	68	0.00		0.00
90	31-03-94	0		0.73	0		0	68	0.00		0.00
91	01-04-94	0		0.72	0		0	68	0.00		0.00
92	02-04-94	0		0.71	0		0	68	0.00		0.00
93	03-04-94	0		0.70	0		0	68	0.00		0.00
94	04-04-94	0		0.69	0		0	68	0.00		0.00
95	05-04-94	0		0.68	0		0	68	0.00		0.00
96	06-04-94	0		0.67	0		0	68	0.00		0.00
97	07-04-94	0		0.66	0		0	68	0.00		0.00
98	08-04-94	0		0.65	0		0	68	0.00		0.00
99	09-04-94	0		0.64	0		0	68	0.00		0.00
100	10-04-94	0		0.63	0		0	68	0.00		0.00
101	11-04-94	0		0.62	0		0	68	0.00		0.00
102	12-04-94	0		0.61	0		0	68	0.00		0.00
103	13-04-94	6		0.60	0		0	68	0.00		0.00
104	14-04-94	0		0	0		6	68	0.00		0.00
105	15-04-94	0		0	0		6	68	0.00		0.00
106	16-04-94	0		0	0		6	68	0.00		0.00
107	17-04-94	0		0	0		6	68	0.00		0.00
108	18-04-94	0		0	0		6	68	0.00		0.00
109	19-04-94	0		0	0		0	68	0.00		0.00
110	20-04-94	0		0	0		0	68	0.00		0.00
111	21-04-94	0		0	0		0	68	0.00		0.00
112	22-04-94	0		0	0		0	68	0.00		0.00
113	23-04-94	0		0	0		0	68	0.00		0.00

Maturity

114	24-04-94	0	0	0	68	0.00	0.00
115	25-04-94	0	0	0	68	0.00	0.00
116	26-04-94	0	0	0	68	0.00	0.00
117	27-04-94	0	0	0	68	0.00	0.00
118	28-04-94	0	0	0	68	0.00	0.00
119	29-04-94	0	0	0	68	0.00	0.00
120	30-04-94	0	0	0	68	0.00	0.00
121	01-05-94	0	0	0	68	0.00	0.00
122	02-05-94	3.8	0	0	68	0.00	0.00
123	03-05-94	0	0	3.8	68	0.00	0.00
124	04-05-94	0	0	3.8	68	0.00	0.00
125	05-05-94	0	0	3.8	68	0.00	0.00
126	06-05-94	0	0	3.8	68	0.00	0.00
127	07-05-94	0	0	3.8	68	0.00	0.00
128	08-05-94	0	0	0	68	0.00	0.00
129	09-05-94	0	0	0	68	0.00	0.00
130	10-05-94	0	0	0	68	0.00	0.00
131	11-05-94	0	0	0	68	0.00	0.00
132	12-05-94	0	0	0	68	0.00	0.00
133	13-05-94	0	0	0	68	0.00	0.00
134	14-05-94	0	0	0	68	0.00	0.00
135	15-05-94	0	0	0	68	0.00	0.00
136	16-05-94	0	0	0	68	0.00	0.00
137	17-05-94	0	0	0	68	0.00	0.00
138	18-05-94	0	0	0	68	0.00	0.00
139	19-05-94	0	0	0	68	0.00	0.00
140	20-05-94	0	0	0	68	0.00	0.00
141	21-05-94	0	0	0	68	0.00	0.00
142	22-05-94	0	0	0	68	0.00	0.00
143	23-05-94	0	0	0	68	0.00	0.00
144	24-05-94	0	0	0	68	0.00	0.00
145	25-05-94	0	0	0	68	0.00	0.00
146	26-05-94	0	0	0	68	0.00	0.00
147	27-05-94	0	0	0	68	0.00	0.00
148	28-05-94	0	0	0	68	0.00	0.00
149	29-05-94	0	0	0	68	0.00	0.00
150	30-05-94	0	0	0	68	0.00	0.00
151	31-05-94	0	0	0	68	0.00	0.00
152	01-06-94	0	0	0	68	0.00	0.00
153	02-06-94	0	0	0	68	0.00	0.00
154	03-06-94	0	0	0	68	0.00	0.00
155	04-06-94	0	0	0	68	0.00	0.00
156	05-06-94	0	0	0	68	0.00	0.00
157	06-06-94	0	0	0	68	0.00	0.00
158	07-06-94	0	0	0	68	0.00	0.00
159	08-06-94	10.4	0	0	68	0.00	0.00
160	09-06-94	0	0	10.4	68	0.00	0.00
161	10-06-94	0	0	10.4	68	0.00	0.00
162	11-06-94	0	0	10.4	68	0.00	0.00
163	12-06-94	0	0	10.4	68	0.00	0.00
164	13-06-94	0	0	10.4	68	0.00	0.00
165	14-06-94	0	0	0	68	0.00	0.00
166	15-06-94	0	0	0	68	0.00	0.00
167	16-06-94	0	0	0	68	0.00	0.00
168	17-06-94	0	0	0	68	0.00	0.00
169	18-06-94	0	0	0	68	0.00	0.00
170	19-06-94	0	0	0	68	0.00	0.00
171	20-06-94	0	0	0	68	0.00	0.00
172	21-06-94	0	0	0	68	0.00	0.00
173	22-06-94	0	0	0	68	0.00	0.00
174	23-06-94	0	0	0	68	0.00	0.00
175	24-06-94	0	0	0	68	0.00	0.00
176	25-06-94	0	0	0	68	0.00	0.00
177	26-06-94	0	0	0	68	0.00	0.00
178	27-06-94	0	0	0	68	0.00	0.00
179	28-06-94	0	0	0	68	0.00	0.00
180	29-06-94	0	0	0	68	0.00	0.00
181	30-06-94	0	0	0	68	0.00	0.00
182	01-07-94	0	0	0	68	0.00	0.00
183	02-07-94	0	0	0	68	0.00	0.00
184	03-07-94	0	0	0	68	0.00	0.00
185	04-07-94	0	0	0	68	0.00	0.00
186	05-07-94	0	0	0	68	0.00	0.00
187	06-07-94	0	0	0	68	0.00	0.00
188	07-07-94	0	0	0	68	0.00	0.00
189	08-07-94	0	0	0	68	0.00	0.00
190	09-07-94	0	0	0	68	0.00	0.00
191	10-07-94	0	0	0	68	0.00	0.00
192	11-07-94	0	0	0	68	0.00	0.00
193	12-07-94	0	0	0	68	0.00	0.00
194	13-07-94	3.2	0	0	68	0.00	0.00
195	14-07-94	0	0	3.2	68	0.00	0.00
196	15-07-94	0	0	3.2	68	0.00	0.00
197	16-07-94	0	0	3.2	68	0.00	0.00
198	17-07-94	0	0	3.2	68	0.00	0.00
199	18-07-94	0	0	3.2	68	0.00	0.00
200	19-07-94	0	0	0	68	0.00	0.00
201	20-07-94	0	0	0	68	0.00	0.00
202	21-07-94	0	0	0	68	0.00	0.00
203	22-07-94	0	0	0	68	0.00	0.00
204	23-07-94	0	0	0	68	0.00	0.00
205	24-07-94	0	0	0	68	0.00	0.00
206	25-07-94	0	0	0	68	0.00	0.00
207	26-07-94	0	0	0	68	0.00	0.00
208	27-07-94	0	0	0	68	0.00	0.00
209	28-07-94	0	0	0	68	0.00	0.00
210	29-07-94	0	0	0	68	0.00	0.00
211	30-07-94	0	0	0	68	0.00	0.00
212	31-07-94	0	0	0	68	0.00	0.00
213	01-08-94	0	0	0	68	0.00	0.00
214	02-08-94	0	0	0	68	0.00	0.00
215	03-08-94	0	0	0	68	0.00	0.00
216	04-08-94	0	0	0	68	0.00	0.00
217	05-08-94	0	0	0	68	0.00	0.00
218	06-08-94	0	0	0	68	0.00	0.00
219	07-08-94	0	0	0	68	0.00	0.00
220	08-08-94	0	0	0	68	0.00	0.00
221	09-08-94	0	0	0	68	0.00	0.00
222	10-08-94	0	0	0	68	0.00	0.00
223	11-08-94	0	0	0	68	0.00	0.00
224	12-08-94	0	0	0	68	0.00	0.00
225	13-08-94	0	0	0	68	0.00	0.00
226	14-08-94	0	0	0	68	0.00	0.00
227	15-08-94	0	0	0	68	0.00	0.00
228	16-08-94	0	0	0	68	0.00	0.00
229	17-08-94	0	0	0	68	0.00	0.00

230	18-08-94	0	0	0	68	0.00	0.00		
231	19-08-94	0	0	0	68	0.00	0.00		
232	20-08-94	0	0	0	68	0.00	0.00		
233	21-08-94	4.4	0	0	68	0.00	0.00		
234	22-08-94	0	0	4.4	68	0.00	0.00		
235	23-08-94	0	0	4.4	68	0.00	0.00		
236	24-08-94	0	0	4.4	68	0.00	0.00		
237	25-08-94	0	0	4.4	68	0.00	0.00		
238	26-08-94	0	0	4.4	68	0.00	0.00		
239	27-08-94	0	0	0	68	0.00	0.00		
240	28-08-94	0	0	0	68	0.00	0.00		
241	29-08-94	0	0	0	68	0.00	0.00		
242	30-08-94	0	0	0	68	0.00	0.00		
243	31-08-94	3.8	0	0	68	0.00	0.00		
244	01-09-94	1	0	3.8	68	0.00	0.00		
245	02-09-94	0	0	4.8	68	0.00	0.00		
246	03-09-94	0	0	4.8	68	0.00	0.00		
247	04-09-94	0	0	4.8	68	0.00	0.00		
248	05-09-94	0	0	4.8	68	0.00	0.00		
249	06-09-94	3.4	0	1	68	0.00	0.00		
250	07-09-94	0	0	3.4	68	0.00	0.00		
251	08-09-94	0	0	3.4	68	0.00	0.00		
252	09-09-94	0	0	3.4	68	0.00	0.00		
253	10-09-94	0	0	3.4	68	0.00	0.00		
254	11-09-94	0	0	3.4	68	0.00	0.00		
255	12-09-94	0	0	0	68	0.00	0.00		
256	13-09-94	0.2	0	0	68	0.00	0.00		
257	14-09-94	0	0	0.2	68	0.00	0.00		
258	15-09-94	0	0	0.2	68	0.00	0.00		
259	16-09-94	0	0	0.2	68	0.00	0.00		
260	17-09-94	0	0	0.2	68	0.00	0.00		
261	18-09-94	0	0	0.2	68	0.00	0.00		
262	19-09-94	0	0	0	68	0.00	0.00		
263	20-09-94	0	0	0	68	0.00	0.00		
264	21-09-94	0	0	0	68	0.00	0.00		
265	22-09-94	0	0	0	68	0.00	0.00		
266	23-09-94	0	0	0	68	0.00	0.00		
267	24-09-94	0	0	0	68	0.00	0.00		
268	25-09-94	0	0	100	95	0.00	0.00		
269	26-09-94	0	0	100	95	0.00	0.00		
270	27-09-94	0	0	100	95	0.00	0.00		
271	28-09-94	0	0	100	95	0.00	0.00		
272	29-09-94	0	0	100	95	0.00	0.00		
273	30-09-94	0	0	0	68	0.00	0.00		
Planted	274	01-10-94	0	0.35	0	0	68	0.00	0.00
	275	02-10-94	0	0.35	0	0	68	0.00	0.00
	276	03-10-94	0	0.35	0	0	68	0.00	0.00
	277	04-10-94	0	0.35	0	0	68	0.00	0.00
	278	05-10-94	0	0.35	0	0	68	0.00	0.00
	279	06-10-94	0	0.35	0	0	68	0.00	0.00
Emergence	280	07-10-94	0	0.35	0	0	68	0.00	0.00
	281	08-10-94	0	0.35	0	0	68	0.00	0.00
	282	09-10-94	0	0.35	0	0	68	0.00	0.00
	283	10-10-94	0	0.35	0	0	68	0.00	0.00
	284	11-10-94	0	0.35	0	0	68	0.00	0.00
	285	12-10-94	0	0.35	0	0	68	0.00	0.00
	286	13-10-94	0	0.35	0	0	68	0.00	0.00
	287	14-10-94	0	0.35	0	0	68	0.00	0.00
	288	15-10-94	0	0.35	0	0	68	0.00	0.00
	289	16-10-94	0	0.35	0	0	68	0.00	0.00
	290	17-10-94	0	0.35	0	0	68	0.00	0.00
	291	18-10-94	0	0.35	0	0	68	0.00	0.00
	292	19-10-94	0	0.35	0	0	68	0.00	0.00
	293	20-10-94	0	0.35	0	0	68	0.00	0.00
	294	21-10-94	0	0.35	0	0	68	0.00	0.00
	295	22-10-94	0	0.35	0	0	68	0.00	0.00
	296	23-10-94	0	0.35	0	0	68	0.00	0.00
	297	24-10-94	0	0.35	0	0	68	0.00	0.00
	298	25-10-94	0	0.35	0	0	68	0.00	0.00
	299	26-10-94	0	0.35	0	0	68	0.00	0.00
	300	27-10-94	0	0.35	0	0	68	0.00	0.00
	301	28-10-94	0	0.35	0	0	68	0.00	0.00
	302	29-10-94	13.4	0.35	0	0	68	0.00	0.00
	303	30-10-94	0	0.37	0	13.4	83	0.00	0.00
	304	31-10-94	0	0.38	0	13.4	83	0.00	0.00
	305	01-11-94	0	0.40	0	13.4	83	0.00	0.00
	306	02-11-94	4	0.41	0	13.4	83	0.00	0.00
	307	03-11-94	0	0.43	0	17.4	83	0.00	0.00
	308	04-11-94	0	0.45	0	4	68	0.00	0.00
	309	05-11-94	4	0.46	0	4	68	0.00	0.00
	310	06-11-94	0	0.48	0	8	68	0.00	0.00
	311	07-11-94	0	0.49	0	8	68	0.00	0.00
	312	08-11-94	0	0.51	0	4	68	0.00	0.00
	313	09-11-94	0	0.53	0	4	68	0.00	0.00
	314	10-11-94	0	0.54	0	4	68	0.00	0.00
	315	11-11-94	0	0.56	0	0	68	0.00	0.00
	316	12-11-94	0	0.57	0	0	68	0.00	0.00
	317	13-11-94	0	0.59	0	0	68	0.00	0.00
	318	14-11-94	0	0.61	0	0	68	0.00	0.00
	319	15-11-94	0	0.62	0	0	68	0.00	0.00
	320	16-11-94	0	0.64	0	0	68	0.00	0.00
	321	17-11-94	13.2	0.65	0	0	68	0.00	0.00
	322	18-11-94	0	0.67	0	13.2	83	0.00	0.00
	323	19-11-94	0	0.69	0	13.2	83	0.00	0.00
	324	20-11-94	13.2	0.70	0	13.2	83	0.16	0.40
	325	21-11-94	0	0.72	0	26.4	83	0.00	0.00
	326	22-11-94	0	0.73	0	26.4	83	0.00	0.00
	327	23-11-94	0	0.75	0	13.2	83	0.00	0.00
	328	24-11-94	0	0.77	0	13.2	83	0.00	0.00
	329	25-11-94	0	0.78	0	13.2	83	0.00	0.00
	330	26-11-94	0	0.80	0	0	68	0.00	0.00
	331	27-11-94	0	0.81	0	0	68	0.00	0.00
	332	28-11-94	0	0.83	0	0	68	0.00	0.00
	333	29-11-94	0	0.85	0	0	68	0.00	0.00
	334	30-11-94	5.2	0.86	0	0	68	0.00	0.00
	335	01-12-94	0	0.88	0	5.2	68	0.00	0.00
	336	02-12-94	0	0.89	0	5.2	68	0.00	0.00
	337	03-12-94	0	0.91	0	5.2	68	0.00	0.00
	338	04-12-94	0	0.93	0	5.2	68	0.00	0.00
	339	05-12-94	0	0.94	0	5.2	68	0.00	0.00
	340	06-12-94	0	0.96	0	0	68	0.00	0.00
	341	07-12-94	0	0.97	0	0	68	0.00	0.00
	342	08-12-94	0	0.99	0	0	68	0.00	0.00
	343	09-12-94	0	1.01	0	0	68	0.00	0.00
	344	10-12-94	0	1.02	0	0	68	0.00	0.00
	345	11-12-94	0	1.04	0	0	68	0.00	0.00

346	12-12-94	0	1.05	0	0	68	0.00	0.00	
347	13-12-94	0	1.07	0	0	68	0.00	0.00	
348	14-12-94	0	1.09	0	0	68	0.00	0.00	
349	15-12-94	0	1.10	0	0	68	0.00	0.00	
350	16-12-94	2	1.12	0	100	68	0.00	0.00	
351	17-12-94	0	1.13	0	102	95	0.00	0.00	
352	18-12-94	0	1.15	0	102	95	0.00	0.00	
353	19-12-94	0	1.15	0	102	95	0.00	0.00	
354	20-12-94	0	1.15	0	102	95	0.00	0.00	
355	21-12-94	0	1.15	0	102	95	0.00	0.00	
356	22-12-94	0	1.15	0	0	68	0.00	0.00	
357	23-12-94	0	1.15	0	0	68	0.00	0.00	
358	24-12-94	0	1.15	0	0	68	0.00	0.00	
359	25-12-94	18.2	1.15	0	0	68	0.00	0.00	
360	26-12-94	23	1.15	0	18.2	83	2.55	6.36	
361	27-12-94	0	1.15	0	41.2	95	0.00	0.00	
362	28-12-94	0	1.15	0	41.2	95	0.00	0.00	
363	29-12-94	0	1.15	0	41.2	95	0.00	0.00	
364	30-12-94	0	1.15	0	41.2	95	0.00	0.00	
365	31-12-94	0	1.15	0	100	23	83	0.00	
		280.40					53.23	227.17	133.08
						Runoff %	19	RRO Events	5
								Overland Flow Events	0

Narrabri Dry Year - 1982

Day	Date	Rainfall	ETo	Kc	ETc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @250 ha (ML)
				103.05	0						
1	01-01-82	0		1.15	0		0	68	0.00		0.00
2	02-01-82	0		1.15	0		0	68	0.00		0.00
3	03-01-82	0		1.15	0		0	68	0.00		0.00
4	04-01-82	0		1.15	0		0	68	0.00		0.00
5	05-01-82	0		1.15	0		0	68	0.00		0.00
6	06-01-82	0		1.15	0		0	68	0.00		0.00
7	07-01-82	0		1.15	0		0	68	0.00		0.00
8	08-01-82	0		1.15	0		0	68	0.00		0.00
9	09-01-82	0		1.15	0		0	68	0.00		0.00
10	10-01-82	0		1.15	0	100	0	68	0.00		0.00
11	11-01-82	0		1.15	0		100	95	0.00		0.00
12	12-01-82	0		1.15	0		100	95	0.00		0.00
13	13-01-82	0		1.15	0		100	95	0.00		0.00
14	14-01-82	0		1.15	0		100	95	0.00		0.00
15	15-01-82	14.4		1.15	0		100	95	5.56		13.89
16	16-01-82	11.6		1.15	0		14.4	68	0.00		0.00
17	17-01-82	1.8		1.15	0		26	68	0.00		0.00
18	18-01-82	22.6		1.15	0		27.8	68	0.00		0.00
19	19-01-82	18		1.15	0		50.4	83	1.02		2.55
20	20-01-82	0		1.15	0	100	68.4	95	0.00		0.00
21	21-01-82	0		1.15	0		154	95	0.00		0.00
22	22-01-82	0		1.15	0		142.4	95	0.00		0.00
23	23-01-82	0		1.15	0		140.6	95	0.00		0.00
24	24-01-82	3.2		1.15	0		118	95	0.02		0.06
25	25-01-82	0		1.15	0		103.2	95	0.00		0.00
26	26-01-82	0		1.15	0		3.2	68	0.00		0.00
27	27-01-82	0		1.15	0		3.2	68	0.00		0.00
28	28-01-82	0		1.15	0		3.2	68	0.00		0.00
29	29-01-82	0		1.15	0		3.2	68	0.00		0.00
30	30-01-82	0		1.15	0	100	0	68	0.00		0.00
31	31-01-82	0		1.15	0		100	95	0.00		0.00
32	01-02-82	2.2		1.15	0		100	95	0.00		0.00
33	02-02-82	0		1.15	0		102.2	95	0.00		0.00
34	03-02-82	0		1.15	0		102.2	95	0.00		0.00
35	04-02-82	0		1.15	0		102.2	95	0.00		0.00
36	05-02-82	0		1.15	0		2.2	68	0.00		0.00
37	06-02-82	0		1.15	0		2.2	68	0.00		0.00
38	07-02-82	0		1.15	0		0	68	0.00		0.00
39	08-02-82	0		1.15	0		0	68	0.00		0.00
40	09-02-82	0		1.15	0		0	68	0.00		0.00
41	10-02-82	0		1.15	0		0	68	0.00		0.00
42	11-02-82	0		1.15	0	100	0	68	0.00		0.00
43	12-02-82	0		1.15	0		100	95	0.00		0.00
44	13-02-82	0		1.15	0		100	95	0.00		0.00
45	14-02-82	0		1.15	0		100	95	0.00		0.00
46	15-02-82	0		1.15	0		100	95	0.00		0.00
47	16-02-82	0		1.15	0		100	95	0.00		0.00
48	17-02-82	0		1.15	0		0	68	0.00		0.00
49	18-02-82	0		1.14	0		0	68	0.00		0.00
50	19-02-82	0		1.13	0		0	68	0.00		0.00
51	20-02-82	0		1.12	0		0	68	0.00		0.00
52	21-02-82	0		1.11	0		0	68	0.00		0.00
53	22-02-82	0		1.10	0		0	68	0.00		0.00
54	23-02-82	2.4		1.09	0		0	68	0.00		0.00
55	24-02-82	17		1.08	0		2.4	68	0.00		0.00
56	25-02-82	0		1.07	0		19.4	68	0.00		0.00
57	26-02-82	2.2		1.06	0	100	19.4	68	0.00		0.00
58	27-02-82	0		1.05	0		121.6	95	0.00		0.00
59	28-02-82	0		1.04	0		121.6	95	0.00		0.00
60	01-03-82	33		1.03	0		119.2	95	21.19		52.97
61	02-03-82	0		1.02	0		135.2	95	0.00		0.00
62	03-03-82	10		1.01	0		135.2	95	2.65		6.61
63	04-03-82	43.4		1.00	0		43	83	13.03		32.58
64	05-03-82	1.4		0.99	0		86.4	95	0.00		0.00
65	06-03-82	0		0.98	0		87.8	95	0.00		0.00
66	07-03-82	0		0.97	0		54.8	95	0.00		0.00
67	08-03-82	0		0.96	0		54.8	95	0.00		0.00
68	09-03-82	2.9		0.95	0		44.8	83	0.00		0.00
69	10-03-82	16.8		0.94	0		4.3	68	0.00		0.00
70	11-03-82	1.6		0.93	0		19.7	68	0.00		0.00
71	12-03-82	0		0.92	0		21.3	68	0.00		0.00
72	13-03-82	0		0.91	0		21.3	68	0.00		0.00
73	14-03-82	0		0.90	0		21.3	68	0.00		0.00
74	15-03-82	0		0.89	0		18.4	68	0.00		0.00
75	16-03-82	8.6		0.88	0		1.6	68	0.00		0.00
76	17-03-82	0		0.87	0		8.6	68	0.00		0.00
77	18-03-82	0		0.86	0		8.6	68	0.00		0.00
78	19-03-82	0		0.85	0		8.6	68	0.00		0.00
79	20-03-82	0		0.84	0		8.6	68	0.00		0.00
80	21-03-82	0		0.83	0		8.6	68	0.00		0.00
81	22-03-82	0		0.82	0		0	68	0.00		0.00
82	23-03-82	0		0.81	0		0	68	0.00		0.00
83	24-03-82	0		0.80	0		0	68	0.00		0.00
84	25-03-82	0		0.79	0		0	68	0.00		0.00
85	26-03-82	0		0.78	0		0	68	0.00		0.00
86	27-03-82	0		0.77	0		0	68	0.00		0.00
87	28-03-82	0		0.76	0		0	68	0.00		0.00
88	29-03-82	0		0.75	0		0	68	0.00		0.00
89	30-03-82	0		0.74	0		0	68	0.00		0.00
90	31-03-82	0		0.73	0		0	68	0.00		0.00
91	01-04-82	0		0.72	0		0	68	0.00		0.00
92	02-04-82	0		0.71	0		0	68	0.00		0.00
93	03-04-82	0		0.70	0		0	68	0.00		0.00
94	04-04-82	0		0.69	0		0	68	0.00		0.00
95	05-04-82	3		0.68	0		0	68	0.00		0.00
96	06-04-82	0		0.67	0		3	68	0.00		0.00
97	07-04-82	0		0.66	0		3	68	0.00		0.00
98	08-04-82	0		0.65	0		3	68	0.00		0.00
99	09-04-82	0		0.64	0		3	68	0.00		0.00
100	10-04-82	0		0.63	0		3	68	0.00		0.00
101	11-04-82	0		0.62	0		0	68	0.00		0.00
102	12-04-82	0		0.61	0		0	68	0.00		0.00
103	13-04-82	0		0.60	0		0	68	0.00		0.00
104	14-04-82	0			0		0	68	0.00		0.00
105	15-04-82	0			0		0	68	0.00		0.00
106	16-04-82	0			0		0	68	0.00		0.00
107	17-04-82	5.2			0		0	68	0.00		0.00
108	18-04-82	0			0		5.2	68	0.00		0.00
109	19-04-82	0			0		5.2	68	0.00		0.00
110	20-04-82	0			0		5.2	68	0.00		0.00
111	21-04-82	0			0		5.2	68	0.00		0.00
112	22-04-82	0			0		5.2	68	0.00		0.00
113	23-04-82	0			0		0	68	0.00		0.00
114	24-04-82	0			0		0	68	0.00		0.00
115	25-04-82	0			0		0	68	0.00		0.00
116	26-04-82	0			0		0	68	0.00		0.00
117	27-04-82	0			0		0	68	0.00		0.00
118	28-04-82	0			0		0	68	0.00		0.00
119	29-04-82	0			0		0	68	0.00		0.00
120	30-04-82	0			0		0	68	0.00		0.00
121	01-05-82	0			0		0	68	0.00		0.00
122	02-05-82	0			0		0	68	0.00		0.00

Maturity

123	03-05-82	0	0	0	68	0.00	0.00
124	04-05-82	0	0	0	68	0.00	0.00
125	05-05-82	0	0	0	68	0.00	0.00
126	06-05-82	0	0	0	68	0.00	0.00
127	07-05-82	0	0	0	68	0.00	0.00
128	08-05-82	0	0	0	68	0.00	0.00
129	09-05-82	0	0	0	68	0.00	0.00
130	10-05-82	0	0	0	68	0.00	0.00
131	11-05-82	0	0	0	68	0.00	0.00
132	12-05-82	0	0	0	68	0.00	0.00
133	13-05-82	0	0	0	68	0.00	0.00
134	14-05-82	0	0	0	68	0.00	0.00
135	15-05-82	0	0	0	68	0.00	0.00
136	16-05-82	0	0	0	68	0.00	0.00
137	17-05-82	0	0	0	68	0.00	0.00
138	18-05-82	0	0	0	68	0.00	0.00
139	19-05-82	0	0	0	68	0.00	0.00
140	20-05-82	0	0	0	68	0.00	0.00
141	21-05-82	0	0	0	68	0.00	0.00
142	22-05-82	0	0	0	68	0.00	0.00
143	23-05-82	0	0	0	68	0.00	0.00
144	24-05-82	0	0	0	68	0.00	0.00
145	25-05-82	0	0	0	68	0.00	0.00
146	26-05-82	0	0	0	68	0.00	0.00
147	27-05-82	0	0	0	68	0.00	0.00
148	28-05-82	0	0	0	68	0.00	0.00
149	29-05-82	0	0	0	68	0.00	0.00
150	30-05-82	11	0	0	68	0.00	0.00
151	31-05-82	0	0	11	68	0.00	0.00
152	01-06-82	0	0	11	68	0.00	0.00
153	02-06-82	0	0	11	68	0.00	0.00
154	03-06-82	0	0	11	68	0.00	0.00
155	04-06-82	0	0	11	68	0.00	0.00
156	05-06-82	0	0	0	68	0.00	0.00
157	06-06-82	0	0	0	68	0.00	0.00
158	07-06-82	0	0	0	68	0.00	0.00
159	08-06-82	0	0	0	68	0.00	0.00
160	09-06-82	0	0	0	68	0.00	0.00
161	10-06-82	0	0	0	68	0.00	0.00
162	11-06-82	0	0	0	68	0.00	0.00
163	12-06-82	0	0	0	68	0.00	0.00
164	13-06-82	0	0	0	68	0.00	0.00
165	14-06-82	0	0	0	68	0.00	0.00
166	15-06-82	1.2	0	0	68	0.00	0.00
167	16-06-82	0	0	1.2	68	0.00	0.00
168	17-06-82	0	0	1.2	68	0.00	0.00
169	18-06-82	0	0	1.2	68	0.00	0.00
170	19-06-82	0	0	1.2	68	0.00	0.00
171	20-06-82	0	0	1.2	68	0.00	0.00
172	21-06-82	0	0	0	68	0.00	0.00
173	22-06-82	0	0	0	68	0.00	0.00
174	23-06-82	0	0	0	68	0.00	0.00
175	24-06-82	0	0	0	68	0.00	0.00
176	25-06-82	0	0	0	68	0.00	0.00
177	26-06-82	0	0	0	68	0.00	0.00
178	27-06-82	0	0	0	68	0.00	0.00
179	28-06-82	0	0	0	68	0.00	0.00
180	29-06-82	0	0	0	68	0.00	0.00
181	30-06-82	0	0	0	68	0.00	0.00
182	01-07-82	0	0	0	68	0.00	0.00
183	02-07-82	0	0	0	68	0.00	0.00
184	03-07-82	0	0	0	68	0.00	0.00
185	04-07-82	0	0	0	68	0.00	0.00
186	05-07-82	0	0	0	68	0.00	0.00
187	06-07-82	0	0	0	68	0.00	0.00
188	07-07-82	0	0	0	68	0.00	0.00
189	08-07-82	0	0	0	68	0.00	0.00
190	09-07-82	0	0	0	68	0.00	0.00
191	10-07-82	0	0	0	68	0.00	0.00
192	11-07-82	0	0	0	68	0.00	0.00
193	12-07-82	0	0	0	68	0.00	0.00
194	13-07-82	0	0	0	68	0.00	0.00
195	14-07-82	0	0	0	68	0.00	0.00
196	15-07-82	0	0	0	68	0.00	0.00
197	16-07-82	0	0	0	68	0.00	0.00
198	17-07-82	0	0	0	68	0.00	0.00
199	18-07-82	0	0	0	68	0.00	0.00
200	19-07-82	4.8	0	0	68	0.00	0.00
201	20-07-82	1.2	0	4.8	68	0.00	0.00
202	21-07-82	0	0	6	68	0.00	0.00
203	22-07-82	0	0	6	68	0.00	0.00
204	23-07-82	0	0	6	68	0.00	0.00
205	24-07-82	3	0	6	68	0.00	0.00
206	25-07-82	1.2	0	4.2	68	0.00	0.00
207	26-07-82	0	0	4.2	68	0.00	0.00
208	27-07-82	0	0	4.2	68	0.00	0.00
209	28-07-82	0	0	4.2	68	0.00	0.00
210	29-07-82	0	0	4.2	68	0.00	0.00
211	30-07-82	0	0	1.2	68	0.00	0.00
212	31-07-82	0	0	0	68	0.00	0.00
213	01-08-82	0	0	0	68	0.00	0.00
214	02-08-82	0	0	0	68	0.00	0.00
215	03-08-82	0	0	0	68	0.00	0.00
216	04-08-82	0	0	0	68	0.00	0.00
217	05-08-82	0	0	0	68	0.00	0.00
218	06-08-82	0	0	0	68	0.00	0.00
219	07-08-82	0	0	0	68	0.00	0.00
220	08-08-82	0	0	0	68	0.00	0.00
221	09-08-82	0	0	0	68	0.00	0.00
222	10-08-82	0	0	0	68	0.00	0.00
223	11-08-82	0	0	0	68	0.00	0.00
224	12-08-82	0	0	0	68	0.00	0.00
225	13-08-82	0	0	0	68	0.00	0.00
226	14-08-82	0	0	0	68	0.00	0.00
227	15-08-82	0	0	0	68	0.00	0.00
228	16-08-82	0	0	0	68	0.00	0.00
229	17-08-82	0	0	0	68	0.00	0.00
230	18-08-82	0	0	0	68	0.00	0.00
231	19-08-82	0	0	0	68	0.00	0.00
232	20-08-82	0	0	0	68	0.00	0.00
233	21-08-82	0	0	0	68	0.00	0.00
234	22-08-82	0	0	0	68	0.00	0.00
235	23-08-82	0	0	0	68	0.00	0.00
236	24-08-82	0	0	0	68	0.00	0.00
237	25-08-82	0	0	0	68	0.00	0.00
238	26-08-82	0	0	0	68	0.00	0.00
239	27-08-82	0	0	0	68	0.00	0.00
240	28-08-82	0	0	0	68	0.00	0.00
241	29-08-82	0	0	0	68	0.00	0.00
242	30-08-82	0	0	0	68	0.00	0.00
243	31-08-82	0	0	0	68	0.00	0.00
244	01-09-82	0	0	0	68	0.00	0.00
245	02-09-82	0	0	0	68	0.00	0.00
246	03-09-82	0	0	0	68	0.00	0.00
247	04-09-82	0	0	0	68	0.00	0.00

Narrabri Wet Year - 1998

Day	Date	Rainfall	ETo	Kc	ETc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @ 250 ha (ML)
1	01-01-98	0	0	103.05	0		0	68	0.00		0.00
2	02-01-98	0		1.15	0		0	68	0.00		0.00
3	03-01-98	0		1.15	0		0	68	0.00		0.00
4	04-01-98	10.2		1.15	0		0	68	0.00		0.00
5	05-01-98	0		1.15	0		10.2	68	0.00		0.00
6	06-01-98	0		1.15	0		10.2	68	0.00		0.00
7	07-01-98	0		1.15	0		10.2	68	0.00		0.00
8	08-01-98	0		1.15	0		10.2	68	0.00		0.00
9	09-01-98	0		1.15	0		10.2	68	0.00		0.00
10	10-01-98	3.6		1.15	0	100	0	68	0.00		0.00
11	11-01-98	3		1.15	0		103.6	95	0.01		0.03
12	12-01-98	0		1.15	0		106.6	95	0.00		0.00
13	13-01-98	0		1.15	0		106.6	95	0.00		0.00
14	14-01-98	0		1.15	0		106.6	95	0.00		0.00
15	15-01-98	3.8		1.15	0		106.6	95	0.10		0.24
16	16-01-98	0		1.15	0		6.8	68	0.00		0.00
17	17-01-98	0		1.15	0		3.8	68	0.00		0.00
18	18-01-98	0		1.15	0		3.8	68	0.00		0.00
19	19-01-98	11.2		1.15	0		3.8	68	0.00		0.00
20	20-01-98	2		1.15	0	100	15	68	0.00		0.00
21	21-01-98	0		1.15	0		113.2	95	0.00		0.00
22	22-01-98	0		1.15	0		113.2	95	0.00		0.00
23	23-01-98	0		1.15	0		113.2	95	0.00		0.00
24	24-01-98	0		1.15	0		113.2	95	0.00		0.00
25	25-01-98	0		1.15	0		102	95	0.00		0.00
26	26-01-98	0		1.15	0		0	68	0.00		0.00
27	27-01-98	0		1.15	0		0	68	0.00		0.00
28	28-01-98	0		1.15	0		0	68	0.00		0.00
29	29-01-98	0		1.15	0		0	68	0.00		0.00
30	30-01-98	0		1.15	0	100	0	68	0.00		0.00
31	31-01-98	0		1.15	0		100	95	0.00		0.00
32	01-02-98	0		1.15	0		100	95	0.00		0.00
33	02-02-98	0		1.15	0		100	95	0.00		0.00
34	03-02-98	0		1.15	0		100	95	0.00		0.00
35	04-02-98	0		1.15	0		100	95	0.00		0.00
36	05-02-98	0		1.15	0		0	68	0.00		0.00
37	06-02-98	39.2		1.15	0		0	68	1.84		4.60
38	07-02-98	0		1.15	0		39.2	83	0.00		0.00
39	08-02-98	0		1.15	0		39.2	83	0.00		0.00
40	09-02-98	5		1.15	0		39.2	83	0.00		0.00
41	10-02-98	3.8		1.15	0		44.2	83	0.00		0.00
42	11-02-98	85		1.15	0	100	48	83	44.37		110.92
43	12-02-98	8.8		1.15	0		193.8	95	1.97		4.92
44	13-02-98	0		1.15	0		202.6	95	0.00		0.00
45	14-02-98	0		1.15	0		202.6	95	0.00		0.00
46	15-02-98	0		1.15	0		197.6	95	0.00		0.00
47	16-02-98	0		1.15	0		193.8	95	0.00		0.00
48	17-02-98	0		1.15	0		8.8	68	0.00		0.00
49	18-02-98	0		1.14	0		0	68	0.00		0.00
50	19-02-98	0		1.13	0		0	68	0.00		0.00
51	20-02-98	0		1.12	0		0	68	0.00		0.00
52	21-02-98	0		1.11	0		0	68	0.00		0.00
53	22-02-98	0		1.10	0		0	68	0.00		0.00
54	23-02-98	0		1.09	0		0	68	0.00		0.00
55	24-02-98	0		1.08	0		0	68	0.00		0.00
56	25-02-98	0		1.07	0		0	68	0.00		0.00
57	26-02-98	0		1.06	0	100	0	68	0.00		0.00
58	27-02-98	0		1.05	0		100	95	0.00		0.00
59	28-02-98	0		1.04	0		100	95	0.00		0.00
60	01-03-98	33		1.03	0		100	95	21.19		52.97
61	02-03-98	0		1.02	0		133	95	0.00		0.00
62	03-03-98	0		1.01	0		133	95	0.00		0.00
63	04-03-98	0		1.00	0		33	68	0.00		0.00
64	05-03-98	0		0.99	0		33	68	0.00		0.00
65	06-03-98	0		0.98	0		33	68	0.00		0.00
66	07-03-98	0		0.97	0		0	68	0.00		0.00
67	08-03-98	0		0.96	0		0	68	0.00		0.00
68	09-03-98	0		0.95	0		0	68	0.00		0.00
69	10-03-98	0		0.94	0		0	68	0.00		0.00
70	11-03-98	0		0.93	0		0	68	0.00		0.00
71	12-03-98	0		0.92	0		0	68	0.00		0.00
72	13-03-98	0		0.91	0		0	68	0.00		0.00
73	14-03-98	0		0.90	0		0	68	0.00		0.00
74	15-03-98	0		0.89	0		0	68	0.00		0.00
75	16-03-98	0		0.88	0		0	68	0.00		0.00
76	17-03-98	0		0.87	0		0	68	0.00		0.00
77	18-03-98	0		0.86	0		0	68	0.00		0.00
78	19-03-98	0		0.85	0		0	68	0.00		0.00
79	20-03-98	0		0.84	0		0	68	0.00		0.00
80	21-03-98	0		0.83	0		0	68	0.00		0.00
81	22-03-98	0		0.82	0		0	68	0.00		0.00
82	23-03-98	0		0.81	0		0	68	0.00		0.00
83	24-03-98	0		0.80	0		0	68	0.00		0.00
84	25-03-98	0		0.79	0		0	68	0.00		0.00
85	26-03-98	0		0.78	0		0	68	0.00		0.00
86	27-03-98	0		0.77	0		0	68	0.00		0.00
87	28-03-98	0		0.76	0		0	68	0.00		0.00
88	29-03-98	0		0.75	0		0	68	0.00		0.00
89	30-03-98	0		0.74	0		0	68	0.00		0.00
90	31-03-98	0		0.73	0		0	68	0.00		0.00
91	01-04-98	0		0.72	0		0	68	0.00		0.00
92	02-04-98	0		0.71	0		0	68	0.00		0.00
93	03-04-98	0		0.70	0		0	68	0.00		0.00
94	04-04-98	0		0.69	0		0	68	0.00		0.00
95	05-04-98	0		0.68	0		0	68	0.00		0.00
96	06-04-98	0		0.67	0		0	68	0.00		0.00
97	07-04-98	0		0.66	0		0	68	0.00		0.00
98	08-04-98	0		0.65	0		0	68	0.00		0.00
99	09-04-98	0		0.64	0		0	68	0.00		0.00
100	10-04-98	0		0.63	0		0	68	0.00		0.00
101	11-04-98	0		0.62	0		0	68	0.00		0.00
102	12-04-98	0		0.61	0		0	68	0.00		0.00
103	13-04-98	0		0.60	0		0	68	0.00		0.00
104	14-04-98	0			0		0	68	0.00		0.00
105	15-04-98	0.6			0		0	68	0.00		0.00
106	16-04-98	3.2			0		0.6	68	0.00		0.00
107	17-04-98	0			0		3.8	68	0.00		0.00
108	18-04-98	0			0		3.8	68	0.00		0.00
109	19-04-98	0			0		3.8	68	0.00		0.00
110	20-04-98	0			0		3.8	68	0.00		0.00
111	21-04-98	0			0		3.2	68	0.00		0.00
112	22-04-98	4.6			0		0	68	0.00		0.00

Maturity

113	23-04-98	11.8	0	4.6	68	0.00	0.00
114	24-04-98	14.8	0	16.4	68	0.00	0.00
115	25-04-98	0.2	0	31.2	68	0.00	0.00
116	26-04-98	0	0	31.4	68	0.00	0.00
117	27-04-98	0	0	31.4	68	0.00	0.00
118	28-04-98	0	0	26.8	68	0.00	0.00
119	29-04-98	0	0	15	68	0.00	0.00
120	30-04-98	0	0	0.2	68	0.00	0.00
121	01-05-98	0	0	0	68	0.00	0.00
122	02-05-98	0	0	0	68	0.00	0.00
123	03-05-98	15.4	0	0	68	0.00	0.00
124	04-05-98	6.6	0	15.4	83	0.00	0.00
125	05-05-98	13	0	22	83	0.14	0.35
126	06-05-98	0	0	35	95	0.00	0.00
127	07-05-98	0	0	35	95	0.00	0.00
128	08-05-98	0	0	35	95	0.00	0.00
129	09-05-98	0	0	19.6	83	0.00	0.00
130	10-05-98	0	0	13	68	0.00	0.00
131	11-05-98	0	0	0	68	0.00	0.00
132	12-05-98	0	0	0	68	0.00	0.00
133	13-05-98	0	0	0	68	0.00	0.00
134	14-05-98	0	0	0	68	0.00	0.00
135	15-05-98	10.6	0	0	68	0.00	0.00
136	16-05-98	23.8	0	10.6	68	0.00	0.00
137	17-05-98	0.2	0	34.4	95	0.00	0.00
138	18-05-98	0	0	34.6	95	0.00	0.00
139	19-05-98	0	0	34.6	95	0.00	0.00
140	20-05-98	0	0	34.6	95	0.00	0.00
141	21-05-98	0	0	24	83	0.00	0.00
142	22-05-98	0	0	0.2	68	0.00	0.00
143	23-05-98	0	0	0	68	0.00	0.00
144	24-05-98	0	0	0	68	0.00	0.00
145	25-05-98	0	0	0	68	0.00	0.00
146	26-05-98	0	0	0	68	0.00	0.00
147	27-05-98	0	0	0	68	0.00	0.00
148	28-05-98	0	0	0	68	0.00	0.00
149	29-05-98	0	0	0	68	0.00	0.00
150	30-05-98	0	0	0	68	0.00	0.00
151	31-05-98	0	0	0	68	0.00	0.00
152	01-06-98	0	0	0	68	0.00	0.00
153	02-06-98	0	0	0	68	0.00	0.00
154	03-06-98	0	0	0	68	0.00	0.00
155	04-06-98	0	0	0	68	0.00	0.00
156	05-06-98	0	0	0	68	0.00	0.00
157	06-06-98	0	0	0	68	0.00	0.00
158	07-06-98	0	0	0	68	0.00	0.00
159	08-06-98	0	0	0	68	0.00	0.00
160	09-06-98	0	0	0	68	0.00	0.00
161	10-06-98	0	0	0	68	0.00	0.00
162	11-06-98	0	0	0	68	0.00	0.00
163	12-06-98	0	0	0	68	0.00	0.00
164	13-06-98	0	0	0	68	0.00	0.00
165	14-06-98	0	0	0	68	0.00	0.00
166	15-06-98	0	0	0	68	0.00	0.00
167	16-06-98	5	0	0	68	0.00	0.00
168	17-06-98	0	0	5	68	0.00	0.00
169	18-06-98	0	0	5	68	0.00	0.00
170	19-06-98	0	0	5	68	0.00	0.00
171	20-06-98	0	0	5	68	0.00	0.00
172	21-06-98	0	0	5	68	0.00	0.00
173	22-06-98	10.2	0	0	68	0.00	0.00
174	23-06-98	22	0	10.2	68	0.00	0.00
175	24-06-98	0	0	32.2	95	0.00	0.00
176	25-06-98	0	0	32.2	95	0.00	0.00
177	26-06-98	0	0	32.2	95	0.00	0.00
178	27-06-98	0	0	32.2	95	0.00	0.00
179	28-06-98	0	0	22	83	0.00	0.00
180	29-06-98	0	0	0	68	0.00	0.00
181	30-06-98	1	0	0	68	0.00	0.00
182	01-07-98	2.4	0	1	68	0.00	0.00
183	02-07-98	0	0	3.4	68	0.00	0.00
184	03-07-98	0	0	3.4	68	0.00	0.00
185	04-07-98	1	0	3.4	68	0.00	0.00
186	05-07-98	3.8	0	4.4	68	0.00	0.00
187	06-07-98	0	0	7.2	68	0.00	0.00
188	07-07-98	0.8	0	4.8	68	0.00	0.00
189	08-07-98	0.4	0	5.6	68	0.00	0.00
190	09-07-98	1.2	0	6	68	0.00	0.00
191	10-07-98	0	0	6.2	68	0.00	0.00
192	11-07-98	0	0	2.4	68	0.00	0.00
193	12-07-98	0	0	2.4	68	0.00	0.00
194	13-07-98	0	0	1.6	68	0.00	0.00
195	14-07-98	4.4	0	1.2	68	0.00	0.00
196	15-07-98	0	0	4.4	68	0.00	0.00
197	16-07-98	0	0	4.4	68	0.00	0.00
198	17-07-98	0	0	4.4	68	0.00	0.00
199	18-07-98	11.2	0	4.4	68	0.00	0.00
200	19-07-98	14.8	0	15.6	83	0.37	0.93
201	20-07-98	0	0	26	83	0.00	0.00
202	21-07-98	54.8	0	26	83	20.73	51.83
203	22-07-98	8.8	0	80.8	95	1.97	4.92
204	23-07-98	0	0	89.6	95	0.00	0.00
205	24-07-98	0	0	78.4	95	0.00	0.00
206	25-07-98	0	0	63.6	95	0.00	0.00
207	26-07-98	10	0	63.6	95	2.65	6.61
208	27-07-98	2.6	0	18.8	83	0.00	0.00
209	28-07-98	32	0	12.6	68	0.57	1.42
210	29-07-98	0	0	44.6	95	0.00	0.00
211	30-07-98	0	0	44.6	95	0.00	0.00
212	31-07-98	0	0	44.6	95	0.00	0.00
213	01-08-98	0	0	34.6	95	0.00	0.00
214	02-08-98	0	0	32	95	0.00	0.00
215	03-08-98	0	0	0	68	0.00	0.00
216	04-08-98	0	0	0	68	0.00	0.00
217	05-08-98	3.8	0	0	68	0.00	0.00
218	06-08-98	20.8	0	3.8	68	0.00	0.00
219	07-08-98	0	0	24.6	83	0.00	0.00
220	08-08-98	8.8	0	24.6	83	0.00	0.00
221	09-08-98	0.8	0	33.4	95	0.00	0.00
222	10-08-98	0	0	34.2	95	0.00	0.00
223	11-08-98	0	0	30.4	95	0.00	0.00
224	12-08-98	0	0	9.6	68	0.00	0.00
225	13-08-98	0	0	9.6	68	0.00	0.00
226	14-08-98	0	0	0.8	68	0.00	0.00
227	15-08-98	0	0	0	68	0.00	0.00

	228	16-08-98	0		0	0	68	0.00	0.00
	229	17-08-98	0		0	0	68	0.00	0.00
	230	18-08-98	0		0	0	68	0.00	0.00
	231	19-08-98	0		0	0	68	0.00	0.00
	232	20-08-98	0		0	0	68	0.00	0.00
	233	21-08-98	0		0	0	68	0.00	0.00
	234	22-08-98	0		0	0	68	0.00	0.00
	235	23-08-98	5.4		0	0	68	0.00	0.00
	236	24-08-98	0		0	5.4	68	0.00	0.00
	237	25-08-98	0		0	5.4	68	0.00	0.00
	238	26-08-98	56		0	5.4	68	7.02	17.56
	239	27-08-98	3.2		0	61.4	95	0.02	0.06
	240	28-08-98	0		0	64.6	95	0.00	0.00
	241	29-08-98	0		0	59.2	95	0.00	0.00
	242	30-08-98	0		0	59.2	95	0.00	0.00
	243	31-08-98	0		0	59.2	95	0.00	0.00
	244	01-09-98	1.8		0	3.2	68	0.00	0.00
	245	02-09-98	0.4		0	1.8	68	0.00	0.00
	246	03-09-98	0		0	2.2	68	0.00	0.00
	247	04-09-98	0		0	2.2	68	0.00	0.00
	248	05-09-98	58.8		0	2.2	68	8.14	20.34
	249	06-09-98	44.2		0	61	95	31.57	78.94
	250	07-09-98	0		0	103.4	95	0.00	0.00
	251	08-09-98	0		0	103	95	0.00	0.00
	252	09-09-98	0		0	103	95	0.00	0.00
	253	10-09-98	0		0	103	95	0.00	0.00
	254	11-09-98	3		0	44.2	95	0.01	0.03
	255	12-09-98	3.8		0	3	68	0.00	0.00
	256	13-09-98	7.6		0	6.8	68	0.00	0.00
	257	14-09-98	0		0	14.4	83	0.00	0.00
	258	15-09-98	15.4		0	14.4	83	0.47	1.18
	259	16-09-98	0		0	29.8	95	0.00	0.00
	260	17-09-98	0		0	26.8	83	0.00	0.00
	261	18-09-98	0		0	23	83	0.00	0.00
	262	19-09-98	0		0	15.4	83	0.00	0.00
	263	20-09-98	0		0	15.4	83	0.00	0.00
	264	21-09-98	0.2		0	0	68	0.00	0.00
	265	22-09-98	0		0	0.2	68	0.00	0.00
	266	23-09-98	0		0	0.2	68	0.00	0.00
	267	24-09-98	0		0	0.2	68	0.00	0.00
	268	25-09-98	15.6	100	0	100.2	95	6.44	16.09
	269	26-09-98	0		0	115.8	95	0.00	0.00
	270	27-09-98	0		0	115.6	95	0.00	0.00
	271	28-09-98	0		0	115.6	95	0.00	0.00
	272	29-09-98	0		0	115.6	95	0.00	0.00
	273	30-09-98	0		0	15.6	83	0.00	0.00
Planted	274	01-10-98	0	0.35	0	0	68	0.00	0.00
	275	02-10-98	0	0.35	0	0	68	0.00	0.00
	276	03-10-98	0	0.35	0	0	68	0.00	0.00
	277	04-10-98	0	0.35	0	0	68	0.00	0.00
	278	05-10-98	0	0.35	0	0	68	0.00	0.00
	279	06-10-98	0.4	0.35	0	0	68	0.00	0.00
Emergance	280	07-10-98	27.2	0.35	0	0.4	68	0.11	0.28
	281	08-10-98	0	0.35	0	27.6	83	0.00	0.00
	282	09-10-98	0	0.35	0	27.6	83	0.00	0.00
	283	10-10-98	1	0.35	0	27.6	83	0.00	0.00
	284	11-10-98	0	0.35	0	28.6	95	0.00	0.00
	285	12-10-98	0	0.35	0	28.2	95	0.00	0.00
	286	13-10-98	0	0.35	0	1	68	0.00	0.00
	287	14-10-98	0	0.35	0	1	68	0.00	0.00
	288	15-10-98	0	0.35	0	1	68	0.00	0.00
	289	16-10-98	0	0.35	0	0	68	0.00	0.00
	290	17-10-98	0	0.35	0	0	68	0.00	0.00
	291	18-10-98	0	0.35	0	0	68	0.00	0.00
	292	19-10-98	0	0.35	0	0	68	0.00	0.00
	293	20-10-98	16	0.35	0	0	68	0.00	0.00
	294	21-10-98	0	0.35	0	16	83	0.00	0.00
	295	22-10-98	0	0.35	0	16	83	0.00	0.00
	296	23-10-98	0	0.35	0	16	83	0.00	0.00
	297	24-10-98	0	0.35	0	16	83	0.00	0.00
	298	25-10-98	10.2	0.35	0	16	83	0.00	0.00
	299	26-10-98	0.4	0.35	0	10.2	68	0.00	0.00
	300	27-10-98	12.4	0.35	0	10.6	68	0.00	0.00
	301	28-10-98	0	0.35	0	23	83	0.00	0.00
	302	29-10-98	0	0.35	0	23	83	0.00	0.00
	303	30-10-98	2	0.37	0	23	83	0.00	0.00
	304	31-10-98	2.4	0.38	0	14.8	83	0.00	0.00
	305	01-11-98	0	0.40	0	16.8	83	0.00	0.00
	306	02-11-98	0	0.41	0	4.4	68	0.00	0.00
	307	03-11-98	0	0.43	0	4.4	68	0.00	0.00
	308	04-11-98	0	0.45	0	4.4	68	0.00	0.00
	309	05-11-98	0	0.46	0	2.4	68	0.00	0.00
	310	06-11-98	0	0.48	0	0	68	0.00	0.00
	311	07-11-98	6.6	0.49	0	0	68	0.00	0.00
	312	08-11-98	1.6	0.51	0	6.6	68	0.00	0.00
	313	09-11-98	0	0.53	0	8.2	68	0.00	0.00
	314	10-11-98	0	0.54	0	8.2	68	0.00	0.00
	315	11-11-98	0	0.56	0	8.2	68	0.00	0.00
	316	12-11-98	0	0.57	0	8.2	68	0.00	0.00
	317	13-11-98	25.4	0.59	0	1.6	68	0.03	0.07
	318	14-11-98	14.4	0.61	0	25.4	83	0.31	0.78
	319	15-11-98	0	0.62	0	39.8	95	0.00	0.00
	320	16-11-98	0	0.64	0	39.8	95	0.00	0.00
	321	17-11-98	0	0.65	0	39.8	95	0.00	0.00
	322	18-11-98	1.2	0.67	0	39.8	95	0.00	0.00
	323	19-11-98	9.6	0.69	0	15.6	83	0.00	0.00
	324	20-11-98	0	0.70	0	10.8	68	0.00	0.00
	325	21-11-98	0	0.72	0	10.8	68	0.00	0.00
	326	22-11-98	0	0.73	0	10.8	68	0.00	0.00
	327	23-11-98	0	0.75	0	10.8	68	0.00	0.00
	328	24-11-98	5	0.77	0	9.6	68	0.00	0.00
	329	25-11-98	0	0.78	0	5	68	0.00	0.00
	330	26-11-98	2	0.80	0	5	68	0.00	0.00
	331	27-11-98	0	0.81	0	7	68	0.00	0.00
	332	28-11-98	0	0.83	0	7	68	0.00	0.00
	333	29-11-98	0	0.85	0	7	68	0.00	0.00
	334	30-11-98	0	0.86	0	2	68	0.00	0.00
	335	01-12-98	0	0.88	0	2	68	0.00	0.00
	336	02-12-98	0	0.89	0	0	68	0.00	0.00
	337	03-12-98	0	0.91	0	0	68	0.00	0.00
	338	04-12-98	0	0.93	0	0	68	0.00	0.00
	339	05-12-98	0	0.94	0	0	68	0.00	0.00
	340	06-12-98	0	0.96	0	0	68	0.00	0.00
	341	07-12-98	0	0.97	0	0	68	0.00	0.00
	342	08-12-98	0	0.99	0	0	68	0.00	0.00

343	09-12-98	0	1.01	0		0	68	0.00	0.00
344	10-12-98	0	1.02	0		0	68	0.00	0.00
345	11-12-98	0	1.04	0		0	68	0.00	0.00
346	12-12-98	0	1.05	0		0	68	0.00	0.00
347	13-12-98	0	1.07	0		0	68	0.00	0.00
348	14-12-98	0	1.09	0		0	68	0.00	0.00
349	15-12-98	1.2	1.10	0		0	68	0.00	0.00
350	16-12-98	5.8	1.12	0	100	1.2	68	0.00	0.00
351	17-12-98	0	1.13	0		107	95	0.00	0.00
352	18-12-98	0	1.15	0		107	95	0.00	0.00
353	19-12-98	0	1.15	0		107	95	0.00	0.00
354	20-12-98	0	1.15	0		107	95	0.00	0.00
355	21-12-98	0	1.15	0		105.8	95	0.00	0.00
356	22-12-98	0	1.15	0		0	68	0.00	0.00
357	23-12-98	0	1.15	0		0	68	0.00	0.00
358	24-12-98	0	1.15	0		0	68	0.00	0.00
359	25-12-98	0	1.15	0		0	68	0.00	0.00
360	26-12-98	0	1.15	0		0	68	0.00	0.00
361	27-12-98	0	1.15	0		0	68	0.00	0.00
362	28-12-98	0	1.15	0		0	68	0.00	0.00
363	29-12-98	0	1.15	0		0	68	0.00	0.00
364	30-12-98	0	1.15	0		0	68	0.00	0.00
365	31-12-98	0	1.15	0	100	0	68	0.00	0.00

894.2

150.0

744.2

375.08

Runoff % 17

RRO Events	10
Overland Flow Events	2

Narrabri Wettest Year 2004

Day	Date	Rainfall	ETo	Kc	ETc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @250 ha (ML)
				103.05	0						
1	01-01-04	0		1.15	0		0	68	0.00		0.00
2	02-01-04	0		1.15	0		0	68	0.00		0.00
3	03-01-04	0		1.15	0		0	68	0.00		0.00
4	04-01-04	0		1.15	0		0	68	0.00		0.00
5	05-01-04	0		1.15	0		0	68	0.00		0.00
6	06-01-04	0		1.15	0		0	68	0.00		0.00
7	07-01-04	0		1.15	0		0	68	0.00		0.00
8	08-01-04	3.6		1.15	0		0	68	0.00		0.00
9	09-01-04	0		1.15	0		3.6	68	0.00		0.00
10	10-01-04	0		1.15	0	100	3.6	68	0.00		0.00
11	11-01-04	7		1.15	0		103.6	95	1.09		2.72
12	12-01-04	3		1.15	0		110.6	95	0.01		0.03
13	13-01-04	4.8		1.15	0		113.6	95	0.31		0.77
14	14-01-04	39.2		1.15	0		114.8	95	26.89		67.23
15	15-01-04	7		1.15	0		154	95	1.09		2.72
16	16-01-04	2		1.15	0		61	95	0.00		0.00
17	17-01-04	73.8		1.15	0		56	95	60.06		150.16
18	18-01-04	0		1.15	0		126.8	95	0.00		0.00
19	19-01-04	0		1.15	0		122	95	0.00		0.00
20	20-01-04	0		1.15	0	100	82.8	95	0.00		0.00
21	21-01-04	0		1.15	0		175.8	95	0.00		0.00
22	22-01-04	0		1.15	0		173.8	95	0.00		0.00
23	23-01-04	0.8		1.15	0		100	95	0.00		0.00
24	24-01-04	0		1.15	0		100.8	95	0.00		0.00
25	25-01-04	0		1.15	0		100.8	95	0.00		0.00
26	26-01-04	0		1.15	0		0.8	68	0.00		0.00
27	27-01-04	0		1.15	0		0.8	68	0.00		0.00
28	28-01-04	0		1.15	0		0.8	68	0.00		0.00
29	29-01-04	0		1.15	0		0	68	0.00		0.00
30	30-01-04	0		1.15	0	100	0	68	0.00		0.00
31	31-01-04	0		1.15	0		100	95	0.00		0.00
32	01-02-04	0		1.15	0		100	95	0.00		0.00
33	02-02-04	0		1.15	0		100	95	0.00		0.00
34	03-02-04	12.8		1.15	0		100	95	4.43		11.08
35	04-02-04	0		1.15	0		112.8	95	0.00		0.00
36	05-02-04	0		1.15	0		12.8	68	0.00		0.00
37	06-02-04	0		1.15	0		12.8	68	0.00		0.00
38	07-02-04	0		1.15	0		12.8	68	0.00		0.00
39	08-02-04	0		1.15	0		12.8	68	0.00		0.00
40	09-02-04	0		1.15	0		0	68	0.00		0.00
41	10-02-04	0		1.15	0		0	68	0.00		0.00
42	11-02-04	0		1.15	0	100	0	68	0.00		0.00
43	12-02-04	0		1.15	0		100	95	0.00		0.00
44	13-02-04	0.2		1.15	0		100	95	0.00		0.00
45	14-02-04	0		1.15	0		100.2	95	0.00		0.00
46	15-02-04	0		1.15	0		100.2	95	0.00		0.00
47	16-02-04	8.4		1.15	0		100.2	95	1.76		4.40
48	17-02-04	0		1.15	0		8.6	68	0.00		0.00
49	18-02-04	44.2		1.14	0		8.6	68	3.09		7.72
50	19-02-04	0		1.13	0		52.6	83	0.00		0.00
51	20-02-04	0		1.12	0		52.6	83	0.00		0.00
52	21-02-04	0		1.11	0		52.6	83	0.00		0.00
53	22-02-04	2.4		1.10	0		44.2	83	0.00		0.00
54	23-02-04	1		1.09	0		46.6	83	0.00		0.00
55	24-02-04	14		1.08	0		3.4	68	0.00		0.00
56	25-02-04	30.2		1.07	0		17.4	68	0.36		0.89
57	26-02-04	0		1.06	0	100	47.6	83	0.00		0.00
58	27-02-04	0		1.05	0		147.6	95	0.00		0.00
59	28-02-04	0		1.04	0		145.2	95	0.00		0.00
60	29-02-04	0		1.03	0		144.2	95	0.00		0.00
61	01-03-04	0		1.02	0		130.2	95	0.00		0.00
62	02-03-04	0		1.01	0		100	95	0.00		0.00
63	03-03-04	0		1.00	0		0	68	0.00		0.00
64	04-03-04	0		0.99	0		0	68	0.00		0.00
65	05-03-04	0		0.98	0		0	68	0.00		0.00
66	06-03-04	4.4		0.97	0		0	68	0.00		0.00
67	07-03-04	0		0.96	0		4.4	68	0.00		0.00
68	08-03-04	0		0.95	0		4.4	68	0.00		0.00
69	09-03-04	0		0.94	0		4.4	68	0.00		0.00
70	10-03-04	0		0.93	0		4.4	68	0.00		0.00
71	11-03-04	0		0.92	0		4.4	68	0.00		0.00
72	12-03-04	27.2		0.91	0		0	68	0.11		0.28
73	13-03-04	1		0.90	0		27.2	68	0.00		0.00
74	14-03-04	1.2		0.89	0		28.2	68	0.00		0.00
75	15-03-04	57.2		0.88	0		29.4	68	7.49		18.73
76	16-03-04	0		0.87	0		86.6	95	0.00		0.00
77	17-03-04	0		0.86	0		86.6	95	0.00		0.00
78	18-03-04	0		0.85	0		59.4	95	0.00		0.00
79	19-03-04	0		0.84	0		58.4	95	0.00		0.00
80	20-03-04	0		0.83	0		57.2	95	0.00		0.00
81	21-03-04	0		0.82	0		0	68	0.00		0.00
82	22-03-04	1.8		0.81	0		0	68	0.00		0.00
83	23-03-04	7.4		0.80	0		1.8	68	0.00		0.00
84	24-03-04	0		0.79	0		9.2	68	0.00		0.00
85	25-03-04	0		0.78	0		9.2	68	0.00		0.00
86	26-03-04	0		0.77	0		9.2	68	0.00		0.00
87	27-03-04	0		0.76	0		9.2	68	0.00		0.00
88	28-03-04	0		0.75	0		7.4	68	0.00		0.00
89	29-03-04	0		0.74	0		0	68	0.00		0.00
90	30-03-04	0		0.73	0		0	68	0.00		0.00
91	31-03-04	0		0.72	0		0	68	0.00		0.00
92	01-04-04	0		0.71	0		0	68	0.00		0.00
93	02-04-04	0		0.70	0		0	68	0.00		0.00
94	03-04-04	0		0.69	0		0	68	0.00		0.00
95	04-04-04	0		0.68	0		0	68	0.00		0.00
96	05-04-04	0		0.67	0		0	68	0.00		0.00
97	06-04-04	0		0.66	0		0	68	0.00		0.00
98	07-04-04	0		0.65	0		0	68	0.00		0.00
99	08-04-04	0		0.64	0		0	68	0.00		0.00
100	09-04-04	0		0.63	0		0	68	0.00		0.00
101	10-04-04	0		0.62	0		0	68	0.00		0.00
102	11-04-04	0		0.61	0		0	68	0.00		0.00
103	12-04-04	0		0.60	0		0	68	0.00		0.00
104	13-04-04	0			0		0	68	0.00		0.00
105	14-04-04	0			0		0	68	0.00		0.00
106	15-04-04	0			0		0	68	0.00		0.00
107	16-04-04	0			0		0	68	0.00		0.00
108	17-04-04	0			0		0	68	0.00		0.00
109	18-04-04	0			0		0	68	0.00		0.00
110	19-04-04	0			0		0	68	0.00		0.00
111	20-04-04	0			0		0	68	0.00		0.00
112	21-04-04	0			0		0	68	0.00		0.00
113	22-04-04	0			0		0	68	0.00		0.00
114	23-04-04	0			0		0	68	0.00		0.00
115	24-04-04	0			0		0	68	0.00		0.00
116	25-04-04	0			0		0	68	0.00		0.00
117	26-04-04	0			0		0	68	0.00		0.00
118	27-04-04	0			0		0	68	0.00		0.00
119	28-04-04	0			0		0	68	0.00		0.00
120	29-04-04	12.4			0		0	68	0.00		0.00
121	30-04-04	10.6			0		12.4	68	0.00		0.00
122	01-05-04	0			0		23	83	0.00		0.00
123	02-05-04	0			0		23	83	0.00		0.00
124	03-05-04	0			0		23	83	0.00		0.00
125	04-05-04	0			0		23	83	0.00		0.00

Maturity

126	05-05-04	0	0	10.6	68	0.00	0.00
127	06-05-04	0	0	0	68	0.00	0.00
128	07-05-04	0	0	0	68	0.00	0.00
129	08-05-04	0	0	0	68	0.00	0.00
130	09-05-04	0	0	0	68	0.00	0.00
131	10-05-04	0	0	0	68	0.00	0.00
132	11-05-04	0	0	0	68	0.00	0.00
133	12-05-04	0	0	0	68	0.00	0.00
134	13-05-04	0	0	0	68	0.00	0.00
135	14-05-04	0	0	0	68	0.00	0.00
136	15-05-04	0	0	0	68	0.00	0.00
137	16-05-04	0	0	0	68	0.00	0.00
138	17-05-04	0	0	0	68	0.00	0.00
139	18-05-04	0	0	0	68	0.00	0.00
140	19-05-04	2.4	0	0	68	0.00	0.00
141	20-05-04	0	0	2.4	68	0.00	0.00
142	21-05-04	0	0	2.4	68	0.00	0.00
143	22-05-04	0	0	2.4	68	0.00	0.00
144	23-05-04	0	0	2.4	68	0.00	0.00
145	24-05-04	0	0	2.4	68	0.00	0.00
146	25-05-04	3.2	0	0	68	0.00	0.00
147	26-05-04	25.4	0	3.2	68	0.03	0.07
148	27-05-04	0	0	28.6	95	0.00	0.00
149	28-05-04	0	0	28.6	95	0.00	0.00
150	29-05-04	0	0	28.6	95	0.00	0.00
151	30-05-04	0	0	28.6	95	0.00	0.00
152	31-05-04	0	0	25.4	83	0.00	0.00
153	01-06-04	0	0	0	68	0.00	0.00
154	02-06-04	0	0	0	68	0.00	0.00
155	03-06-04	2.4	0	0	68	0.00	0.00
156	04-06-04	3.2	0	2.4	68	0.00	0.00
157	05-06-04	0	0	5.6	68	0.00	0.00
158	06-06-04	0	0	5.6	68	0.00	0.00
159	07-06-04	0	0	5.6	68	0.00	0.00
160	08-06-04	0	0	5.6	68	0.00	0.00
161	09-06-04	0	0	3.2	68	0.00	0.00
162	10-06-04	0	0	0	68	0.00	0.00
163	11-06-04	7.2	0	0	68	0.00	0.00
164	12-06-04	0	0	7.2	68	0.00	0.00
165	13-06-04	0	0	7.2	68	0.00	0.00
166	14-06-04	0	0	7.2	68	0.00	0.00
167	15-06-04	0	0	7.2	68	0.00	0.00
168	16-06-04	0	0	7.2	68	0.00	0.00
169	17-06-04	0	0	0	68	0.00	0.00
170	18-06-04	0	0	0	68	0.00	0.00
171	19-06-04	0	0	0	68	0.00	0.00
172	20-06-04	2.8	0	0	68	0.00	0.00
173	21-06-04	0	0	2.8	68	0.00	0.00
174	22-06-04	0	0	2.8	68	0.00	0.00
175	23-06-04	0	0	2.8	68	0.00	0.00
176	24-06-04	0	0	2.8	68	0.00	0.00
177	25-06-04	0	0	2.8	68	0.00	0.00
178	26-06-04	0	0	0	68	0.00	0.00
179	27-06-04	0	0	0	68	0.00	0.00
180	28-06-04	0	0	0	68	0.00	0.00
181	29-06-04	0	0	0	68	0.00	0.00
182	30-06-04	0	0	0	68	0.00	0.00
183	01-07-04	0	0	0	68	0.00	0.00
184	02-07-04	0	0	0	68	0.00	0.00
185	03-07-04	0	0	0	68	0.00	0.00
186	04-07-04	0	0	0	68	0.00	0.00
187	05-07-04	0.2	0	0	68	0.00	0.00
188	06-07-04	0	0	0.2	68	0.00	0.00
189	07-07-04	0	0	0.2	68	0.00	0.00
190	08-07-04	0	0	0.2	68	0.00	0.00
191	09-07-04	0	0	0.2	68	0.00	0.00
192	10-07-04	0	0	0.2	68	0.00	0.00
193	11-07-04	2.2	0	0	68	0.00	0.00
194	12-07-04	3	0	2.2	68	0.00	0.00
195	13-07-04	0	0	5.2	68	0.00	0.00
196	14-07-04	0	0	5.2	68	0.00	0.00
197	15-07-04	0	0	5.2	68	0.00	0.00
198	16-07-04	0	0	5.2	68	0.00	0.00
199	17-07-04	0	0	3	68	0.00	0.00
200	18-07-04	0	0	0	68	0.00	0.00
201	19-07-04	0	0	0	68	0.00	0.00
202	20-07-04	0	0	0	68	0.00	0.00
203	21-07-04	0	0	0	68	0.00	0.00
204	22-07-04	0	0	0	68	0.00	0.00
205	23-07-04	0	0	0	68	0.00	0.00
206	24-07-04	0	0	0	68	0.00	0.00
207	25-07-04	0	0	0	68	0.00	0.00
208	26-07-04	0	0	0	68	0.00	0.00
209	27-07-04	29.8	0	0	68	0.32	0.79
210	28-07-04	0	0	29.8	95	0.00	0.00
211	29-07-04	0	0	29.8	95	0.00	0.00
212	30-07-04	0	0	29.8	95	0.00	0.00
213	31-07-04	0	0	29.8	95	0.00	0.00
214	01-08-04	0	0	29.8	95	0.00	0.00
215	02-08-04	0	0	0	68	0.00	0.00
216	03-08-04	0	0	0	68	0.00	0.00
217	04-08-04	0	0	0	68	0.00	0.00
218	05-08-04	0.8	0	0	68	0.00	0.00
219	06-08-04	0	0	0.8	68	0.00	0.00
220	07-08-04	0	0	0.8	68	0.00	0.00
221	08-08-04	0	0	0.8	68	0.00	0.00
222	09-08-04	0	0	0.8	68	0.00	0.00
223	10-08-04	0	0	0.8	68	0.00	0.00
224	11-08-04	0	0	0	68	0.00	0.00
225	12-08-04	0	0	0	68	0.00	0.00
226	13-08-04	0	0	0	68	0.00	0.00
227	14-08-04	0	0	0	68	0.00	0.00
228	15-08-04	0	0	0	68	0.00	0.00
229	16-08-04	0	0	0	68	0.00	0.00
230	17-08-04	0	0	0	68	0.00	0.00
231	18-08-04	5.4	0	0	68	0.00	0.00
232	19-08-04	0	0	5.4	68	0.00	0.00
233	20-08-04	0	0	5.4	68	0.00	0.00
234	21-08-04	0	0	5.4	68	0.00	0.00
235	22-08-04	0	0	5.4	68	0.00	0.00
236	23-08-04	0	0	5.4	68	0.00	0.00
237	24-08-04	0	0	0	68	0.00	0.00
238	25-08-04	0	0	0	68	0.00	0.00
239	26-08-04	0	0	0	68	0.00	0.00
240	27-08-04	0	0	0	68	0.00	0.00
241	28-08-04	0	0	0	68	0.00	0.00
242	29-08-04	0	0	0	68	0.00	0.00
243	30-08-04	0	0	0	68	0.00	0.00
244	31-08-04	26	0	0	68	0.05	0.13
245	01-09-04	0	0	26	83	0.00	0.00
246	02-09-04	0	0	26	83	0.00	0.00
247	03-09-04	0	0	26	83	0.00	0.00
248	04-09-04	0	0	26	83	0.00	0.00
249	05-09-04	0	0	26	83	0.00	0.00
250	06-09-04	0	0	0	68	0.00	0.00
251	07-09-04	0	0	0	68	0.00	0.00
252	08-09-04	23	0	0	68	0.00	0.00
253	09-09-04	22.6	0	23	83	2.40	6.01

254	10-09-04	0.6		0	45.6	95	0.00	0.00
255	11-09-04	0		0	46.2	95	0.00	0.00
256	12-09-04	0		0	46.2	95	0.00	0.00
257	13-09-04	0		0	46.2	95	0.00	0.00
258	14-09-04	0		0	23.2	83	0.00	0.00
259	15-09-04	0		0	0.6	68	0.00	0.00
260	16-09-04	0		0	0	68	0.00	0.00
261	17-09-04	0		0	0	68	0.00	0.00
262	18-09-04	0		0	0	68	0.00	0.00
263	19-09-04	0		0	0	68	0.00	0.00
264	20-09-04	0		0	0	68	0.00	0.00
265	21-09-04	0		0	0	68	0.00	0.00
266	22-09-04	0		0	0	68	0.00	0.00
267	23-09-04	0		0	0	68	0.00	0.00
268	24-09-04	0		100	100	95	0.00	0.00
269	25-09-04	0		0	100	95	0.00	0.00
270	26-09-04	0		0	100	95	0.00	0.00
271	27-09-04	0		0	100	95	0.00	0.00
272	28-09-04	0		0	100	95	0.00	0.00
273	29-09-04	0		0	0	68	0.00	0.00
274	30-09-04	1.6	0.35	0	0	68	0.00	0.00
275	01-10-04	14.6	0.35	0	1.6	68	0.00	0.00
276	02-10-04	0	0.35	0	16.2	83	0.00	0.00
277	03-10-04	0	0.35	0	16.2	83	0.00	0.00
278	04-10-04	0	0.35	0	16.2	83	0.00	0.00
279	05-10-04	0	0.35	0	16.2	83	0.00	0.00
280	06-10-04	0	0.35	0	14.6	83	0.00	0.00
281	07-10-04	0	0.35	0	0	68	0.00	0.00
282	08-10-04	0	0.35	0	0	68	0.00	0.00
283	09-10-04	0	0.35	0	0	68	0.00	0.00
284	10-10-04	0	0.35	0	0	68	0.00	0.00
285	11-10-04	0	0.35	0	0	68	0.00	0.00
286	12-10-04	0	0.35	0	0	68	0.00	0.00
287	13-10-04	0	0.35	0	0	68	0.00	0.00
288	14-10-04	0	0.35	0	0	68	0.00	0.00
289	15-10-04	0	0.35	0	0	68	0.00	0.00
290	16-10-04	0	0.35	0	0	68	0.00	0.00
291	17-10-04	0	0.35	0	0	68	0.00	0.00
292	18-10-04	33.2	0.35	0	0	68	0.73	1.84
293	19-10-04	0.2	0.35	0	33.2	95	0.00	0.00
294	20-10-04	3.4	0.35	0	33.4	95	0.04	0.11
295	21-10-04	3.4	0.35	0	36.8	95	0.04	0.11
296	22-10-04	0	0.35	0	40.2	95	0.00	0.00
297	23-10-04	0	0.35	0	40.2	95	0.00	0.00
298	24-10-04	0	0.35	0	7	68	0.00	0.00
299	25-10-04	0	0.35	0	6.8	68	0.00	0.00
300	26-10-04	0	0.35	0	3.4	68	0.00	0.00
301	27-10-04	0	0.35	0	0	68	0.00	0.00
302	28-10-04	0	0.35	0	0	68	0.00	0.00
303	29-10-04	0	0.37	0	0	68	0.00	0.00
304	30-10-04	0	0.38	0	0	68	0.00	0.00
305	31-10-04	0	0.40	0	0	68	0.00	0.00
306	01-11-04	0	0.41	0	0	68	0.00	0.00
307	02-11-04	0.8	0.43	0	0	68	0.00	0.00
308	03-11-04	2.4	0.45	0	0.8	68	0.00	0.00
309	04-11-04	0	0.46	0	3.2	68	0.00	0.00
310	05-11-04	67	0.48	0	3.2	68	11.73	29.32
311	06-11-04	21.6	0.49	0	70.2	95	11.20	28.00
312	07-11-04	0	0.51	0	91.8	95	0.00	0.00
313	08-11-04	0	0.53	0	91	95	0.00	0.00
314	09-11-04	0	0.54	0	88.6	95	0.00	0.00
315	10-11-04	0	0.56	0	88.6	95	0.00	0.00
316	11-11-04	0	0.57	0	21.6	83	0.00	0.00
317	12-11-04	2.8	0.59	0	0	68	0.00	0.00
318	13-11-04	0	0.61	0	2.8	68	0.00	0.00
319	14-11-04	0	0.62	0	2.8	68	0.00	0.00
320	15-11-04	0	0.64	0	2.8	68	0.00	0.00
321	16-11-04	0	0.65	0	2.8	68	0.00	0.00
322	17-11-04	0	0.67	0	2.8	68	0.00	0.00
323	18-11-04	0	0.69	0	0	68	0.00	0.00
324	19-11-04	0	0.70	0	0	68	0.00	0.00
325	20-11-04	0	0.72	0	0	68	0.00	0.00
326	21-11-04	8.2	0.73	0	0	68	0.00	0.00
327	22-11-04	33.8	0.75	0	8.2	68	0.82	2.06
328	23-11-04	0	0.77	0	42	95	0.00	0.00
329	24-11-04	0	0.78	0	42	95	0.00	0.00
330	25-11-04	0	0.80	0	42	95	0.00	0.00
331	26-11-04	0	0.81	0	42	95	0.00	0.00
332	27-11-04	0	0.83	0	33.8	95	0.00	0.00
333	28-11-04	0	0.85	0	0	68	0.00	0.00
334	29-11-04	0	0.86	0	0	68	0.00	0.00
335	30-11-04	0	0.88	0	0	68	0.00	0.00
336	01-12-04	0	0.89	0	0	68	0.00	0.00
337	02-12-04	0	0.91	0	0	68	0.00	0.00
338	03-12-04	0	0.93	0	0	68	0.00	0.00
339	04-12-04	0	0.94	0	0	68	0.00	0.00
340	05-12-04	4.2	0.96	0	0	68	0.00	0.00
341	06-12-04	0	0.97	0	4.2	68	0.00	0.00
342	07-12-04	6.6	0.99	0	4.2	68	0.00	0.00
343	08-12-04	14.4	1.01	0	10.8	68	0.00	0.00
344	09-12-04	8	1.02	0	25.2	83	0.00	0.00
345	10-12-04	178	1.04	0	33.2	95	163.13	407.82
346	11-12-04	16.4	1.05	0	207	95	7.04	17.60
347	12-12-04	1.2	1.07	0	223.4	95	0.00	0.00
348	13-12-04	0	1.09	0	218	95	0.00	0.00
349	14-12-04	0	1.10	0	203.6	95	0.00	0.00
350	15-12-04	0	1.12	0	195.6	95	0.00	0.00
351	16-12-04	0	1.13	0	117.6	95	0.00	0.00
352	17-12-04	0	1.15	0	101.2	95	0.00	0.00
353	18-12-04	0	1.15	0	100	95	0.00	0.00
354	19-12-04	0	1.15	0	100	95	0.00	0.00
355	20-12-04	4.6	1.15	0	100	95	0.26	0.64
356	21-12-04	0	1.15	0	4.6	68	0.00	0.00
357	22-12-04	0	1.15	0	4.6	68	0.00	0.00
358	23-12-04	0	1.15	0	4.6	68	0.00	0.00
359	24-12-04	14.4	1.15	0	4.6	68	0.00	0.00
360	25-12-04	0	1.15	0	19	83	0.00	0.00
361	26-12-04	0	1.15	0	14.4	83	0.00	0.00
362	27-12-04	17.4	1.15	0	14.4	83	0.88	2.20
363	28-12-04	6.6	1.15	0	31.8	95	0.92	2.30
364	29-12-04	0	1.15	0	38.4	95	0.00	0.00
365	30-12-04	0	1.15	0	24	83	0.00	0.00

1002.6

306.29

696.31

765.72

Runoff % 31

RRO Events 10
Overland Flow Events 1

Warren Driest Year - 1994

Day	Date	Rainfall	ETo	Kc	ETc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @250 ha (ML)
1	01-01-94	0	0	1.15	0		0	68	0.00		0.00
2	02-01-94	0		1.15	0		0	68	0.00		0.00
3	03-01-94	0		1.15	0		0	68	0.00		0.00
4	04-01-94	0		1.15	0		0	68	0.00		0.00
5	05-01-94	0		1.15	0		0	68	0.00		0.00
6	06-01-94	0		1.15	0		0	68	0.00		0.00
7	07-01-94	0		1.15	0		0	68	0.00		0.00
8	08-01-94	0		1.15	0		0	68	0.00		0.00
9	09-01-94	0		1.15	0		0	68	0.00		0.00
10	10-01-94	0		1.15	0	100	0	68	0.00		0.00
11	11-01-94	0		1.15	0		100	95	0.00		0.00
12	12-01-94	0		1.15	0		100	95	0.00		0.00
13	13-01-94	0		1.15	0		100	95	0.00		0.00
14	14-01-94	0		1.15	0		100	95	0.00		0.00
15	15-01-94	0		1.15	0		100	95	0.00		0.00
16	16-01-94	0		1.15	0		0	68	0.00		0.00
17	17-01-94	1.2		1.15	0		0	68	0.00		0.00
18	18-01-94	0		1.15	0		1.2	68	0.00		0.00
19	19-01-94	0		1.15	0		1.2	68	0.00		0.00
20	20-01-94	0		1.15	0	100	1.2	68	0.00		0.00
21	21-01-94	0		1.15	0		101.2	95	0.00		0.00
22	22-01-94	0		1.15	0		101.2	95	0.00		0.00
23	23-01-94	0		1.15	0		100	95	0.00		0.00
24	24-01-94	0		1.15	0		100	95	0.00		0.00
25	25-01-94	0		1.15	0		100	95	0.00		0.00
26	26-01-94	0		1.15	0		0	68	0.00		0.00
27	27-01-94	0		1.15	0		0	68	0.00		0.00
28	28-01-94	0		1.15	0		0	68	0.00		0.00
29	29-01-94	0		1.15	0		0	68	0.00		0.00
30	30-01-94	0		1.15	0	100	0	68	0.00		0.00
31	31-01-94	0		1.15	0		100	95	0.00		0.00
32	01-02-94	0		1.15	0		100	95	0.00		0.00
33	02-02-94	0		1.15	0		100	95	0.00		0.00
34	03-02-94	3		1.15	0		100	95	0.01		0.03
35	04-02-94	0		1.15	0		103	95	0.00		0.00
36	05-02-94	0		1.15	0		3	68	0.00		0.00
37	06-02-94	0		1.15	0		3	68	0.00		0.00
38	07-02-94	0		1.15	0		3	68	0.00		0.00
39	08-02-94	0		1.15	0		3	68	0.00		0.00
40	09-02-94	0		1.15	0		0	68	0.00		0.00
41	10-02-94	2.1		1.15	0		0	68	0.00		0.00
42	11-02-94	14		1.15	0	100	2.1	68	0.00		0.00
43	12-02-94	0		1.15	0		116.1	95	0.00		0.00
44	13-02-94	0		1.15	0		116.1	95	0.00		0.00
45	14-02-94	0		1.15	0		116.1	95	0.00		0.00
46	15-02-94	4		1.15	0		116.1	95	0.13		0.32
47	16-02-94	0		1.15	0		118	95	0.00		0.00
48	17-02-94	0		1.15	0		4	68	0.00		0.00
49	18-02-94	0		1.14	0		4	68	0.00		0.00
50	19-02-94	0		1.13	0		4	68	0.00		0.00
51	20-02-94	0		1.12	0		4	68	0.00		0.00
52	21-02-94	0		1.11	0		0	68	0.00		0.00
53	22-02-94	0		1.10	0		0	68	0.00		0.00
54	23-02-94	0		1.09	0		0	68	0.00		0.00
55	24-02-94	0		1.08	0		0	68	0.00		0.00
56	25-02-94	0		1.07	0		0	68	0.00		0.00
57	26-02-94	0		1.06	0	100	0	68	0.00		0.00
58	27-02-94	16		1.05	0		100	95	6.74		16.84
59	28-02-94	0		1.04	0		116	95	0.00		0.00
60	01-03-94	0		1.03	0		116	95	0.00		0.00
61	02-03-94	0		1.02	0		116	95	0.00		0.00
62	03-03-94	0		1.01	0		116	95	0.00		0.00
63	04-03-94	0		1.00	0		16	68	0.00		0.00
64	05-03-94	0		0.99	0		0	68	0.00		0.00
65	06-03-94	9.4		0.98	0		0	68	0.00		0.00
66	07-03-94	0		0.97	0		9.4	68	0.00		0.00
67	08-03-94	0		0.96	0		9.4	68	0.00		0.00
68	09-03-94	19		0.95	0		9.4	68	0.00		0.00
69	10-03-94	0		0.94	0		28.4	68	0.00		0.00
70	11-03-94	0		0.93	0		28.4	68	0.00		0.00
71	12-03-94	0		0.92	0		19	68	0.00		0.00
72	13-03-94	0		0.91	0		19	68	0.00		0.00
73	14-03-94	0		0.90	0		19	68	0.00		0.00
74	15-03-94	0		0.89	0		0	68	0.00		0.00
75	16-03-94	0		0.88	0		0	68	0.00		0.00
76	17-03-94	0		0.87	0		0	68	0.00		0.00
77	18-03-94	0		0.86	0		0	68	0.00		0.00
78	19-03-94	0		0.85	0		0	68	0.00		0.00
79	20-03-94	0		0.84	0		0	68	0.00		0.00
80	21-03-94	0		0.83	0		0	68	0.00		0.00
81	22-03-94	0		0.82	0		0	68	0.00		0.00
82	23-03-94	0		0.81	0		0	68	0.00		0.00
83	24-03-94	0		0.80	0		0	68	0.00		0.00
84	25-03-94	0		0.79	0		0	68	0.00		0.00
85	26-03-94	0		0.78	0		0	68	0.00		0.00
86	27-03-94	0		0.77	0		0	68	0.00		0.00
87	28-03-94	0		0.76	0		0	68	0.00		0.00
88	29-03-94	0		0.75	0		0	68	0.00		0.00
89	30-03-94	0		0.74	0		0	68	0.00		0.00
90	31-03-94	0		0.73	0		0	68	0.00		0.00
91	01-04-94	0		0.72	0		0	68	0.00		0.00
92	02-04-94	0		0.71	0		0	68	0.00		0.00
93	03-04-94	0		0.70	0		0	68	0.00		0.00
94	04-04-94	0		0.69	0		0	68	0.00		0.00
95	05-04-94	9.5		0.68	0		0	68	0.00		0.00
96	06-04-94	0		0.67	0		9.5	68	0.00		0.00
97	07-04-94	0		0.66	0		9.5	68	0.00		0.00
98	08-04-94	0		0.65	0		9.5	68	0.00		0.00
99	09-04-94	0		0.64	0		9.5	68	0.00		0.00
100	10-04-94	0		0.63	0		9.5	68	0.00		0.00
101	11-04-94	0		0.62	0		0	68	0.00		0.00
102	12-04-94	0		0.61	0		0	68	0.00		0.00
103	13-04-94	0		0.60	0		0	68	0.00		0.00
104	14-04-94	0			0		0	68	0.00		0.00
105	15-04-94	0			0		0	68	0.00		0.00
106	16-04-94	0			0		0	68	0.00		0.00
107	17-04-94	0			0		0	68	0.00		0.00
108	18-04-94	0			0		0	68	0.00		0.00
109	19-04-94	0			0		0	68	0.00		0.00
110	20-04-94	0			0		0	68	0.00		0.00
111	21-04-94	0			0		0	68	0.00		0.00
112	22-04-94	0			0		0	68	0.00		0.00
113	23-04-94	0			0		0	68	0.00		0.00
114	24-04-94	0			0		0	68	0.00		0.00
115	25-04-94	0			0		0	68	0.00		0.00
116	26-04-94	0			0		0	68	0.00		0.00
117	27-04-94	0			0		0	68	0.00		0.00
118	28-04-94	0			0		0	68	0.00		0.00
119	29-04-94	0			0		0	68	0.00		0.00
120	30-04-94	0			0		0	68	0.00		0.00
121	01-05-94	0			0		0	68	0.00		0.00
122	02-05-94	2.6			0		0	68	0.00		0.00

Maturity

123	03-05-94	0	0	2.6	68	0.00	0.00
124	04-05-94	0	0	2.6	68	0.00	0.00
125	05-05-94	0	0	2.6	68	0.00	0.00
126	06-05-94	0	0	2.6	68	0.00	0.00
127	07-05-94	0	0	2.6	68	0.00	0.00
128	08-05-94	0	0	0	68	0.00	0.00
129	09-05-94	1	0	0	68	0.00	0.00
130	10-05-94	0	0	1	68	0.00	0.00
131	11-05-94	0	0	1	68	0.00	0.00
132	12-05-94	0	0	1	68	0.00	0.00
133	13-05-94	0	0	1	68	0.00	0.00
134	14-05-94	0	0	1	68	0.00	0.00
135	15-05-94	0	0	0	68	0.00	0.00
136	16-05-94	0	0	0	68	0.00	0.00
137	17-05-94	0	0	0	68	0.00	0.00
138	18-05-94	0	0	0	68	0.00	0.00
139	19-05-94	0	0	0	68	0.00	0.00
140	20-05-94	0	0	0	68	0.00	0.00
141	21-05-94	0	0	0	68	0.00	0.00
142	22-05-94	0	0	0	68	0.00	0.00
143	23-05-94	0	0	0	68	0.00	0.00
144	24-05-94	0	0	0	68	0.00	0.00
145	25-05-94	0	0	0	68	0.00	0.00
146	26-05-94	0	0	0	68	0.00	0.00
147	27-05-94	0	0	0	68	0.00	0.00
148	28-05-94	0	0	0	68	0.00	0.00
149	29-05-94	0	0	0	68	0.00	0.00
150	30-05-94	0	0	0	68	0.00	0.00
151	31-05-94	0	0	0	68	0.00	0.00
152	01-06-94	0	0	0	68	0.00	0.00
153	02-06-94	0	0	0	68	0.00	0.00
154	03-06-94	0	0	0	68	0.00	0.00
155	04-06-94	0	0	0	68	0.00	0.00
156	05-06-94	0	0	0	68	0.00	0.00
157	06-06-94	0	0	0	68	0.00	0.00
158	07-06-94	4.1	0	0	68	0.00	0.00
159	08-06-94	1	0	4.1	68	0.00	0.00
160	09-06-94	3.8	0	5.1	68	0.00	0.00
161	10-06-94	0	0	8.9	68	0.00	0.00
162	11-06-94	0	0	8.9	68	0.00	0.00
163	12-06-94	0	0	8.9	68	0.00	0.00
164	13-06-94	0	0	4.8	68	0.00	0.00
165	14-06-94	0	0	3.8	68	0.00	0.00
166	15-06-94	0	0	0	68	0.00	0.00
167	16-06-94	0	0	0	68	0.00	0.00
168	17-06-94	0	0	0	68	0.00	0.00
169	18-06-94	0	0	0	68	0.00	0.00
170	19-06-94	0	0	0	68	0.00	0.00
171	20-06-94	0	0	0	68	0.00	0.00
172	21-06-94	0	0	0	68	0.00	0.00
173	22-06-94	0	0	0	68	0.00	0.00
174	23-06-94	0	0	0	68	0.00	0.00
175	24-06-94	0	0	0	68	0.00	0.00
176	25-06-94	0	0	0	68	0.00	0.00
177	26-06-94	0	0	0	68	0.00	0.00
178	27-06-94	3	0	0	68	0.00	0.00
179	28-06-94	1.3	0	3	68	0.00	0.00
180	29-06-94	0	0	4.3	68	0.00	0.00
181	30-06-94	0	0	4.3	68	0.00	0.00
182	01-07-94	0	0	4.3	68	0.00	0.00
183	02-07-94	0	0	4.3	68	0.00	0.00
184	03-07-94	0	0	1.3	68	0.00	0.00
185	04-07-94	0.2	0	0	68	0.00	0.00
186	05-07-94	0	0	0.2	68	0.00	0.00
187	06-07-94	0	0	0.2	68	0.00	0.00
188	07-07-94	0	0	0.2	68	0.00	0.00
189	08-07-94	0	0	0.2	68	0.00	0.00
190	09-07-94	0	0	0.2	68	0.00	0.00
191	10-07-94	0	0	0	68	0.00	0.00
192	11-07-94	1.6	0	0	68	0.00	0.00
193	12-07-94	8.2	0	1.6	68	0.00	0.00
194	13-07-94	3	0	9.8	68	0.00	0.00
195	14-07-94	0	0	12.8	68	0.00	0.00
196	15-07-94	0	0	12.8	68	0.00	0.00
197	16-07-94	0	0	12.8	68	0.00	0.00
198	17-07-94	0	0	11.2	68	0.00	0.00
199	18-07-94	0	0	3	68	0.00	0.00
200	19-07-94	0	0	0	68	0.00	0.00
201	20-07-94	0	0	0	68	0.00	0.00
202	21-07-94	0	0	0	68	0.00	0.00
203	22-07-94	0	0	0	68	0.00	0.00
204	23-07-94	0	0	0	68	0.00	0.00
205	24-07-94	0	0	0	68	0.00	0.00
206	25-07-94	0	0	0	68	0.00	0.00
207	26-07-94	0	0	0	68	0.00	0.00
208	27-07-94	0	0	0	68	0.00	0.00
209	28-07-94	0	0	0	68	0.00	0.00
210	29-07-94	0	0	0	68	0.00	0.00
211	30-07-94	0	0	0	68	0.00	0.00
212	31-07-94	0	0	0	68	0.00	0.00
213	01-08-94	0	0	0	68	0.00	0.00
214	02-08-94	0	0	0	68	0.00	0.00
215	03-08-94	0	0	0	68	0.00	0.00
216	04-08-94	0	0	0	68	0.00	0.00
217	05-08-94	0	0	0	68	0.00	0.00
218	06-08-94	0	0	0	68	0.00	0.00
219	07-08-94	0	0	0	68	0.00	0.00
220	08-08-94	0	0	0	68	0.00	0.00
221	09-08-94	0	0	0	68	0.00	0.00
222	10-08-94	0	0	0	68	0.00	0.00
223	11-08-94	0	0	0	68	0.00	0.00
224	12-08-94	0	0	0	68	0.00	0.00
225	13-08-94	0	0	0	68	0.00	0.00
226	14-08-94	0	0	0	68	0.00	0.00
227	15-08-94	0	0	0	68	0.00	0.00
228	16-08-94	0	0	0	68	0.00	0.00
229	17-08-94	0	0	0	68	0.00	0.00
230	18-08-94	0	0	0	68	0.00	0.00
231	19-08-94	0	0	0	68	0.00	0.00
232	20-08-94	3	0	0	68	0.00	0.00
233	21-08-94	5.8	0	3	68	0.00	0.00
234	22-08-94	0	0	8.8	68	0.00	0.00
235	23-08-94	0	0	8.8	68	0.00	0.00
236	24-08-94	0	0	8.8	68	0.00	0.00
237	25-08-94	0	0	8.8	68	0.00	0.00
238	26-08-94	0	0	5.8	68	0.00	0.00
239	27-08-94	0	0	0	68	0.00	0.00
240	28-08-94	0	0	0	68	0.00	0.00
241	29-08-94	0	0	0	68	0.00	0.00
242	30-08-94	0	0	0	68	0.00	0.00
243	31-08-94	0	0	0	68	0.00	0.00
244	01-09-94	0	0	0	68	0.00	0.00
245	02-09-94	0	0	0	68	0.00	0.00
246	03-09-94	0	0	0	68	0.00	0.00
247	04-09-94	0	0	0	68	0.00	0.00

	248	05-09-94	2.2		0		0	68	0.00	0.00
	249	06-09-94	0		0		2.2	68	0.00	0.00
	250	07-09-94	0		0		2.2	68	0.00	0.00
	251	08-09-94	0		0		2.2	68	0.00	0.00
	252	09-09-94	0		0		2.2	68	0.00	0.00
	253	10-09-94	0		0		2.2	68	0.00	0.00
	254	11-09-94	0		0		0	68	0.00	0.00
	255	12-09-94	0		0		0	68	0.00	0.00
	256	13-09-94	0		0		0	68	0.00	0.00
	257	14-09-94	0		0		0	68	0.00	0.00
	258	15-09-94	0		0		0	68	0.00	0.00
	259	16-09-94	0		0		0	68	0.00	0.00
	260	17-09-94	0		0		0	68	0.00	0.00
	261	18-09-94	0		0		0	68	0.00	0.00
	262	19-09-94	0		0		0	68	0.00	0.00
	263	20-09-94	0		0		0	68	0.00	0.00
	264	21-09-94	0		0		0	68	0.00	0.00
	265	22-09-94	0		0		0	68	0.00	0.00
	266	23-09-94	0		0		0	68	0.00	0.00
	267	24-09-94	0		0	100	0	68	0.00	0.00
	268	25-09-94	0		0		100	95	0.00	0.00
	269	26-09-94	0		0		100	95	0.00	0.00
	270	27-09-94	0		0		100	95	0.00	0.00
	271	28-09-94	0		0		100	95	0.00	0.00
	272	29-09-94	0		0		100	95	0.00	0.00
	273	30-09-94	0		0		0	68	0.00	0.00
Planted	274	01-10-94	2.4	0.35	0		0	68	0.00	0.00
	275	02-10-94	0	0.35	0		2.4	68	0.00	0.00
	276	03-10-94	0	0.35	0		2.4	68	0.00	0.00
	277	04-10-94	0	0.35	0		2.4	68	0.00	0.00
	278	05-10-94	0	0.35	0		2.4	68	0.00	0.00
	279	06-10-94	0	0.35	0		2.4	68	0.00	0.00
	280	07-10-94	0	0.35	0		0	68	0.00	0.00
Emergence	281	08-10-94	0	0.35	0		0	68	0.00	0.00
	282	09-10-94	0	0.35	0		0	68	0.00	0.00
	283	10-10-94	0	0.35	0		0	68	0.00	0.00
	284	11-10-94	0	0.35	0		0	68	0.00	0.00
	285	12-10-94	0	0.35	0		0	68	0.00	0.00
	286	13-10-94	0	0.35	0		0	68	0.00	0.00
	287	14-10-94	0	0.35	0		0	68	0.00	0.00
	288	15-10-94	0	0.35	0		0	68	0.00	0.00
	289	16-10-94	0	0.35	0		0	68	0.00	0.00
	290	17-10-94	0	0.35	0		0	68	0.00	0.00
	291	18-10-94	0	0.35	0		0	68	0.00	0.00
	292	19-10-94	0	0.35	0		0	68	0.00	0.00
	293	20-10-94	0	0.35	0		0	68	0.00	0.00
	294	21-10-94	0	0.35	0		0	68	0.00	0.00
	295	22-10-94	0	0.35	0		0	68	0.00	0.00
	296	23-10-94	0	0.35	0		0	68	0.00	0.00
	297	24-10-94	0	0.35	0		0	68	0.00	0.00
	298	25-10-94	0	0.35	0		0	68	0.00	0.00
	299	26-10-94	0	0.35	0		0	68	0.00	0.00
	300	27-10-94	0	0.35	0		0	68	0.00	0.00
	301	28-10-94	7	0.35	0		0	68	0.00	0.00
	302	29-10-94	6	0.35	0		7	68	0.00	0.00
	303	30-10-94	0	0.37	0		13	68	0.00	0.00
	304	31-10-94	0	0.38	0		13	68	0.00	0.00
	305	01-11-94	0	0.40	0		13	68	0.00	0.00
	306	02-11-94	0	0.41	0		13	68	0.00	0.00
	307	03-11-94	0	0.43	0		6	68	0.00	0.00
	308	04-11-94	0	0.45	0		0	68	0.00	0.00
	309	05-11-94	0	0.46	0		0	68	0.00	0.00
	310	06-11-94	0	0.48	0		0	68	0.00	0.00
	311	07-11-94	0	0.49	0		0	68	0.00	0.00
	312	08-11-94	0	0.51	0		0	68	0.00	0.00
	313	09-11-94	0	0.53	0		0	68	0.00	0.00
	314	10-11-94	0	0.54	0		0	68	0.00	0.00
	315	11-11-94	0	0.56	0		0	68	0.00	0.00
	316	12-11-94	0	0.57	0		0	68	0.00	0.00
	317	13-11-94	0	0.59	0		0	68	0.00	0.00
	318	14-11-94	3	0.61	0		0	68	0.00	0.00
	319	15-11-94	1.2	0.62	0		3	68	0.00	0.00
	320	16-11-94	0.1	0.64	0		4.2	68	0.00	0.00
	321	17-11-94	0	0.65	0		4.3	68	0.00	0.00
	322	18-11-94	0	0.67	0		4.3	68	0.00	0.00
	323	19-11-94	2.6	0.69	0		4.3	68	0.00	0.00
	324	20-11-94	1	0.70	0		3.9	68	0.00	0.00
	325	21-11-94	0	0.72	0		3.7	68	0.00	0.00
	326	22-11-94	0	0.73	0		3.6	68	0.00	0.00
	327	23-11-94	0	0.75	0		3.6	68	0.00	0.00
	328	24-11-94	0	0.77	0		3.6	68	0.00	0.00
	329	25-11-94	2	0.78	0		1	68	0.00	0.00
	330	26-11-94	0	0.80	0		2	68	0.00	0.00
	331	27-11-94	0	0.81	0		2	68	0.00	0.00
	332	28-11-94	4.9	0.83	0		2	68	0.00	0.00
	333	29-11-94	1.3	0.85	0		6.9	68	0.00	0.00
	334	30-11-94	1.6	0.86	0		8.2	68	0.00	0.00
	335	01-12-94	0	0.88	0		7.8	68	0.00	0.00
	336	02-12-94	0	0.89	0		7.8	68	0.00	0.00
	337	03-12-94	0	0.91	0		7.8	68	0.00	0.00
	338	04-12-94	0	0.93	0		2.9	68	0.00	0.00
	339	05-12-94	0	0.94	0		1.6	68	0.00	0.00
	340	06-12-94	0	0.96	0		0	68	0.00	0.00
	341	07-12-94	0	0.97	0		0	68	0.00	0.00
	342	08-12-94	0	0.99	0		0	68	0.00	0.00
	343	09-12-94	5.2	1.01	0		0	68	0.00	0.00
	344	10-12-94	0	1.02	0		5.2	68	0.00	0.00
	345	11-12-94	0	1.04	0		5.2	68	0.00	0.00
	346	12-12-94	0	1.05	0		5.2	68	0.00	0.00
	347	13-12-94	0	1.07	0		5.2	68	0.00	0.00
	348	14-12-94	0	1.09	0		5.2	68	0.00	0.00
	349	15-12-94	0	1.10	0		0	68	0.00	0.00
	350	16-12-94	0	1.12	0	100	0	68	0.00	0.00
	351	17-12-94	0	1.13	0		100	95	0.00	0.00
	352	18-12-94	0	1.15	0		100	95	0.00	0.00
	353	19-12-94	0	1.15	0		100	95	0.00	0.00
	354	20-12-94	0	1.15	0		100	95	0.00	0.00
	355	21-12-94	2.2	1.15	0		100	95	0.00	0.00
	356	22-12-94	3	1.15	0		2.2	68	0.00	0.00
	357	23-12-94	3.6	1.15	0		5.2	68	0.00	0.00
	358	24-12-94	0	1.15	0		8.8	68	0.00	0.00
	359	25-12-94	0	1.15	0		8.8	68	0.00	0.00
	360	26-12-94	0	1.15	0		8.8	68	0.00	0.00
	361	27-12-94	0	1.15	0		6.6	68	0.00	0.00
	362	28-12-94	0	1.15	0		3.6	68	0.00	0.00
	363	29-12-94	0	1.15	0		0	68	0.00	0.00
	364	30-12-94	0	1.15	0		0	68	0.00	0.00
	365	31-12-94	0	1.15	0	100	0	68	0.00	0.00

166.1

6.88

159.22

17.19

Runoff % 4

RRO Events
Overland Flow Events

1
0

Warren Dry Year - 1986

Day	Date	Rainfall	ETo	Kc	ETc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @250 ha (ML)
				166.05	0						
1	01-01-86	0		0	0				0.00		0.00
2	02-01-86	0		0	0				0.00		0.00
3	03-01-86	0		0	0				0.00		0.00
4	04-01-86	0		0	0				0.00		0.00
5	05-01-86	0.4		0	0				0.00		0.00
6	06-01-86	0		0	0		0.4	80	0.00		0.00
7	07-01-86	0		0	0		0.4	80	0.00		0.00
8	08-01-86	0		0	0		0.4	80	0.00		0.00
9	09-01-86	0		0	0		0.4	80	0.00		0.00
10	10-01-86	0		0	0	100	0.4	80	0.00		0.00
11	11-01-86	0		0	0		100	98	0.00		0.00
12	12-01-86	0		0	0		100	98	0.00		0.00
13	13-01-86	0		0	0		100	98	0.00		0.00
14	14-01-86	0		0	0		100	98	0.00		0.00
15	15-01-86	2		0	0		100	98	0.16		0.39
16	16-01-86	2.8		0	0		2	80	0.00		0.00
17	17-01-86	0		0	0		4.8	80	0.00		0.00
18	18-01-86	0		0	0		4.8	80	0.00		0.00
19	19-01-86	0		0	0		4.8	80	0.00		0.00
20	20-01-86	0		0	0	100	4.8	80	0.00		0.00
21	21-01-86	0		0	0		102.8	98	0.00		0.00
22	22-01-86	5.8		0	0		100	98	2.31		5.78
23	23-01-86	0		0	0		105.8	98	0.00		0.00
24	24-01-86	0		0	0		105.8	98	0.00		0.00
25	25-01-86	0		0	0		105.8	98	0.00		0.00
26	26-01-86	0		0	0		5.8	80	0.00		0.00
27	27-01-86	0		0	0		5.8	80	0.00		0.00
28	28-01-86	0		0	0		0	80	0.00		0.00
29	29-01-86	0		0	0		0	80	0.00		0.00
30	30-01-86	0		0	0	100	0	80	0.00		0.00
31	31-01-86	0		0.35	0		100	95	0.00		0.00
32	01-02-86	0		0.35	0		100	95	0.00		0.00
33	02-02-86	0		0.35	0		100	95	0.00		0.00
34	03-02-86	0		0.35	0		100	95	0.00		0.00
35	04-02-86	11.6		0.35	0		100	95	3.64		9.09
36	05-02-86	0		0.35	0		11.6	68	0.00		0.00
37	06-02-86	0		0.35	0		11.6	68	0.00		0.00
38	07-02-86	0		0.35	0		11.6	68	0.00		0.00
39	08-02-86	0		0.35	0		11.6	68	0.00		0.00
40	09-02-86	0.4		0.35	0		11.6	68	0.00		0.00
41	10-02-86	0		0.35	0		0.4	68	0.00		0.00
42	11-02-86	0		0.35	0	100	0.4	68	0.00		0.00
43	12-02-86	0		0.35	0		100.4	95	0.00		0.00
44	13-02-86	0		0.35	0		100.4	95	0.00		0.00
45	14-02-86	0		0.35	0		100.4	95	0.00		0.00
46	15-02-86	0		0.35	0		100	95	0.00		0.00
47	16-02-86	0		0.35	0		100	95	0.00		0.00
48	17-02-86	0		0.35	0		0	68	0.00		0.00
49	18-02-86	0		0.35	0		0	68	0.00		0.00
50	19-02-86	0		0.35	0		0	68	0.00		0.00
51	20-02-86	0		0.35	0		0	68	0.00		0.00
52	21-02-86	0		0.35	0		0	68	0.00		0.00
53	22-02-86	0		0.35	0		0	68	0.00		0.00
54	23-02-86	0		0.35	0		0	68	0.00		0.00
55	24-02-86	0		0.35	0		0	68	0.00		0.00
56	25-02-86	0		0.35	0		0	68	0.00		0.00
57	26-02-86	0		0.35	0	100	0	68	0.00		0.00
58	27-02-86	0		0.35	0		100	95	0.00		0.00
59	28-02-86	0		0.35	0		100	95	0.00		0.00
60	01-03-86	0		0.37	0		100	95	0.00		0.00
61	02-03-86	0		0.38	0		100	95	0.00		0.00
62	03-03-86	0		0.40	0		100	95	0.00		0.00
63	04-03-86	0		0.41	0		0	68	0.00		0.00
64	05-03-86	0		0.43	0		0	68	0.00		0.00
65	06-03-86	0		0.45	0		0	68	0.00		0.00
66	07-03-86	0		0.46	0		0	68	0.00		0.00
67	08-03-86	0		0.48	0		0	68	0.00		0.00
68	09-03-86	0		0.49	0		0	68	0.00		0.00
69	10-03-86	0		0.51	0		0	68	0.00		0.00
70	11-03-86	0		0.53	0		0	68	0.00		0.00
71	12-03-86	0		0.54	0		0	68	0.00		0.00
72	13-03-86	0		0.56	0		0	68	0.00		0.00
73	14-03-86	0		0.57	0		0	68	0.00		0.00
74	15-03-86	0		0.59	0		0	68	0.00		0.00
75	16-03-86	0		0.61	0		0	68	0.00		0.00
76	17-03-86	0		0.62	0		0	68	0.00		0.00
77	18-03-86	0		0.64	0		0	68	0.00		0.00
78	19-03-86	0		0.65	0		0	68	0.00		0.00
79	20-03-86	0		0.67	0		0	68	0.00		0.00
80	21-03-86	0		0.69	0		0	68	0.00		0.00
81	22-03-86	0		0.70	0		0	68	0.00		0.00
82	23-03-86	0		0.72	0		0	68	0.00		0.00
83	24-03-86	0		0.73	0		0	68	0.00		0.00
84	25-03-86	0		0.75	0		0	68	0.00		0.00
85	26-03-86	0.7		0.77	0		0	68	0.00		0.00
86	27-03-86	0		0.78	0		0.7	68	0.00		0.00
87	28-03-86	0		0.80	0		0.7	68	0.00		0.00
88	29-03-86	0		0.81	0		0.7	68	0.00		0.00
89	30-03-86	0		0.83	0		0.7	68	0.00		0.00
90	31-03-86	0		0.85	0		0.7	68	0.00		0.00
91	01-04-86	0		0.86	0		0	68	0.00		0.00
92	02-04-86	0		0.88	0		0	68	0.00		0.00
93	03-04-86	0		0.89	0		0	68	0.00		0.00
94	04-04-86	0		0.91	0		0	68	0.00		0.00
95	05-04-86	0		0.93	0		0	68	0.00		0.00
96	06-04-86	0		0.94	0		0	68	0.00		0.00
97	07-04-86	0		0.96	0		0	68	0.00		0.00
98	08-04-86	0		0.97	0		0	68	0.00		0.00
99	09-04-86	0		0.99	0		0	68	0.00		0.00
100	10-04-86	0		1.01	0		0	68	0.00		0.00
101	11-04-86	0.4		1.02	0		0	68	0.00		0.00
102	12-04-86	0		1.04	0		0.4	68	0.00		0.00
103	13-04-86	0		1.05	0		0.4	68	0.00		0.00
104	14-04-86	0		1.07	0		0.4	68	0.00		0.00
105	15-04-86	0		1.09	0		0.4	68	0.00		0.00
106	16-04-86	11.4		1.10	0		0.4	68	0.00		0.00
107	17-04-86	0		1.12	0		11.4	68	0.00		0.00
108	18-04-86	0		1.13	0		11.4	68	0.00		0.00
109	19-04-86	0		1.15	0		11.4	68	0.00		0.00
110	20-04-86	0		1.15	0		11.4	68	0.00		0.00
111	21-04-86	0		1.15	0		11.4	68	0.00		0.00
112	22-04-86	0		1.15	0		0	68	0.00		0.00
113	23-04-86	0		1.15	0		0	68	0.00		0.00
114	24-04-86	0		1.15	0		0	68	0.00		0.00
115	25-04-86	0		1.15	0		0	68	0.00		0.00
116	26-04-86	0		1.15	0		0	68	0.00		0.00
117	27-04-86	0		1.15	0		0	68	0.00		0.00
118	28-04-86	0		1.15	0		0	68	0.00		0.00
119	29-04-86	0		1.15	0		0	68	0.00		0.00
120	30-04-86	0		1.15	0		0	68	0.00		0.00
121	01-05-86	0		1.15	0		0	68	0.00		0.00
122	02-05-86	0		1.15	0		0	68	0.00		0.00

123	03-05-86	0	1.15	0	0	68	0.00	0.00
124	04-05-86	0	1.15	0	0	68	0.00	0.00
125	05-05-86	16	1.15	0	0	68	0.00	0.00
126	06-05-86	7.3	1.15	0	16	68	0.00	0.00
127	07-05-86	0	1.15	0	23.3	68	0.00	0.00
128	08-05-86	0	1.15	0	23.3	68	0.00	0.00
129	09-05-86	0	1.15	0	23.3	68	0.00	0.00
130	10-05-86	0	1.15	0	23.3	68	0.00	0.00
131	11-05-86	0	1.15	0	7.3	68	0.00	0.00
132	12-05-86	0	1.15	0	0	68	0.00	0.00
133	13-05-86	0	1.15	0	0	68	0.00	0.00
134	14-05-86	0	1.15	0	0	68	0.00	0.00
135	15-05-86	0	1.15	0	0	68	0.00	0.00
136	16-05-86	0	1.15	0	0	68	0.00	0.00
137	17-05-86	0.2	1.15	0	0	68	0.00	0.00
138	18-05-86	0	1.15	0	0.2	68	0.00	0.00
139	19-05-86	0	1.15	0	0.2	68	0.00	0.00
140	20-05-86	0	1.15	0	0.2	68	0.00	0.00
141	21-05-86	0	1.15	0	0.2	68	0.00	0.00
142	22-05-86	1	1.15	0	0.2	68	0.00	0.00
143	23-05-86	0	1.15	0	1	68	0.00	0.00
144	24-05-86	0	1.15	0	1	68	0.00	0.00
145	25-05-86	0	1.15	0	1	68	0.00	0.00
146	26-05-86	0	1.15	0	1	68	0.00	0.00
147	27-05-86	0	1.15	0	1	68	0.00	0.00
148	28-05-86	0	1.15	0	0	68	0.00	0.00
149	29-05-86	0	1.15	0	0	68	0.00	0.00
150	30-05-86	0	1.15	0	0	68	0.00	0.00
151	31-05-86	0	1.15	0	0	68	0.00	0.00
152	01-06-86	0	1.15	0	0	68	0.00	0.00
153	02-06-86	0	1.15	0	0	68	0.00	0.00
154	03-06-86	0	1.15	0	0	68	0.00	0.00
155	04-06-86	0	1.15	0	0	68	0.00	0.00
156	05-06-86	0	1.15	0	0	68	0.00	0.00
157	06-06-86	0	1.15	0	0	68	0.00	0.00
158	07-06-86	0	1.15	0	0	68	0.00	0.00
159	08-06-86	0	1.15	0	0	68	0.00	0.00
160	09-06-86	0	1.15	0	0	68	0.00	0.00
161	10-06-86	0	1.15	0	0	68	0.00	0.00
162	11-06-86	0	1.15	0	0	68	0.00	0.00
163	12-06-86	0	1.15	0	0	68	0.00	0.00
164	13-06-86	0	1.15	0	0	68	0.00	0.00
165	14-06-86	0	1.15	0	0	68	0.00	0.00
166	15-06-86	0	1.15	0	0	68	0.00	0.00
167	16-06-86	0	1.15	0	0	68	0.00	0.00
168	17-06-86	3	1.15	0	0	68	0.00	0.00
169	18-06-86	0	1.15	0	3	68	0.00	0.00
170	19-06-86	0	1.15	0	3	68	0.00	0.00
171	20-06-86	0	1.14	0	3	68	0.00	0.00
172	21-06-86	0	1.13	0	3	68	0.00	0.00
173	22-06-86	0	1.12	0	3	68	0.00	0.00
174	23-06-86	0	1.11	0	0	68	0.00	0.00
175	24-06-86	0	1.10	0	0	68	0.00	0.00
176	25-06-86	0	1.09	0	0	68	0.00	0.00
177	26-06-86	0	1.08	0	0	68	0.00	0.00
178	27-06-86	0	1.07	0	0	68	0.00	0.00
179	28-06-86	0	1.06	0	0	68	0.00	0.00
180	29-06-86	0	1.05	0	0	68	0.00	0.00
181	30-06-86	0	1.04	0	0	68	0.00	0.00
182	01-07-86	2.5	1.03	0	0	68	0.00	0.00
183	02-07-86	14.2	1.02	0	2.5	68	0.00	0.00
184	03-07-86	0	1.01	0	16.7	68	0.00	0.00
185	04-07-86	6.5	1.00	0	16.7	68	0.00	0.00
186	05-07-86	0	0.99	0	23.2	68	0.00	0.00
187	06-07-86	0	0.98	0	23.2	68	0.00	0.00
188	07-07-86	0	0.97	0	20.7	68	0.00	0.00
189	08-07-86	0	0.96	0	6.5	68	0.00	0.00
190	09-07-86	0	0.95	0	6.5	68	0.00	0.00
191	10-07-86	0	0.94	0	0	68	0.00	0.00
192	11-07-86	0	0.93	0	0	68	0.00	0.00
193	12-07-86	0	0.92	0	0	68	0.00	0.00
194	13-07-86	0	0.91	0	0	68	0.00	0.00
195	14-07-86	0	0.90	0	0	68	0.00	0.00
196	15-07-86	3.5	0.89	0	0	68	0.00	0.00
197	16-07-86	4.3	0.88	0	3.5	68	0.00	0.00
198	17-07-86	0	0.87	0	7.8	68	0.00	0.00
199	18-07-86	0	0.86	0	7.8	68	0.00	0.00
200	19-07-86	0	0.85	0	7.8	68	0.00	0.00
201	20-07-86	0	0.84	0	7.8	68	0.00	0.00
202	21-07-86	0	0.83	0	4.3	68	0.00	0.00
203	22-07-86	0	0.82	0	0	68	0.00	0.00
204	23-07-86	8.5	0.81	0	0	68	0.00	0.00
205	24-07-86	14.4	0.80	0	8.5	68	0.00	0.00
206	25-07-86	0	0.79	0	22.9	68	0.00	0.00
207	26-07-86	0	0.78	0	22.9	68	0.00	0.00
208	27-07-86	0	0.77	0	22.9	68	0.00	0.00
209	28-07-86	0	0.76	0	22.9	68	0.00	0.00
210	29-07-86	0	0.75	0	14.4	68	0.00	0.00
211	30-07-86	0	0.74	0	0	68	0.00	0.00
212	31-07-86	0	0.73	0	0	68	0.00	0.00
213	01-08-86	0	0.72	0	0	68	0.00	0.00
214	02-08-86	0	0.71	0	0	68	0.00	0.00
215	03-08-86	0.3	0.70	0	0	68	0.00	0.00
216	04-08-86	3.7	0.69	0	0.3	68	0.00	0.00
217	05-08-86	11.6	0.68	0	4	68	0.00	0.00
218	06-08-86	0	0.67	0	15.6	68	0.00	0.00
219	07-08-86	0	0.66	0	15.6	68	0.00	0.00
220	08-08-86	0	0.65	0	15.6	68	0.00	0.00
221	09-08-86	0	0.64	0	15.3	68	0.00	0.00
222	10-08-86	0	0.63	0	11.6	68	0.00	0.00
223	11-08-86	0	0.62	0	0	68	0.00	0.00
224	12-08-86	0	0.61	0	0	68	0.00	0.00
225	13-08-86	0	0.60	0	0	68	0.00	0.00
226	14-08-86	25.4	0	0	0	68	0.03	0.07
227	15-08-86	0	0	0	25.4	68	0.00	0.00
228	16-08-86	0	0	0	25.4	68	0.00	0.00
229	17-08-86	0	0	0	25.4	68	0.00	0.00
230	18-08-86	0	0	0	25.4	68	0.00	0.00
231	19-08-86	0	0	0	25.4	68	0.00	0.00
232	20-08-86	0	0	0	0	68	0.00	0.00
233	21-08-86	0	0	0	0	68	0.00	0.00
234	22-08-86	0	0	0	0	68	0.00	0.00
235	23-08-86	0	0	0	0	68	0.00	0.00
236	24-08-86	0	0	0	0	68	0.00	0.00
237	25-08-86	0	0	0	0	68	0.00	0.00
238	26-08-86	0	0	0	0	68	0.00	0.00
239	27-08-86	0	0	0	0	68	0.00	0.00
240	28-08-86	0	0	0	0	68	0.00	0.00
241	29-08-86	0	0	0	0	68	0.00	0.00
242	30-08-86	0.6	0	0	0	68	0.00	0.00
243	31-08-86	0	0	0	0.6	68	0.00	0.00
244	01-09-86	0	0	0	0.6	68	0.00	0.00
245	02-09-86	0	0	0	0.6	68	0.00	0.00
246	03-09-86	0	0	0	0.6	68	0.00	0.00
247	04-09-86	0	0	0	0.6	68	0.00	0.00

Maturity

248	05-09-86	0	0	0	68	0.00	0.00
249	06-09-86	0	0	0	68	0.00	0.00
250	07-09-86	0	0	0	68	0.00	0.00
251	08-09-86	0	0	0	68	0.00	0.00
252	09-09-86	0	0	0	68	0.00	0.00
253	10-09-86	0	0	0	68	0.00	0.00
254	11-09-86	0	0	0	68	0.00	0.00
255	12-09-86	1.6	0	0	68	0.00	0.00
256	13-09-86	0	0	1.6	68	0.00	0.00
257	14-09-86	0	0	1.6	68	0.00	0.00
258	15-09-86	0	0	1.6	68	0.00	0.00
259	16-09-86	12.2	0	1.6	68	0.00	0.00
260	17-09-86	0	0	13.8	83	0.00	0.00
261	18-09-86	0	0	12.2	68	0.00	0.00
262	19-09-86	0	0	12.2	68	0.00	0.00
263	20-09-86	0	0	12.2	68	0.00	0.00
264	21-09-86	0	0	12.2	68	0.00	0.00
265	22-09-86	0	0	0	68	0.00	0.00
266	23-09-86	0	0	0	68	0.00	0.00
267	24-09-86	0	0	0	68	0.00	0.00
268	25-09-86	0	0	100	95	0.00	0.00
269	26-09-86	0	0	100	95	0.00	0.00
270	27-09-86	0	0	100	95	0.00	0.00
271	28-09-86	5	0	100	95	0.36	0.90
272	29-09-86	7.1	0	105	95	1.13	2.83
273	30-09-86	1	0	12.1	68	0.00	0.00
274	01-10-86	0	0	13.1	83	0.00	0.00
275	02-10-86	0	0	13.1	83	0.00	0.00
276	03-10-86	0	0	13.1	83	0.00	0.00
277	04-10-86	0	0	8.1	68	0.00	0.00
278	05-10-86	3.8	0	1	68	0.00	0.00
279	06-10-86	0	0	3.8	68	0.00	0.00
280	07-10-86	0	0	3.8	68	0.00	0.00
281	08-10-86	0	0	3.8	68	0.00	0.00
282	09-10-86	6.2	0	3.8	68	0.00	0.00
283	10-10-86	16	0	10	68	0.00	0.00
284	11-10-86	0	0	22.2	83	0.00	0.00
285	12-10-86	0	0	22.2	83	0.00	0.00
286	13-10-86	0	0	22.2	83	0.00	0.00
287	14-10-86	0	0	22.2	83	0.00	0.00
288	15-10-86	0	0	16	83	0.00	0.00
289	16-10-86	0	0	0	68	0.00	0.00
290	17-10-86	0	0	0	68	0.00	0.00
291	18-10-86	0	0	0	68	0.00	0.00
292	19-10-86	0	0	0	68	0.00	0.00
293	20-10-86	0	0	0	68	0.00	0.00
294	21-10-86	0	0	0	68	0.00	0.00
295	22-10-86	0	0	0	68	0.00	0.00
296	23-10-86	0	0	0	68	0.00	0.00
297	24-10-86	0	0	0	68	0.00	0.00
298	25-10-86	0	0	0	68	0.00	0.00
299	26-10-86	0	0	0	68	0.00	0.00
300	27-10-86	0	0	0	68	0.00	0.00
301	28-10-86	0	0	0	68	0.00	0.00
302	29-10-86	0	0	0	68	0.00	0.00
303	30-10-86	0	0	0	68	0.00	0.00
304	31-10-86	0	0	0	68	0.00	0.00
305	01-11-86	0	0	0	68	0.00	0.00
306	02-11-86	0	0	0	68	0.00	0.00
307	03-11-86	0	0	0	68	0.00	0.00
308	04-11-86	0	0	0	68	0.00	0.00
309	05-11-86	0	0	0	68	0.00	0.00
310	06-11-86	0	0	0	68	0.00	0.00
311	07-11-86	0	0	0	68	0.00	0.00
312	08-11-86	0	0	0	68	0.00	0.00
313	09-11-86	0	0	0	68	0.00	0.00
314	10-11-86	0	0	0	68	0.00	0.00
315	11-11-86	8.2	0	0	68	0.00	0.00
316	12-11-86	69.2	0	8.2	68	12.77	31.93
317	13-11-86	0	0	77.4	95	0.00	0.00
318	14-11-86	0	0	77.4	95	0.00	0.00
319	15-11-86	0	0	77.4	95	0.00	0.00
320	16-11-86	0	0	77.4	95	0.00	0.00
321	17-11-86	0	0	69.2	95	0.00	0.00
322	18-11-86	1.8	0	0	68	0.00	0.00
323	19-11-86	0	0	1.8	68	0.00	0.00
324	20-11-86	0	0	1.8	68	0.00	0.00
325	21-11-86	0	0	1.8	68	0.00	0.00
326	22-11-86	0	0	1.8	68	0.00	0.00
327	23-11-86	0	0	1.8	68	0.00	0.00
328	24-11-86	0	0	0	68	0.00	0.00
329	25-11-86	0	0	0	68	0.00	0.00
330	26-11-86	0	0	0	68	0.00	0.00
331	27-11-86	0	0	0	68	0.00	0.00
332	28-11-86	0	0	0	68	0.00	0.00
333	29-11-86	0	0	0	68	0.00	0.00
334	30-11-86	3.5	0	0	68	0.00	0.00
335	01-12-86	0	0	3.5	68	0.00	0.00
336	02-12-86	0	0	3.5	68	0.00	0.00
337	03-12-86	0	0	3.5	68	0.00	0.00
338	04-12-86	0	0	3.5	68	0.00	0.00
339	05-12-86	0	0	3.5	68	0.00	0.00
340	06-12-86	16	0	0	68	0.00	0.00
341	07-12-86	0	0	16	83	0.00	0.00
342	08-12-86	0	0	16	83	0.00	0.00
343	09-12-86	0	0	16	83	0.00	0.00
344	10-12-86	0	0	16	83	0.00	0.00
345	11-12-86	0	0	16	83	0.00	0.00
346	12-12-86	0	0	0	68	0.00	0.00
347	13-12-86	0	0	0	68	0.00	0.00
348	14-12-86	0	0	0	68	0.00	0.00
349	15-12-86	0	0	0	68	0.00	0.00
350	16-12-86	0	0	0	68	0.00	0.00
351	17-12-86	0	0	100	95	0.00	0.00
352	18-12-86	0	0	100	95	0.00	0.00
353	19-12-86	0	0	100	95	0.00	0.00
354	20-12-86	0	0	100	95	0.00	0.00
355	21-12-86	0	0	100	95	0.00	0.00
356	22-12-86	0	0	0	68	0.00	0.00
357	23-12-86	0	0	0	68	0.00	0.00
358	24-12-86	0	0	0	68	0.00	0.00
359	25-12-86	0	0	0	68	0.00	0.00
360	26-12-86	0	0	0	68	0.00	0.00
361	27-12-86	0	0	0	68	0.00	0.00
362	28-12-86	0	0	0	68	0.00	0.00
363	29-12-86	0	0	0	68	0.00	0.00
364	30-12-86	0	0	0	68	0.00	0.00
365	31-12-86	0	0	0	68	0.00	0.00

310.1

20.40

289.70

51.00

Runoff % 7

RRO Events
Overland Flow Events3
0

Warren Wet Year - 1969

Day	Date	Rainfall	ETo	Kc	ETc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @250ha (ML)
1	01-01-69	1.3	0	103.05	0		0	68	0.00		0.00
2	02-01-69	0		1.15	0		1.3	68	0.00		0.00
3	03-01-69	0		1.15	0		1.3	68	0.00		0.00
4	04-01-69	0		1.15	0		1.3	68	0.00		0.00
5	05-01-69	0		1.15	0		1.3	68	0.00		0.00
6	06-01-69	0		1.15	0		1.3	68	0.00		0.00
7	07-01-69	0		1.15	0		0	68	0.00		0.00
8	08-01-69	0		1.15	0		0	68	0.00		0.00
9	09-01-69	0		1.15	0		0	68	0.00		0.00
10	10-01-69	0		1.15	0	100	0	68	0.00		0.00
11	11-01-69	0		1.15	0		100	95	0.00		0.00
12	12-01-69	0		1.15	0		100	95	0.00		0.00
13	13-01-69	0		1.15	0		100	95	0.00		0.00
14	14-01-69	0		1.15	0		100	95	0.00		0.00
15	15-01-69	1.3		1.15	0		100	95	0.00		0.00
16	16-01-69	0		1.15	0		1.3	68	0.00		0.00
17	17-01-69	0		1.15	0		1.3	68	0.00		0.00
18	18-01-69	49.5		1.15	0		1.3	68	4.70		11.74
19	19-01-69	0		1.15	0		50.8	83	0.00		0.00
20	20-01-69	0		1.15	0	100	50.8	83	0.00		0.00
21	21-01-69	0		1.15	0		149.5	95	0.00		0.00
22	22-01-69	0		1.15	0		149.5	95	0.00		0.00
23	23-01-69	0		1.15	0		149.5	95	0.00		0.00
24	24-01-69	0		1.15	0		100	95	0.00		0.00
25	25-01-69	0		1.15	0		100	95	0.00		0.00
26	26-01-69	0		1.15	0		0	68	0.00		0.00
27	27-01-69	0		1.15	0		0	68	0.00		0.00
28	28-01-69	0		1.15	0		0	68	0.00		0.00
29	29-01-69	0		1.15	0		0	68	0.00		0.00
30	30-01-69	0		1.15	0	100	0	68	0.00		0.00
31	31-01-69	0		1.15	0		100	95	0.00		0.00
32	01-02-69	0		1.15	0		100	95	0.00		0.00
33	02-02-69	0		1.15	0		100	95	0.00		0.00
34	03-02-69	0		1.15	0		100	95	0.00		0.00
35	04-02-69	0		1.15	0		100	95	0.00		0.00
36	05-02-69	0		1.15	0		0	68	0.00		0.00
37	06-02-69	1		1.15	0		0	68	0.00		0.00
38	07-02-69	0		1.15	0		1	68	0.00		0.00
39	08-02-69	0.5		1.15	0		1	68	0.00		0.00
40	09-02-69	5.3		1.15	0		1.5	68	0.00		0.00
41	10-02-69	17		1.15	0		6.8	68	0.00		0.00
42	11-02-69	64.8		1.15	0	100	23.8	68	10.72		26.79
43	12-02-69	0		1.15	0		187.6	95	0.00		0.00
44	13-02-69	0		1.15	0		187.6	95	0.00		0.00
45	14-02-69	0		1.15	0		187.1	95	0.00		0.00
46	15-02-69	0		1.15	0		181.8	95	0.00		0.00
47	16-02-69	0		1.15	0		164.8	95	0.00		0.00
48	17-02-69	0		1.15	0		0	68	0.00		0.00
49	18-02-69	0		1.14	0		0	68	0.00		0.00
50	19-02-69	0		1.13	0		0	68	0.00		0.00
51	20-02-69	0		1.12	0		0	68	0.00		0.00
52	21-02-69	0		1.11	0		0	68	0.00		0.00
53	22-02-69	0		1.10	0		0	68	0.00		0.00
54	23-02-69	0		1.09	0		0	68	0.00		0.00
55	24-02-69	6.4		1.08	0		0	68	0.00		0.00
56	25-02-69	21.6		1.07	0		6.4	68	0.00		0.00
57	26-02-69	0		1.06	0	100	28	68	0.00		0.00
58	27-02-69	0		1.05	0		128	95	0.00		0.00
59	28-02-69	0		1.04	0		128	95	0.00		0.00
60	01-03-69	0		1.03	0		128	95	0.00		0.00
61	02-03-69	0		1.02	0		121.6	95	0.00		0.00
62	03-03-69	0		1.01	0		100	95	0.00		0.00
63	04-03-69	0		1.00	0		0	68	0.00		0.00
64	05-03-69	0		0.99	0		0	68	0.00		0.00
65	06-03-69	0		0.98	0		0	68	0.00		0.00
66	07-03-69	0		0.97	0		0	68	0.00		0.00
67	08-03-69	0		0.96	0		0	68	0.00		0.00
68	09-03-69	0		0.95	0		0	68	0.00		0.00
69	10-03-69	0		0.94	0		0	68	0.00		0.00
70	11-03-69	0		0.93	0		0	68	0.00		0.00
71	12-03-69	0		0.92	0		0	68	0.00		0.00
72	13-03-69	0		0.91	0		0	68	0.00		0.00
73	14-03-69	0		0.90	0		0	68	0.00		0.00
74	15-03-69	40.6		0.89	0		0	68	2.16		5.41
75	16-03-69	7.6		0.88	0		40.6	83	0.00		0.00
76	17-03-69	2.5		0.87	0		48.2	83	0.00		0.00
77	18-03-69	19.6		0.86	0		50.7	83	1.45		3.62
78	19-03-69	6.9		0.85	0		70.3	95	1.05		2.61
79	20-03-69	0		0.84	0		77.2	95	0.00		0.00
80	21-03-69	0		0.83	0		36.6	83	0.00		0.00
81	22-03-69	0		0.82	0		29	68	0.00		0.00
82	23-03-69	0		0.81	0		26.5	68	0.00		0.00
83	24-03-69	1		0.80	0		6.9	68	0.00		0.00
84	25-03-69	4.1		0.79	0		1	68	0.00		0.00
85	26-03-69	15		0.78	0		5.1	68	0.00		0.00
86	27-03-69	0.8		0.77	0		20.1	68	0.00		0.00
87	28-03-69	0.3		0.76	0		20.9	68	0.00		0.00
88	29-03-69	6.1		0.75	0		21.2	68	0.00		0.00
89	30-03-69	1		0.74	0		26.3	68	0.00		0.00
90	31-03-69	0		0.73	0		23.2	68	0.00		0.00
91	01-04-69	0		0.72	0		8.2	68	0.00		0.00
92	02-04-69	0		0.71	0		7.4	68	0.00		0.00
93	03-04-69	0		0.70	0		7.1	68	0.00		0.00
94	04-04-69	0		0.69	0		1	68	0.00		0.00
95	05-04-69	0		0.68	0		0	68	0.00		0.00
96	06-04-69	0		0.67	0		0	68	0.00		0.00
97	07-04-69	0		0.66	0		0	68	0.00		0.00
98	08-04-69	0		0.65	0		0	68	0.00		0.00
99	09-04-69	0		0.64	0		0	68	0.00		0.00
100	10-04-69	0		0.63	0		0	68	0.00		0.00
101	11-04-69	0		0.62	0		0	68	0.00		0.00
102	12-04-69	0		0.61	0		0	68	0.00		0.00
103	13-04-69	0		0.60	0		0	68	0.00		0.00
104	14-04-69	0			0		0	68	0.00		0.00
105	15-04-69	30.7			0		0	68	0.41		1.03
106	16-04-69	48.3			0		30.7	68	4.31		10.77
107	17-04-69	0.5			0		79	95	0.00		0.00
108	18-04-69	0			0		79.5	95	0.00		0.00
109	19-04-69	0.8			0		79.5	95	0.00		0.00
110	20-04-69	0			0		80.3	95	0.00		0.00
111	21-04-69	0			0		49.6	83	0.00		0.00
112	22-04-69	0			0		1.3	68	0.00		0.00
113	23-04-69	0			0		0.8	68	0.00		0.00
114	24-04-69	0			0		0.8	68	0.00		0.00
115	25-04-69	0			0		0	68	0.00		0.00
116	26-04-69	0			0		0	68	0.00		0.00
117	27-04-69	0			0		0	68	0.00		0.00
118	28-04-69	0			0		0	68	0.00		0.00
119	29-04-69	0			0		0	68	0.00		0.00
120	30-04-69	0			0		0	68	0.00		0.00
121	01-05-69	0			0		0	68	0.00		0.00
122	02-05-69	0			0		0	68	0.00		0.00
123	03-05-69	0			0		0	68	0.00		0.00
124	04-05-69	0			0		0	68	0.00		0.00
125	05-05-69	0			0		0	68	0.00		0.00
126	06-05-69	0			0		0	68	0.00		0.00
127	07-05-69	0			0		0	68	0.00		0.00
128	08-05-69	0			0		0	68	0.00		0.00
129	09-05-69	0			0		0	68	0.00		0.00

Maturity

130	10-05-69	0	0	0	68	0.00	0.00
131	11-05-69	0	0	0	68	0.00	0.00
132	12-05-69	0	0	0	68	0.00	0.00
133	13-05-69	28.4	0	0	68	0.19	0.48
134	14-05-69	23.1	0	28.4	95	12.46	31.15
135	15-05-69	4.3	0	51.5	95	0.19	0.47
136	16-05-69	0	0	55.8	95	0.00	0.00
137	17-05-69	0	0	55.8	95	0.00	0.00
138	18-05-69	2.5	0	55.8	95	0.00	0.00
139	19-05-69	0	0	29.9	95	0.00	0.00
140	20-05-69	2.3	0	6.8	68	0.00	0.00
141	21-05-69	0	0	4.8	68	0.00	0.00
142	22-05-69	0	0	4.8	68	0.00	0.00
143	23-05-69	0	0	4.8	68	0.00	0.00
144	24-05-69	0	0	2.3	68	0.00	0.00
145	25-05-69	0	0	2.3	68	0.00	0.00
146	26-05-69	0	0	0	68	0.00	0.00
147	27-05-69	0	0	0	68	0.00	0.00
148	28-05-69	0	0	0	68	0.00	0.00
149	29-05-69	2.8	0	0	68	0.00	0.00
150	30-05-69	0	0	2.8	68	0.00	0.00
151	31-05-69	0	0	2.8	68	0.00	0.00
152	01-06-69	6.1	0	2.8	68	0.00	0.00
153	02-06-69	0	0	8.9	68	0.00	0.00
154	03-06-69	0	0	8.9	68	0.00	0.00
155	04-06-69	0	0	6.1	68	0.00	0.00
156	05-06-69	0	0	6.1	68	0.00	0.00
157	06-06-69	5.8	0	6.1	68	0.00	0.00
158	07-06-69	1	0	5.8	68	0.00	0.00
159	08-06-69	0	0	6.8	68	0.00	0.00
160	09-06-69	0	0	6.8	68	0.00	0.00
161	10-06-69	0.5	0	6.8	68	0.00	0.00
162	11-06-69	0	0	7.3	68	0.00	0.00
163	12-06-69	0	0	1.5	68	0.00	0.00
164	13-06-69	0	0	0.5	68	0.00	0.00
165	14-06-69	0	0	0.5	68	0.00	0.00
166	15-06-69	0	0	0.5	68	0.00	0.00
167	16-06-69	0	0	0	68	0.00	0.00
168	17-06-69	0	0	0	68	0.00	0.00
169	18-06-69	0	0	0	68	0.00	0.00
170	19-06-69	8.1	0	0	68	0.00	0.00
171	20-06-69	10.9	0	8.1	68	0.00	0.00
172	21-06-69	6.9	0	19	83	0.00	0.00
173	22-06-69	0	0	25.9	83	0.00	0.00
174	23-06-69	0	0	25.9	83	0.00	0.00
175	24-06-69	0	0	25.9	83	0.00	0.00
176	25-06-69	0	0	17.8	83	0.00	0.00
177	26-06-69	0	0	6.9	68	0.00	0.00
178	27-06-69	0	0	0	68	0.00	0.00
179	28-06-69	0	0	0	68	0.00	0.00
180	29-06-69	0	0	0	68	0.00	0.00
181	30-06-69	0	0	0	68	0.00	0.00
182	01-07-69	0	0	0	68	0.00	0.00
183	02-07-69	0	0	0	68	0.00	0.00
184	03-07-69	0	0	0	68	0.00	0.00
185	04-07-69	0	0	0	68	0.00	0.00
186	05-07-69	6.4	0	0	68	0.00	0.00
187	06-07-69	0	0	6.4	68	0.00	0.00
188	07-07-69	0	0	6.4	68	0.00	0.00
189	08-07-69	0	0	6.4	68	0.00	0.00
190	09-07-69	0	0	6.4	68	0.00	0.00
191	10-07-69	0	0	6.4	68	0.00	0.00
192	11-07-69	0	0	0	68	0.00	0.00
193	12-07-69	0	0	0	68	0.00	0.00
194	13-07-69	3.3	0	0	68	0.00	0.00
195	14-07-69	0.3	0	3.3	68	0.00	0.00
196	15-07-69	19.3	0	3.6	68	0.00	0.00
197	16-07-69	0	0	22.9	83	0.00	0.00
198	17-07-69	0	0	22.9	83	0.00	0.00
199	18-07-69	0	0	22.9	83	0.00	0.00
200	19-07-69	0	0	19.6	83	0.00	0.00
201	20-07-69	13.2	0	19.3	83	0.16	0.40
202	21-07-69	14.7	0	13.2	83	0.36	0.89
203	22-07-69	0	0	27.9	83	0.00	0.00
204	23-07-69	3.8	0	27.9	83	0.00	0.00
205	24-07-69	0	0	31.7	95	0.00	0.00
206	25-07-69	0	0	31.7	95	0.00	0.00
207	26-07-69	0	0	18.5	83	0.00	0.00
208	27-07-69	0	0	3.8	68	0.00	0.00
209	28-07-69	0	0	3.8	68	0.00	0.00
210	29-07-69	0	0	0	68	0.00	0.00
211	30-07-69	0	0	0	68	0.00	0.00
212	31-07-69	0	0	0	68	0.00	0.00
213	01-08-69	0	0	0	68	0.00	0.00
214	02-08-69	0	0	0	68	0.00	0.00
215	03-08-69	0	0	0	68	0.00	0.00
216	04-08-69	0	0	0	68	0.00	0.00
217	05-08-69	0	0	0	68	0.00	0.00
218	06-08-69	0	0	0	68	0.00	0.00
219	07-08-69	0	0	0	68	0.00	0.00
220	08-08-69	0	0	0	68	0.00	0.00
221	09-08-69	0	0	0	68	0.00	0.00
222	10-08-69	0	0	0	68	0.00	0.00
223	11-08-69	0	0	0	68	0.00	0.00
224	12-08-69	0	0	0	68	0.00	0.00
225	13-08-69	16.5	0	0	68	0.00	0.00
226	14-08-69	1.3	0	16.5	83	0.00	0.00
227	15-08-69	0	0	17.8	83	0.00	0.00
228	16-08-69	0	0	17.8	83	0.00	0.00
229	17-08-69	0	0	17.8	83	0.00	0.00
230	18-08-69	0	0	17.8	83	0.00	0.00
231	19-08-69	0	0	1.3	68	0.00	0.00
232	20-08-69	0	0	0	68	0.00	0.00
233	21-08-69	0	0	0	68	0.00	0.00
234	22-08-69	0	0	0	68	0.00	0.00
235	23-08-69	0	0	0	68	0.00	0.00
236	24-08-69	0	0	0	68	0.00	0.00
237	25-08-69	0	0	0	68	0.00	0.00
238	26-08-69	0	0	0	68	0.00	0.00
239	27-08-69	3	0	0	68	0.00	0.00
240	28-08-69	0	0	3	68	0.00	0.00
241	29-08-69	0	0	3	68	0.00	0.00
242	30-08-69	0	0	3	68	0.00	0.00
243	31-08-69	4.3	0	3	68	0.00	0.00
244	01-09-69	0	0	7.3	68	0.00	0.00
245	02-09-69	0	0	4.3	68	0.00	0.00
246	03-09-69	0	0	4.3	68	0.00	0.00
247	04-09-69	0	0	4.3	68	0.00	0.00
248	05-09-69	0	0	4.3	68	0.00	0.00
249	06-09-69	37.6	0	0	68	1.50	3.76
250	07-09-69	1.5	0	37.6	95	0.00	0.00
251	08-09-69	0	0	39.1	95	0.00	0.00
252	09-09-69	2.3	0	39.1	95	0.00	0.00
253	10-09-69	0	0	41.4	95	0.00	0.00
254	11-09-69	0	0	41.4	95	0.00	0.00
255	12-09-69	0	0	3.8	68	0.00	0.00
256	13-09-69	0	0	2.3	68	0.00	0.00
257	14-09-69	0	0	2.3	68	0.00	0.00
258	15-09-69	0	0	0	68	0.00	0.00
259	16-09-69	0	0	0	68	0.00	0.00
260	17-09-69	0	0	0	68	0.00	0.00
261	18-09-69	0	0	0	68	0.00	0.00

	262	19-09-69	0		0	0	68	0.00	0.00
	263	20-09-69	0		0	0	68	0.00	0.00
	264	21-09-69	0		0	0	68	0.00	0.00
	265	22-09-69	14.2		0	0	68	0.00	0.00
	266	23-09-69	0		0	14.2	83	0.00	0.00
	267	24-09-69	7.6	100	0	14.2	83	0.00	0.00
	268	25-09-69	0		0	121.8	95	0.00	0.00
	269	26-09-69	0		0	121.8	95	0.00	0.00
	270	27-09-69	0		0	121.8	95	0.00	0.00
	271	28-09-69	0		0	107.6	95	0.00	0.00
	272	29-09-69	0		0	107.6	95	0.00	0.00
	273	30-09-69	0		0	0	68	0.00	0.00
Planted	274	01-10-69	0		0.35	0	68	0.00	0.00
	275	02-10-69	4.8		0.35	0	68	0.00	0.00
	276	03-10-69	0		0.35	0	4.8	68	0.00
	277	04-10-69	0		0.35	0	4.8	68	0.00
	278	05-10-69	0		0.35	0	4.8	68	0.00
	279	06-10-69	0		0.35	0	4.8	68	0.00
	280	07-10-69	0		0.35	0	4.8	68	0.00
Emergance	281	08-10-69	0		0.35	0	0	68	0.00
	282	09-10-69	0		0.35	0	0	68	0.00
	283	10-10-69	0		0.35	0	0	68	0.00
	284	11-10-69	0		0.35	0	0	68	0.00
	285	12-10-69	2		0.35	0	0	68	0.00
	286	13-10-69	15.2		0.35	0	2	68	0.00
	287	14-10-69	38.1		0.35	0	17.2	83	9.82
	288	15-10-69	0		0.35	0	55.3	95	0.00
	289	16-10-69	16.3		0.35	0	55.3	95	6.96
	290	17-10-69	18.8		0.35	0	71.6	95	8.91
	291	18-10-69	21.1		0.35	0	88.4	95	10.78
	292	19-10-69	0.5		0.35	0	94.3	95	0.00
	293	20-10-69	0		0.35	0	56.7	95	0.00
	294	21-10-69	0		0.35	0	56.7	95	0.00
	295	22-10-69	0		0.35	0	40.4	95	0.00
	296	23-10-69	0		0.35	0	21.6	83	0.00
	297	24-10-69	0		0.35	0	0.5	68	0.00
	298	25-10-69	0		0.35	0	0	68	0.00
	299	26-10-69	0		0.35	0	0	68	0.00
	300	27-10-69	0		0.35	0	0	68	0.00
	301	28-10-69	2.5		0.35	0	0	68	0.00
	302	29-10-69	43.9		0.35	0	2.5	68	3.01
	303	30-10-69	49.5		0.37	0	46.4	95	36.59
	304	31-10-69	0		0.38	0	95.9	95	0.00
	305	01-11-69	0		0.40	0	95.9	95	0.00
	306	02-11-69	0		0.41	0	95.9	95	0.00
	307	03-11-69	0		0.43	0	93.4	95	0.00
	308	04-11-69	0		0.45	0	49.5	95	0.00
	309	05-11-69	0		0.46	0	0	68	0.00
	310	06-11-69	11.4		0.48	0	0	68	0.00
	311	07-11-69	10.7		0.49	0	11.4	68	0.00
	312	08-11-69	0		0.51	0	22.1	83	0.00
	313	09-11-69	0		0.53	0	22.1	83	0.00
	314	10-11-69	0		0.54	0	22.1	83	0.00
	315	11-11-69	0		0.56	0	22.1	83	0.00
	316	12-11-69	12.4		0.57	0	10.7	68	0.00
	317	13-11-69	17		0.59	0	12.4	68	0.00
	318	14-11-69	11.7		0.61	0	29.4	95	3.70
	319	15-11-69	0		0.62	0	41.1	95	0.00
	320	16-11-69	0		0.64	0	41.1	95	0.00
	321	17-11-69	0		0.65	0	41.1	95	0.00
	322	18-11-69	0		0.67	0	28.7	95	0.00
	323	19-11-69	0		0.69	0	11.7	68	0.00
	324	20-11-69	0		0.70	0	0	68	0.00
	325	21-11-69	0		0.72	0	0	68	0.00
	326	22-11-69	0		0.73	0	0	68	0.00
	327	23-11-69	0		0.75	0	0	68	0.00
	328	24-11-69	0		0.77	0	0	68	0.00
	329	25-11-69	0		0.78	0	0	68	0.00
	330	26-11-69	0		0.80	0	0	68	0.00
	331	27-11-69	0		0.81	0	0	68	0.00
	332	28-11-69	0		0.83	0	0	68	0.00
	333	29-11-69	0		0.85	0	0	68	0.00
	334	30-11-69	0		0.86	0	0	68	0.00
	335	01-12-69	0		0.88	0	0	68	0.00
	336	02-12-69	0		0.89	0	0	68	0.00
	337	03-12-69	0		0.91	0	0	68	0.00
	338	04-12-69	0		0.93	0	0	68	0.00
	339	05-12-69	0		0.94	0	0	68	0.00
	340	06-12-69	0		0.96	0	0	68	0.00
	341	07-12-69	10.2		0.97	0	0	68	0.00
	342	08-12-69	5.1		0.99	0	10.2	68	0.00
	343	09-12-69	0		1.01	0	15.3	83	0.00
	344	10-12-69	0		1.02	0	15.3	83	0.00
	345	11-12-69	0		1.04	0	15.3	83	0.00
	346	12-12-69	0		1.05	0	15.3	83	0.00
	347	13-12-69	0		1.07	0	5.1	68	0.00
	348	14-12-69	0		1.09	0	0	68	0.00
	349	15-12-69	0		1.10	0	0	68	0.00
	350	16-12-69	0	100	1.12	0	0	68	0.00
	351	17-12-69	0		1.13	0	100	95	0.00
	352	18-12-69	0		1.15	0	100	95	0.00
	353	19-12-69	0		1.15	0	100	95	0.00
	354	20-12-69	0		1.15	0	100	95	0.00
	355	21-12-69	0		1.15	0	100	95	0.00
	356	22-12-69	0		1.15	0	0	68	0.00
	357	23-12-69	6.6		1.15	0	0	68	0.00
	358	24-12-69	0		1.15	0	6.6	68	0.00
	359	25-12-69	0		1.15	0	6.6	68	0.00
	360	26-12-69	0		1.15	0	6.6	68	0.00
	361	27-12-69	0		1.15	0	6.6	68	0.00
	362	28-12-69	0		1.15	0	6.6	68	0.00
	363	29-12-69	0		1.15	0	0	68	0.00
	364	30-12-69	0		1.15	0	0	68	0.00
	365	31-12-69	0	100	1.15	0	0	68	0.00
			904.3				119.43	784.87	298.59
							Runoff %	13	
								RRO Events	11
								Overland Flow Events	2

Warren Wettest Year - 1950

Day	Date	Rainfall	ETo	Kc	ETc	Irrigation Event	AMC	K	Runoff	Effective Rainfall	Runoff @250 ha (ML)
1	01-01-50	3.6		103.05	0		0	68	0.00		0.00
2	02-01-50	0		1.15	0		3.6	68	0.00		0.00
3	03-01-50	0		1.15	0		3.6	68	0.00		0.00
4	04-01-50	0		1.15	0		3.6	68	0.00		0.00
5	05-01-50	0		1.15	0		3.6	68	0.00		0.00
6	06-01-50	0		1.15	0		3.6	68	0.00		0.00
7	07-01-50	0		1.15	0		0	68	0.00		0.00
8	08-01-50	0		1.15	0		0	68	0.00		0.00
9	09-01-50	0		1.15	0		0	68	0.00		0.00
10	10-01-50	0		1.15	0	100	0	68	0.00		0.00
11	11-01-50	0		1.15	0		100	95	0.00		0.00
12	12-01-50	0		1.15	0		100	95	0.00		0.00
13	13-01-50	0		1.15	0		100	95	0.00		0.00
14	14-01-50	0		1.15	0		100	95	0.00		0.00
15	15-01-50	0		1.15	0		100	95	0.00		0.00
16	16-01-50	0		1.15	0		0	68	0.00		0.00
17	17-01-50	0		1.15	0		0	68	0.00		0.00
18	18-01-50	10.2		1.15	0		0	68	0.00		0.00
19	19-01-50	120.7		1.15	0		10.2	68	43.95		109.89
20	20-01-50	0		1.15	0	100	130.9	95	0.00		0.00
21	21-01-50	0		1.15	0		230.9	95	0.00		0.00
22	22-01-50	0		1.15	0		230.9	95	0.00		0.00
23	23-01-50	0		1.15	0		230.9	95	0.00		0.00
24	24-01-50	0		1.15	0		220.7	95	0.00		0.00
25	25-01-50	0		1.15	0		100	95	0.00		0.00
26	26-01-50	0		1.15	0		0	68	0.00		0.00
27	27-01-50	0		1.15	0		0	68	0.00		0.00
28	28-01-50	0		1.15	0		0	68	0.00		0.00
29	29-01-50	0		1.15	0		0	68	0.00		0.00
30	30-01-50	0		1.15	0	100	0	68	0.00		0.00
31	31-01-50	0		1.15	0		100	95	0.00		0.00
32	01-02-50	0		1.15	0		100	95	0.00		0.00
33	02-02-50	0		1.15	0		100	95	0.00		0.00
34	03-02-50	0		1.15	0		100	95	0.00		0.00
35	04-02-50	0		1.15	0		100	95	0.00		0.00
36	05-02-50	0		1.15	0		0	68	0.00		0.00
37	06-02-50	61		1.15	0		0	68	9.05		22.63
38	07-02-50	0		1.15	0		61	95	0.00		0.00
39	08-02-50	0		1.15	0		61	95	0.00		0.00
40	09-02-50	0		1.15	0		61	95	0.00		0.00
41	10-02-50	0		1.15	0		61	95	0.00		0.00
42	11-02-50	0		1.15	0	100	61	95	0.00		0.00
43	12-02-50	0		1.15	0		100	95	0.00		0.00
44	13-02-50	0		1.15	0		100	95	0.00		0.00
45	14-02-50	51.8		1.15	0		100	95	38.79		96.97
46	15-02-50	4.3		1.15	0		151.8	95	0.00		0.00
47	16-02-50	0		1.15	0		156.1	95	0.00		0.00
48	17-02-50	0		1.15	0		56.1	95	0.00		0.00
49	18-02-50	34		1.14	0		56.1	95	22.10		55.25
50	19-02-50	0		1.13	0		90.1	95	0.00		0.00
51	20-02-50	0		1.12	0		38.3	83	0.00		0.00
52	21-02-50	0		1.11	0		34	68	0.00		0.00
53	22-02-50	0		1.10	0		34	68	0.00		0.00
54	23-02-50	0		1.09	0		34	68	0.00		0.00
55	24-02-50	0		1.08	0		0	68	0.00		0.00
56	25-02-50	0		1.07	0		0	68	0.00		0.00
57	26-02-50	0		1.06	0	100	0	68	0.00		0.00
58	27-02-50	0		1.05	0		100	95	0.00		0.00
59	28-02-50	0		1.04	0		100	95	0.00		0.00
60	01-03-50	0		1.03	0		100	95	0.00		0.00
61	02-03-50	0		1.02	0		100	95	0.00		0.00
62	03-03-50	0		1.01	0		100	95	0.00		0.00
63	04-03-50	7.6		1.00	0		0	68	0.00		0.00
64	05-03-50	0		0.99	0		7.6	68	0.00		0.00
65	06-03-50	7.6		0.98	0		7.6	68	0.00		0.00
66	07-03-50	4.1		0.97	0		15.2	68	0.00		0.00
67	08-03-50	19.1		0.96	0		19.3	68	0.00		0.00
68	09-03-50	0		0.95	0		38.4	83	0.00		0.00
69	10-03-50	0		0.94	0		30.8	68	0.00		0.00
70	11-03-50	0		0.93	0		30.8	68	0.00		0.00
71	12-03-50	0		0.92	0		23.2	68	0.00		0.00
72	13-03-50	0		0.91	0		19.1	68	0.00		0.00
73	14-03-50	0		0.90	0		0	68	0.00		0.00
74	15-03-50	0		0.89	0		0	68	0.00		0.00
75	16-03-50	0		0.88	0		0	68	0.00		0.00
76	17-03-50	0		0.87	0		0	68	0.00		0.00
77	18-03-50	0		0.86	0		0	68	0.00		0.00
78	19-03-50	0		0.85	0		0	68	0.00		0.00
79	20-03-50	0		0.84	0		0	68	0.00		0.00
80	21-03-50	0		0.83	0		0	68	0.00		0.00
81	22-03-50	6.1		0.82	0		0	68	0.00		0.00
82	23-03-50	9.7		0.81	0		6.1	68	1.84		4.61
83	24-03-50	0		0.80	0		15.8	68	0.00		0.00
84	25-03-50	0		0.79	0		15.8	68	0.00		0.00
85	26-03-50	0		0.78	0		15.8	68	0.00		0.00
86	27-03-50	0		0.77	0		15.8	68	0.00		0.00
87	28-03-50	0		0.76	0		9.7	68	0.00		0.00
88	29-03-50	18.8		0.75	0		0	68	0.00		0.00
89	30-03-50	24.6		0.74	0		18.8	68	0.01		0.02
90	31-03-50	0		0.73	0		43.4	83	0.00		0.00
91	01-04-50	0		0.72	0		43.4	83	0.00		0.00
92	02-04-50	22.9		0.71	0		43.4	83	0.00		0.00
93	03-04-50	13.7		0.70	0		66.3	95	0.00		0.00
94	04-04-50	9.4		0.69	0		61.2	95	0.00		0.00
95	05-04-50	7.6		0.68	0		46	83	0.00		0.00
96	06-04-50	0		0.67	0		53.6	95	0.00		0.00
97	07-04-50	0		0.66	0		53.6	95	0.00		0.00
98	08-04-50	0		0.65	0		30.7	68	0.00		0.00
Maturity 99	09-04-50	0		0.64	0		17	68	0.00		0.00
100	10-04-50	0		0.63	0		7.6	68	0.00		0.00
101	11-04-50	0		0.62	0		0	68	0.00		0.00
102	12-04-50	0		0.61	0		0	68	0.00		0.00
103	13-04-50	0		0.60	0		0	68	0.00		0.00
104	14-04-50	0			0		0	68	0.00		0.00
105	15-04-50	0			0		0	68	0.00		0.00
106	16-04-50	0			0		0	68	0.00		0.00
107	17-04-50	0			0		0	68	0.00		0.00
108	18-04-50	0			0		0	68	0.00		0.00
109	19-04-50	0			0		0	68	0.00		0.00
110	20-04-50	0			0		0	68	0.00		0.00
111	21-04-50	0			0		0	68	0.00		0.00
112	22-04-50	0			0		0	68	0.00		0.00
113	23-04-50	0			0		0	68	0.00		0.00
114	24-04-50	0			0		0	68	0.00		0.00
115	25-04-50	0			0		0	68	0.00		0.00
116	26-04-50	0			0		0	68	0.00		0.00
117	27-04-50	0			0		0	68	0.00		0.00
118	28-04-50	0			0		0	68	0.00		0.00

119	29-04-50	0	0	0	68	0.00	0.00
120	30-04-50	0	0	0	68	0.00	0.00
121	01-05-50	0	0	0	68	0.00	0.00
122	02-05-50	0	0	0	68	0.00	0.00
123	03-05-50	0	0	0	68	0.00	0.00
124	04-05-50	0	0	0	68	0.00	0.00
125	05-05-50	0	0	0	68	0.00	0.00
126	06-05-50	0	0	0	68	0.00	0.00
127	07-05-50	0	0	0	68	0.00	0.00
128	08-05-50	0	0	0	68	0.00	0.00
129	09-05-50	0	0	0	68	0.00	0.00
130	10-05-50	0	0	0	68	0.00	0.00
131	11-05-50	0	0	0	68	0.00	0.00
132	12-05-50	0	0	0	68	0.00	0.00
133	13-05-50	0	0	0	68	0.00	0.00
134	14-05-50	0	0	0	68	0.00	0.00
135	15-05-50	0	0	0	68	0.00	0.00
136	16-05-50	0	0	0	68	0.00	0.00
137	17-05-50	0	0	0	68	0.00	0.00
138	18-05-50	0	0	0	68	0.00	0.00
139	19-05-50	0	0	0	68	0.00	0.00
140	20-05-50	0	0	0	68	0.00	0.00
141	21-05-50	15.5	0	0	68	0.00	0.00
142	22-05-50	0	0	15.5	83	0.00	0.00
143	23-05-50	0	0	15.5	83	0.00	0.00
144	24-05-50	20.8	0	15.5	83	0.00	0.00
145	25-05-50	0	0	36.3	95	0.00	0.00
146	26-05-50	3.8	0	36.3	95	0.00	0.00
147	27-05-50	0	0	24.6	83	0.00	0.00
148	28-05-50	0	0	24.6	83	0.00	0.00
149	29-05-50	0	0	24.6	83	0.00	0.00
150	30-05-50	0	0	3.8	68	0.00	0.00
151	31-05-50	0	0	3.8	68	0.00	0.00
152	01-06-50	0	0	0	68	0.00	0.00
153	02-06-50	0	0	0	68	0.00	0.00
154	03-06-50	0	0	0	68	0.00	0.00
155	04-06-50	0	0	0	68	0.00	0.00
156	05-06-50	0	0	0	68	0.00	0.00
157	06-06-50	0	0	0	68	0.00	0.00
158	07-06-50	13.2	0	0	68	0.00	0.00
159	08-06-50	4.3	0	13.2	83	0.00	0.00
160	09-06-50	0	0	17.5	83	0.00	0.00
161	10-06-50	0	0	17.5	83	0.00	0.00
162	11-06-50	0	0	17.5	83	0.00	0.00
163	12-06-50	0	0	17.5	83	0.00	0.00
164	13-06-50	0	0	4.3	68	0.00	0.00
165	14-06-50	0	0	0	68	0.00	0.00
166	15-06-50	15.7	0	0	68	0.00	0.00
167	16-06-50	0.8	0	15.7	83	0.00	0.00
168	17-06-50	0	0	16.5	83	0.00	0.00
169	18-06-50	0	0	16.5	83	0.00	0.00
170	19-06-50	0	0	16.5	83	0.00	0.00
171	20-06-50	0	0	16.5	83	0.00	0.00
172	21-06-50	0	0	0.8	68	0.00	0.00
173	22-06-50	5.6	0	0	68	0.00	0.00
174	23-06-50	10.2	0	5.6	68	0.00	0.00
175	24-06-50	0	0	15.8	83	0.00	0.00
176	25-06-50	27.9	0	15.8	83	4.53	11.32
177	26-06-50	15.7	0	43.7	95	0.00	0.00
178	27-06-50	5.8	0	59.4	95	0.00	0.00
179	28-06-50	1	0	59.6	95	0.00	0.00
180	29-06-50	2.3	0	50.4	95	0.00	0.00
181	30-06-50	0	0	52.7	95	0.00	0.00
182	01-07-50	0	0	24.8	83	0.00	0.00
183	02-07-50	0	0	9.1	68	0.00	0.00
184	03-07-50	14.5	0	3.3	68	0.00	0.00
185	04-07-50	0	0	16.8	83	0.00	0.00
186	05-07-50	0	0	14.5	83	0.00	0.00
187	06-07-50	0	0	14.5	83	0.00	0.00
188	07-07-50	0	0	14.5	83	0.00	0.00
189	08-07-50	0	0	14.5	83	0.00	0.00
190	09-07-50	0	0	0	68	0.00	0.00
191	10-07-50	7.6	0	0	68	0.00	0.00
192	11-07-50	28.4	0	7.6	68	0.19	0.48
193	12-07-50	0	0	36	95	0.00	0.00
194	13-07-50	0	0	36	95	0.00	0.00
195	14-07-50	0	0	36	95	0.00	0.00
196	15-07-50	0	0	36	95	0.00	0.00
197	16-07-50	0	0	28.4	95	0.00	0.00
198	17-07-50	0	0	0	68	0.00	0.00
199	18-07-50	7.9	0	0	68	0.00	0.00
200	19-07-50	7.1	0	7.9	68	0.00	0.00
201	20-07-50	0	0	15	83	0.00	0.00
202	21-07-50	0	0	15	83	0.00	0.00
203	22-07-50	0	0	15	83	0.00	0.00
204	23-07-50	0	0	15	83	0.00	0.00
205	24-07-50	0	0	7.1	68	0.00	0.00
206	25-07-50	0	0	0	68	0.00	0.00
207	26-07-50	2.8	0	0	68	0.00	0.00
208	27-07-50	5.8	0	2.8	68	0.00	0.00
209	28-07-50	24.1	0	8.6	68	0.00	0.00
210	29-07-50	0	0	32.7	95	0.00	0.00
211	30-07-50	0	0	32.7	95	0.00	0.00
212	31-07-50	0	0	32.7	95	0.00	0.00
213	01-08-50	10.4	0	29.9	95	0.00	0.00
214	02-08-50	3.8	0	34.5	95	0.00	0.00
215	03-08-50	0	0	14.2	83	0.00	0.00
216	04-08-50	0	0	14.2	83	0.00	0.00
217	05-08-50	0	0	14.2	83	0.00	0.00
218	06-08-50	0	0	14.2	83	0.00	0.00
219	07-08-50	0	0	3.8	68	0.00	0.00
220	08-08-50	0	0	0	68	0.00	0.00
221	09-08-50	0	0	0	68	0.00	0.00
222	10-08-50	0	0	0	68	0.00	0.00
223	11-08-50	0	0	0	68	0.00	0.00
224	12-08-50	19.8	0	0	68	0.00	0.00
225	13-08-50	0	0	19.8	83	0.00	0.00
226	14-08-50	0	0	19.8	83	0.00	0.00
227	15-08-50	0	0	19.8	83	0.00	0.00
228	16-08-50	0	0	19.8	83	0.00	0.00
229	17-08-50	4.1	0	19.8	83	0.00	0.00
230	18-08-50	0	0	4.1	68	0.00	0.00
231	19-08-50	2.5	0	4.1	68	0.00	0.00
232	20-08-50	4.3	0	6.6	68	0.00	0.00
233	21-08-50	0	0	10.9	68	0.00	0.00
234	22-08-50	0	0	10.9	68	0.00	0.00
235	23-08-50	0	0	6.8	68	0.00	0.00
236	24-08-50	0	0	6.8	68	0.00	0.00
237	25-08-50	0	0	4.3	68	0.00	0.00
238	26-08-50	0	0	0	68	0.00	0.00
239	27-08-50	0	0	0	68	0.00	0.00

240	28-08-50	0		0	0	68	0.00	0.00
241	29-08-50	0		0	0	68	0.00	0.00
242	30-08-50	0		0	0	68	0.00	0.00
243	31-08-50	0		0	0	68	0.00	0.00
244	01-09-50	0		0	0	68	0.00	0.00
245	02-09-50	0		0	0	68	0.00	0.00
246	03-09-50	0		0	0	68	0.00	0.00
247	04-09-50	0		0	0	68	0.00	0.00
248	05-09-50	0		0	0	68	0.00	0.00
249	06-09-50	0		0	0	68	0.00	0.00
250	07-09-50	0		0	0	68	0.00	0.00
251	08-09-50	0		0	0	68	0.00	0.00
252	09-09-50	0		0	0	68	0.00	0.00
253	10-09-50	0		0	0	68	0.00	0.00
254	11-09-50	0		0	0	68	0.00	0.00
255	12-09-50	2		0	0	68	0.00	0.00
256	13-09-50	2		0	2	68	0.00	0.00
257	14-09-50	0		0	4	68	0.00	0.00
258	15-09-50	1.3		0	4	68	0.00	0.00
259	16-09-50	6.9		0	5.3	68	0.00	0.00
260	17-09-50	0		0	12.2	68	0.00	0.00
261	18-09-50	0		0	10.2	68	0.00	0.00
262	19-09-50	10.4		0	8.2	68	0.00	0.00
263	20-09-50	0		0	18.6	83	0.00	0.00
264	21-09-50	0		0	17.3	83	0.00	0.00
265	22-09-50	0		0	10.4	68	0.00	0.00
266	23-09-50	0		0	10.4	68	0.00	0.00
267	24-09-50	0		0	10.4	68	0.00	0.00
268	25-09-50	13.7		0	100	95	0.00	0.00
269	26-09-50	0		0	113.7	95	0.00	0.00
270	27-09-50	0		0	113.7	95	0.00	0.00
271	28-09-50	0		0	113.7	95	0.00	0.00
272	29-09-50	0		0	113.7	95	0.00	0.00
273	30-09-50	0		0	13.7	83	0.00	0.00
Planted	274	01-10-50	0	0.35	0	68	0.00	0.00
	275	02-10-50	10.2	0.35	0	68	1.70	4.26
	276	03-10-50	15.2	0.35	0	68	0.63	1.59
	277	04-10-50	0	0.35	0	83	0.00	0.00
	278	05-10-50	0	0.35	0	83	0.00	0.00
	279	06-10-50	9.4	0.35	0	83	0.01	0.04
	280	07-10-50	7.6	0.35	0	95	0.00	0.00
Emergence	281	08-10-50	2.5	0.35	0	95	0.00	0.00
	282	09-10-50	0	0.35	0	83	0.00	0.00
	283	10-10-50	0	0.35	0	83	0.00	0.00
	284	11-10-50	0	0.35	0	83	0.00	0.00
	285	12-10-50	0	0.35	0	68	0.00	0.00
	286	13-10-50	2	0.35	0	68	0.00	0.00
	287	14-10-50	0	0.35	0	68	0.00	0.00
	288	15-10-50	0	0.35	0	68	0.00	0.00
	289	16-10-50	0	0.35	0	68	0.00	0.00
	290	17-10-50	0	0.35	0	68	0.00	0.00
	291	18-10-50	26.4	0.35	0	68	0.07	0.17
	292	19-10-50	42.9	0.35	0	83	12.72	31.80
	293	20-10-50	5.3	0.35	0	95	0.00	0.00
	294	21-10-50	0.8	0.35	0	95	0.00	0.00
	295	22-10-50	0	0.35	0	95	0.00	0.00
	296	23-10-50	0	0.35	0	95	0.00	0.00
	297	24-10-50	0	0.35	0	95	0.00	0.00
	298	25-10-50	5.3	0.35	0	68	0.00	0.00
	299	26-10-50	12.7	0.35	0	68	0.00	0.00
	300	27-10-50	1.3	0.35	0	83	0.00	0.00
	301	28-10-50	0	0.35	0	83	0.00	0.00
	302	29-10-50	0	0.35	0	83	0.00	0.00
	303	30-10-50	0	0.37	0	83	0.00	0.00
	304	31-10-50	0	0.38	0	83	0.00	0.00
	305	01-11-50	0	0.40	0	68	0.00	0.00
	306	02-11-50	0	0.41	0	68	0.00	0.00
	307	03-11-50	0	0.43	0	68	0.00	0.00
	308	04-11-50	4.1	0.45	0	68	0.00	0.00
	309	05-11-50	0	0.46	0	68	0.00	0.00
	310	06-11-50	0	0.48	0	68	0.00	0.00
	311	07-11-50	0	0.49	0	68	0.00	0.00
	312	08-11-50	0	0.51	0	68	0.00	0.00
	313	09-11-50	8.9	0.53	0	68	0.00	0.00
	314	10-11-50	0	0.54	0	68	0.00	0.00
	315	11-11-50	0	0.56	0	68	0.00	0.00
	316	12-11-50	0	0.57	0	68	0.00	0.00
	317	13-11-50	0	0.59	0	68	0.00	0.00
	318	14-11-50	0	0.61	0	68	0.00	0.00
	319	15-11-50	10.7	0.62	0	68	0.00	0.00
	320	16-11-50	25.4	0.64	0	68	0.03	0.07
	321	17-11-50	7.4	0.65	0	95	0.00	0.00
	322	18-11-50	0	0.67	0	95	0.00	0.00
	323	19-11-50	0	0.69	0	95	0.00	0.00
	324	20-11-50	0	0.70	0	95	0.00	0.00
	325	21-11-50	69.1	0.72	0	95	55.48	138.71
	326	22-11-50	60.7	0.73	0	95	47.34	118.35
	327	23-11-50	21.3	0.75	0	95	0.00	0.00
	328	24-11-50	5.6	0.77	0	95	0.00	0.00
	329	25-11-50	9.7	0.78	0	95	0.00	0.00
	330	26-11-50	0	0.80	0	95	0.00	0.00
	331	27-11-50	0	0.81	0	95	0.00	0.00
	332	28-11-50	0	0.83	0	95	0.00	0.00
	333	29-11-50	0	0.85	0	83	0.00	0.00
	334	30-11-50	0	0.86	0	68	0.00	0.00
	335	01-12-50	0	0.88	0	68	0.00	0.00
	336	02-12-50	0	0.89	0	68	0.00	0.00
	337	03-12-50	0	0.91	0	68	0.00	0.00
	338	04-12-50	0	0.93	0	68	0.00	0.00
	339	05-12-50	0	0.94	0	68	0.00	0.00
	340	06-12-50	0	0.96	0	68	0.00	0.00
	341	07-12-50	0	0.97	0	68	0.00	0.00
	342	08-12-50	0	0.99	0	68	0.00	0.00
	343	09-12-50	0	1.01	0	68	0.00	0.00
	344	10-12-50	0	1.02	0	68	0.00	0.00
	345	11-12-50	0	1.04	0	68	0.00	0.00
	346	12-12-50	0	1.05	0	68	0.00	0.00
	347	13-12-50	0	1.07	0	68	0.00	0.00
	348	14-12-50	0	1.09	0	68	0.00	0.00
	349	15-12-50	0	1.10	0	68	0.00	0.00
	350	16-12-50	0	1.12	0	68	0.00	0.00
	351	17-12-50	0	1.13	0	95	0.00	0.00
	352	18-12-50	0	1.15	0	95	0.00	0.00
	353	19-12-50	0	1.15	0	95	0.00	0.00
	354	20-12-50	0	1.15	0	95	0.00	0.00
	355	21-12-50	0	1.15	0	95	0.00	0.00
	356	22-12-50	0	1.15	0	68	0.00	0.00
	357	23-12-50	0	1.15	0	68	0.00	0.00
	358	24-12-50	0	1.15	0	68	0.00	0.00
	359	25-12-50	0	1.15	0	68	0.00	0.00
	360	26-12-50	0	1.15	0	68	0.00	0.00

361	27-12-50	0	1.15	0		0	68	0.00		0.00
362	28-12-50	0	1.15	0		0	68	0.00		0.00
363	29-12-50	0	1.15	0		0	68	0.00		0.00
364	30-12-50	0	1.15	0		0	68	0.00		0.00
365	31-12-50	7.6	1.15	0	100	0	68	0.00		0.00
		1130.9						238.46	892.44	596.15
						Runoff %	21			
									RRO Events	8
									Overland Flow Events	2

APPENDIX

C

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1785.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1769.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1753.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1737.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1821.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1801.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH 1781.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1761.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1857.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1833.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1809.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1785.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1893.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1865.5

FPH Take - 190519 Narrabri Test For Irrigation Volumes 1.4 0.42

Event Date	Storage Volume (ML)	Change in Storage Volume (ML)	Metered Surface Water Inflow (ML)	Metered Ground Water Inflow (ML)	Area Irrigated From Metered Water (ha)	Volume of Metered Water Applied ML/ha	Tailwater Return from metered water ML/ha	Volume of Metered Water used to irrigate (ML)	Rainfall on storage During Event (mm)	Surface Area of Storage During Events (ha)	Volume of Direct Rainfall on Storage During Event (ML)	Volume of Storage Transfers (ML) (+ve in) (-ve Out)	FPH Take (ML)
01-07-04		0.0						0.0			0.0		0.0
02-07-04		0.0						0.0			0.0		0.0
03-07-04		0.0						0.0			0.0		0.0
04-07-04		0.0						0.0			0.0		0.0
05-07-04		0.0						0.0			0.0		0.0
06-07-04		0.0						0.0			0.0		0.0
07-07-04		0.0						0.0			0.0		0.0
08-07-04		0.0						0.0			0.0		0.0
09-07-04		0.0						0.0			0.0		0.0
10-07-04		0.0						0.0			0.0		0.0
11-07-04		0.0						0.0			0.0		0.0
12-07-04		0.0						0.0			0.0		0.0
13-07-04		0.0						0.0			0.0		0.0
14-07-04		0.0						0.0			0.0		0.0
15-07-04		0.0						0.0			0.0		0.0
16-07-04		0.0						0.0			0.0		0.0
17-07-04		0.0						0.0			0.0		0.0
18-07-04		0.0						0.0			0.0		0.0
19-07-04		0.0						0.0			0.0		0.0
20-07-04		0.0						0.0			0.0		0.0
21-07-04		0.0						0.0			0.0		0.0
22-07-04		0.0						0.0			0.0		0.0
23-07-04		0.0						0.0			0.0		0.0
24-07-04		0.0						0.0			0.0		0.0
25-07-04		0.0						0.0			0.0		0.0
26-07-04		0.0						0.0			0.0		0.0
27-07-04		0.0						0.0			0.0		0.0
28-07-04		0.0						0.0			0.0		0.0
29-07-04		0.0						0.0			0.0		0.0
30-07-04		0.0						0.0			0.0		0.0
31-07-04		0.0						0.0			0.0		0.0
01-08-04		0.0						0.0			0.0		0.0
02-08-04		0.0						0.0			0.0		0.0
03-08-04		0.0						0.0			0.0		0.0
04-08-04		0.0						0.0			0.0		0.0
05-08-04		0.0						0.0			0.0		0.0
06-08-04		0.0						0.0			0.0		0.0
07-08-04		0.0						0.0			0.0		0.0
08-08-04		0.0						0.0			0.0		0.0
09-08-04		0.0						0.0			0.0		0.0
10-08-04		0.0						0.0			0.0		0.0
11-08-04		0.0						0.0			0.0		0.0
12-08-04		0.0						0.0			0.0		0.0
13-08-04		0.0						0.0			0.0		0.0
14-08-04		0.0						0.0			0.0		0.0
15-08-04		0.0						0.0			0.0		0.0
16-08-04		0.0						0.0			0.0		0.0
17-08-04		0.0						0.0			0.0		0.0
18-08-04		0.0						0.0			0.0		0.0
19-08-04		0.0						0.0			0.0		0.0
20-08-04		0.0						0.0			0.0		0.0
21-08-04		0.0						0.0			0.0		0.0
22-08-04		0.0						0.0			0.0		0.0
23-08-04		0.0						0.0			0.0		0.0
24-08-04		0.0						0.0			0.0		0.0
25-08-04		0.0						0.0			0.0		0.0
26-08-04		0.0						0.0			0.0		0.0
27-08-04		0.0						0.0			0.0		0.0
28-08-04		0.0						0.0			0.0		0.0
29-08-04		0.0						0.0			0.0		0.0
30-08-04		0.0						0.0			0.0		0.0
31-08-04		0.0						0.0			0.0		0.0
01-09-04		0.0						0.0			0.0		0.0
02-09-04		0.0						0.0			0.0		0.0
03-09-04		0.0						0.0			0.0		0.0
04-09-04		0.0						0.0			0.0		0.0
05-09-04		0.0						0.0			0.0		0.0
06-09-04		0.0						0.0			0.0		0.0
07-09-04		0.0						0.0			0.0		0.0
08-09-04	102.0							0.0			0.0		0.0
09-09-04	127.0	25.0		6.0				0.0	23.0	17.5	4.0		15.0
10-09-04		0.0						0.0			0.0		0.0
11-09-04		0.0						0.0			0.0		0.0
12-09-04		0.0						0.0			0.0		0.0
13-09-04		0.0						0.0			0.0		0.0
14-09-04		0.0						0.0			0.0		0.0
15-09-04		0.0						0.0			0.0		0.0
16-09-04		0.0						0.0			0.0		0.0
17-09-04		0.0						0.0			0.0		0.0
18-09-04		0.0						0.0			0.0		0.0
19-09-04		0.0						0.0			0.0		0.0
20-09-04		0.0						0.0			0.0		0.0
21-09-04		0.0						0.0			0.0		0.0
22-09-04		0.0						0.0			0.0		0.0
23-09-04		0.0						0.0			0.0		0.0
24-09-04		0.0						0.0			0.0		0.0
25-09-04		0.0						0.0			0.0		0.0
26-09-04		0.0						0.0			0.0		0.0
27-09-04		0.0						0.0			0.0		0.0
28-09-04		0.0						0.0			0.0		0.0
29-09-04		0.0						0.0			0.0		0.0
30-09-04		0.0						0.0			0.0		0.0
01-10-04		0.0						0.0			0.0		0.0
02-10-04		0.0						0.0			0.0		0.0
03-10-04		0.0						0.0			0.0		0.0
04-10-04		0.0						0.0			0.0		0.0
05-10-04		0.0						0.0			0.0		0.0
06-10-04		0.0						0.0			0.0		0.0
07-10-04		0.0						0.0			0.0		0.0
08-10-04		0.0						0.0			0.0		0.0
09-10-04		0.0						0.0			0.0		0.0
10-10-04		0.0						0.0			0.0		0.0
11-10-04		0.0						0.0			0.0		0.0
12-10-04		0.0						0.0			0.0		0.0
13-10-04		0.0						0.0			0.0		0.0
14-10-04		0.0						0.0			0.0		0.0
15-10-04		0.0						0.0			0.0		0.0
16-10-04		0.0						0.0			0.0		0.0
17-10-04		0.0						0.0			0.0		0.0
18-10-04		0.0						0.0			0.0		0.0
19-10-04		0.0						0.0			0.0		0.0
20-10-04		0.0						0.0			0.0		0.0
21-10-04		0.0						0.0			0.0		0.0
22-10-04		0.0						0.0			0.0		0.0
23-10-04		0.0						0.0			0.0		0.0
24-10-04		0.0						0.0			0.0		0.0
25-10-04		0.0						0.0			0.0		0.0
26-10-04		0.0						0.0			0.0		0.0
27-10-04		0.0						0.0			0.0		0.0
28-10-04		0.0						0.0			0.0		0.0
29-10-04		0.0						0.0			0.0		0.0
30-10-04		0.0						0.0			0.0		0.0
31-10-04		0.0						0.0			0.0		0.0
01-11-04		0.0						0.0			0.0		0.0
02-11-04		0.0						0.0			0.0		0.0
03-11-04		0.0						0.0			0.0		0.0
04-11-04	322.0	0.0						0.0			0.0		0.0
05-11-04	412.0	90.0		5.0				0.0	67.0	22.0	14.7		70.3
06-11-04	489.0	77.0		5.0				0.0	22.0	22.0	4.8		67.2
07-11-04		0.0						0.0			0.0		0.0
08-11-04		0.0						0.0			0.0		0.0

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1837.5

FPH Take - 190519 Narrabri Test For Irrigation Volumes 1.4 0.56

Event Date	Storage Volume (ML)	Change in Storage Volume (ML)	Metered Surface Water Inflow (ML)	Metered Ground Water Inflow (ML)	Area Irrigated From Metered Water (ha)	Volume of Metered Water Applied ML/ha	Tailwater Return from metered water ML/ha	Volume of Metered Water used to irrigate (ML)	Rainfall on storage During Event (mm)	Surface Area of Storage During Events (ha)	Volume of Direct Rainfall on Storage During Event (ML)	Volume of Storage Transfers (ML) (+ve in) (-ve Out)	FPH Take (ML)
01-07-04		0.0						0.0			0.0		0.0
02-07-04		0.0						0.0			0.0		0.0
03-07-04		0.0						0.0			0.0		0.0
04-07-04		0.0						0.0			0.0		0.0
05-07-04		0.0						0.0			0.0		0.0
06-07-04		0.0						0.0			0.0		0.0
07-07-04		0.0						0.0			0.0		0.0
08-07-04		0.0						0.0			0.0		0.0
09-07-04		0.0						0.0			0.0		0.0
10-07-04		0.0						0.0			0.0		0.0
11-07-04		0.0						0.0			0.0		0.0
12-07-04		0.0						0.0			0.0		0.0
13-07-04		0.0						0.0			0.0		0.0
14-07-04		0.0						0.0			0.0		0.0
15-07-04		0.0						0.0			0.0		0.0
16-07-04		0.0						0.0			0.0		0.0
17-07-04		0.0						0.0			0.0		0.0
18-07-04		0.0						0.0			0.0		0.0
19-07-04		0.0						0.0			0.0		0.0
20-07-04		0.0						0.0			0.0		0.0
21-07-04		0.0						0.0			0.0		0.0
22-07-04		0.0						0.0			0.0		0.0
23-07-04		0.0						0.0			0.0		0.0
24-07-04		0.0						0.0			0.0		0.0
25-07-04		0.0						0.0			0.0		0.0
26-07-04		0.0						0.0			0.0		0.0
27-07-04		0.0						0.0			0.0		0.0
28-07-04		0.0						0.0			0.0		0.0
29-07-04		0.0						0.0			0.0		0.0
30-07-04		0.0						0.0			0.0		0.0
31-07-04		0.0						0.0			0.0		0.0
01-08-04		0.0						0.0			0.0		0.0
02-08-04		0.0						0.0			0.0		0.0
03-08-04		0.0						0.0			0.0		0.0
04-08-04		0.0						0.0			0.0		0.0
05-08-04		0.0						0.0			0.0		0.0
06-08-04		0.0						0.0			0.0		0.0
07-08-04		0.0						0.0			0.0		0.0
08-08-04		0.0						0.0			0.0		0.0
09-08-04		0.0						0.0			0.0		0.0
10-08-04		0.0						0.0			0.0		0.0
11-08-04		0.0						0.0			0.0		0.0
12-08-04		0.0						0.0			0.0		0.0
13-08-04		0.0						0.0			0.0		0.0
14-08-04		0.0						0.0			0.0		0.0
15-08-04		0.0						0.0			0.0		0.0
16-08-04		0.0						0.0			0.0		0.0
17-08-04		0.0						0.0			0.0		0.0
18-08-04		0.0						0.0			0.0		0.0
19-08-04		0.0						0.0			0.0		0.0
20-08-04		0.0						0.0			0.0		0.0
21-08-04		0.0						0.0			0.0		0.0
22-08-04		0.0						0.0			0.0		0.0
23-08-04		0.0						0.0			0.0		0.0
24-08-04		0.0						0.0			0.0		0.0
25-08-04		0.0						0.0			0.0		0.0
26-08-04		0.0						0.0			0.0		0.0
27-08-04		0.0						0.0			0.0		0.0
28-08-04		0.0						0.0			0.0		0.0
29-08-04		0.0						0.0			0.0		0.0
30-08-04		0.0						0.0			0.0		0.0
31-08-04		0.0						0.0			0.0		0.0
01-09-04		0.0						0.0			0.0		0.0
02-09-04		0.0						0.0			0.0		0.0
03-09-04		0.0						0.0			0.0		0.0
04-09-04		0.0						0.0			0.0		0.0
05-09-04		0.0						0.0			0.0		0.0
06-09-04		0.0						0.0			0.0		0.0
07-09-04		0.0						0.0			0.0		0.0
08-09-04	102.0							0.0			0.0		0.0
09-09-04	127.0	25.0		6.0				0.0	23.0	17.5	4.0		15.0
10-09-04		0.0						0.0			0.0		0.0
11-09-04		0.0						0.0			0.0		0.0
12-09-04		0.0						0.0			0.0		0.0
13-09-04		0.0						0.0			0.0		0.0
14-09-04		0.0						0.0			0.0		0.0
15-09-04		0.0						0.0			0.0		0.0
16-09-04		0.0						0.0			0.0		0.0
17-09-04		0.0						0.0			0.0		0.0
18-09-04		0.0						0.0			0.0		0.0
19-09-04		0.0						0.0			0.0		0.0
20-09-04		0.0						0.0			0.0		0.0
21-09-04		0.0						0.0			0.0		0.0
22-09-04		0.0						0.0			0.0		0.0
23-09-04		0.0						0.0			0.0		0.0
24-09-04		0.0						0.0			0.0		0.0
25-09-04		0.0						0.0			0.0		0.0
26-09-04		0.0						0.0			0.0		0.0
27-09-04		0.0						0.0			0.0		0.0
28-09-04		0.0						0.0			0.0		0.0
29-09-04		0.0						0.0			0.0		0.0
30-09-04		0.0						0.0			0.0		0.0
01-10-04		0.0						0.0			0.0		0.0
02-10-04		0.0						0.0			0.0		0.0
03-10-04		0.0						0.0			0.0		0.0
04-10-04		0.0						0.0			0.0		0.0
05-10-04		0.0						0.0			0.0		0.0
06-10-04		0.0						0.0			0.0		0.0
07-10-04		0.0						0.0			0.0		0.0
08-10-04		0.0						0.0			0.0		0.0
09-10-04		0.0						0.0			0.0		0.0
10-10-04		0.0						0.0			0.0		0.0
11-10-04		0.0						0.0			0.0		0.0
12-10-04		0.0						0.0			0.0		0.0
13-10-04		0.0						0.0			0.0		0.0
14-10-04		0.0						0.0			0.0		0.0
15-10-04		0.0						0.0			0.0		0.0
16-10-04		0.0						0.0			0.0		0.0
17-10-04		0.0						0.0			0.0		0.0
18-10-04		0.0						0.0			0.0		0.0
19-10-04		0.0						0.0			0.0		0.0
20-10-04		0.0						0.0			0.0		0.0
21-10-04		0.0						0.0			0.0		0.0
22-10-04		0.0						0.0			0.0		0.0
23-10-04		0.0						0.0			0.0		0.0
24-10-04		0.0						0.0			0.0		0.0
25-10-04		0.0						0.0			0.0		0.0
26-10-04		0.0						0.0			0.0		0.0
27-10-04		0.0						0.0			0.0		0.0
28-10-04		0.0						0.0			0.0		0.0
29-10-04		0.0						0.0			0.0		0.0
30-10-04		0.0						0.0			0.0		0.0
31-10-04		0.0						0.0			0.0		0.0
01-11-04		0.0						0.0			0.0		0.0
02-11-04		0.0						0.0			0.0		0.0
03-11-04		0.0						0.0			0.0		0.0
04-11-04	322.0	0.0						0.0			0.0		0.0
05-11-04	412.0	90.0		5.0				0.0	67.0	22.0	14.7		70.3
06-11-04	489.0	77.0		5.0				0.0	22.0	22.0	4.8		67.2
07-11-04		0.0						0.0			0.0		0.0
08-11-04		0.0						0.0			0.0		0.0

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1809.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

2001.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1961.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1921.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1881.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

2091.5

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

2041.5

FPH Take - 190519 Narrabri Test For Irrigation Volumes 2.5 0.75

Event Date	Storage Volume (ML)	Change in Storage Volume (ML)	Metered Surface Water Inflow (ML)	Metered Ground Water Inflow (ML)	Area Irrigated From Metered Water (ha)	Volume of Metered Water Applied ML/ha	Tailwater Return from metered water ML/ha	Volume of Metered Water used to irrigate (ML)	Rainfall on storage During Event (mm)	Surface Area of Storage During Events (ha)	Volume of Direct Rainfall on Storage During Event (ML)	Volume of Storage Transfers (ML) (+ve in) (-ve Out)	FPH Take (ML)
01-07-04		0.0						0.0			0.0		0.0
02-07-04		0.0						0.0			0.0		0.0
03-07-04		0.0						0.0			0.0		0.0
04-07-04		0.0						0.0			0.0		0.0
05-07-04		0.0						0.0			0.0		0.0
06-07-04		0.0						0.0			0.0		0.0
07-07-04		0.0						0.0			0.0		0.0
08-07-04		0.0						0.0			0.0		0.0
09-07-04		0.0						0.0			0.0		0.0
10-07-04		0.0						0.0			0.0		0.0
11-07-04		0.0						0.0			0.0		0.0
12-07-04		0.0						0.0			0.0		0.0
13-07-04		0.0						0.0			0.0		0.0
14-07-04		0.0						0.0			0.0		0.0
15-07-04		0.0						0.0			0.0		0.0
16-07-04		0.0						0.0			0.0		0.0
17-07-04		0.0						0.0			0.0		0.0
18-07-04		0.0						0.0			0.0		0.0
19-07-04		0.0						0.0			0.0		0.0
20-07-04		0.0						0.0			0.0		0.0
21-07-04		0.0						0.0			0.0		0.0
22-07-04		0.0						0.0			0.0		0.0
23-07-04		0.0						0.0			0.0		0.0
24-07-04		0.0						0.0			0.0		0.0
25-07-04		0.0						0.0			0.0		0.0
26-07-04		0.0						0.0			0.0		0.0
27-07-04		0.0						0.0			0.0		0.0
28-07-04		0.0						0.0			0.0		0.0
29-07-04		0.0						0.0			0.0		0.0
30-07-04		0.0						0.0			0.0		0.0
31-07-04		0.0						0.0			0.0		0.0
01-08-04		0.0						0.0			0.0		0.0
02-08-04		0.0						0.0			0.0		0.0
03-08-04		0.0						0.0			0.0		0.0
04-08-04		0.0						0.0			0.0		0.0
05-08-04		0.0						0.0			0.0		0.0
06-08-04		0.0						0.0			0.0		0.0
07-08-04		0.0						0.0			0.0		0.0
08-08-04		0.0						0.0			0.0		0.0
09-08-04		0.0						0.0			0.0		0.0
10-08-04		0.0						0.0			0.0		0.0
11-08-04		0.0						0.0			0.0		0.0
12-08-04		0.0						0.0			0.0		0.0
13-08-04		0.0						0.0			0.0		0.0
14-08-04		0.0						0.0			0.0		0.0
15-08-04		0.0						0.0			0.0		0.0
16-08-04		0.0						0.0			0.0		0.0
17-08-04		0.0						0.0			0.0		0.0
18-08-04		0.0						0.0			0.0		0.0
19-08-04		0.0						0.0			0.0		0.0
20-08-04		0.0						0.0			0.0		0.0
21-08-04		0.0						0.0			0.0		0.0
22-08-04		0.0						0.0			0.0		0.0
23-08-04		0.0						0.0			0.0		0.0
24-08-04		0.0						0.0			0.0		0.0
25-08-04		0.0						0.0			0.0		0.0
26-08-04		0.0						0.0			0.0		0.0
27-08-04		0.0						0.0			0.0		0.0
28-08-04		0.0						0.0			0.0		0.0
29-08-04		0.0						0.0			0.0		0.0
30-08-04		0.0						0.0			0.0		0.0
31-08-04		0.0						0.0			0.0		0.0
01-09-04		0.0						0.0			0.0		0.0
02-09-04		0.0						0.0			0.0		0.0
03-09-04		0.0						0.0			0.0		0.0
04-09-04		0.0						0.0			0.0		0.0
05-09-04		0.0						0.0			0.0		0.0
06-09-04		0.0						0.0			0.0		0.0
07-09-04		0.0						0.0			0.0		0.0
08-09-04	102.0							0.0			0.0		0.0
09-09-04	127.0	25.0		6.0				0.0	23.0	17.5	4.0		15.0
10-09-04		0.0						0.0			0.0		0.0
11-09-04		0.0						0.0			0.0		0.0
12-09-04		0.0						0.0			0.0		0.0
13-09-04		0.0						0.0			0.0		0.0
14-09-04		0.0						0.0			0.0		0.0
15-09-04		0.0						0.0			0.0		0.0
16-09-04		0.0						0.0			0.0		0.0
17-09-04		0.0						0.0			0.0		0.0
18-09-04		0.0						0.0			0.0		0.0
19-09-04		0.0						0.0			0.0		0.0
20-09-04		0.0						0.0			0.0		0.0
21-09-04		0.0						0.0			0.0		0.0
22-09-04		0.0						0.0			0.0		0.0
23-09-04		0.0						0.0			0.0		0.0
24-09-04		0.0						0.0			0.0		0.0
25-09-04		0.0						0.0			0.0		0.0
26-09-04		0.0						0.0			0.0		0.0
27-09-04		0.0						0.0			0.0		0.0
28-09-04		0.0						0.0			0.0		0.0
29-09-04		0.0						0.0			0.0		0.0
30-09-04		0.0						0.0			0.0		0.0
01-10-04		0.0						0.0			0.0		0.0
02-10-04		0.0						0.0			0.0		0.0
03-10-04		0.0						0.0			0.0		0.0
04-10-04		0.0						0.0			0.0		0.0
05-10-04		0.0						0.0			0.0		0.0
06-10-04		0.0						0.0			0.0		0.0
07-10-04		0.0						0.0			0.0		0.0
08-10-04		0.0						0.0			0.0		0.0
09-10-04		0.0						0.0			0.0		0.0
10-10-04		0.0						0.0			0.0		0.0
11-10-04		0.0						0.0			0.0		0.0
12-10-04		0.0						0.0			0.0		0.0
13-10-04		0.0						0.0			0.0		0.0
14-10-04		0.0						0.0			0.0		0.0
15-10-04		0.0						0.0			0.0		0.0
16-10-04		0.0						0.0			0.0		0.0
17-10-04		0.0						0.0			0.0		0.0
18-10-04		0.0						0.0			0.0		0.0
19-10-04		0.0						0.0			0.0		0.0
20-10-04		0.0						0.0			0.0		0.0
21-10-04		0.0						0.0			0.0		0.0
22-10-04		0.0						0.0			0.0		0.0
23-10-04		0.0						0.0			0.0		0.0
24-10-04		0.0						0.0			0.0		0.0
25-10-04		0.0						0.0			0.0		0.0
26-10-04		0.0						0.0			0.0		0.0
27-10-04		0.0						0.0			0.0		0.0
28-10-04		0.0						0.0			0.0		0.0
29-10-04		0.0						0.0			0.0		0.0
30-10-04		0.0						0.0			0.0		0.0
31-10-04		0.0						0.0			0.0		0.0
01-11-04		0.0						0.0			0.0		0.0
02-11-04		0.0						0.0			0.0		0.0
03-11-04		0.0						0.0			0.0		0.0
04-11-04	322.0							0.0			0.0		0.0
05-11-04	412.0	90.0		5.0				0.0	67.0	22.0	14.7		70.3
06-11-04	489.0	77.0		5.0				0.0	22.0	22.0	4.8		67.2
07-11-04		0.0						0.0			0.0		0.0
08-11-04		0.0						0.0			0.0		0.0

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

FPH Take - 190519 Narrabri Test For Irrigation Volumes 2.5 1.0

Event Date	Storage Volume (ML)	Change in Storage Volume (ML)	Metered Surface Water Inflow (ML)	Metered Ground Water Inflow (ML)	Area Irrigated From Metered Water (ha)	Volume of Metered Water Applied ML/ha	Tailwater Return from metered water ML/ha	Volume of Metered Water used to irrigate (ML)	Rainfall on storage During Event (mm)	Surface Area of Storage During Events (ha)	Volume of Direct Rainfall on Storage During Event (ML)	Volume of Storage Transfers (ML) (+ve In) (-ve Out)	FPH Take (ML)
01-07-04		0.0						0.0			0.0		0.0
02-07-04		0.0						0.0			0.0		0.0
03-07-04		0.0						0.0			0.0		0.0
04-07-04		0.0						0.0			0.0		0.0
05-07-04		0.0						0.0			0.0		0.0
06-07-04		0.0						0.0			0.0		0.0
07-07-04		0.0						0.0			0.0		0.0
08-07-04		0.0						0.0			0.0		0.0
09-07-04		0.0						0.0			0.0		0.0
10-07-04		0.0						0.0			0.0		0.0
11-07-04		0.0						0.0			0.0		0.0
12-07-04		0.0						0.0			0.0		0.0
13-07-04		0.0						0.0			0.0		0.0
14-07-04		0.0						0.0			0.0		0.0
15-07-04		0.0						0.0			0.0		0.0
16-07-04		0.0						0.0			0.0		0.0
17-07-04		0.0						0.0			0.0		0.0
18-07-04		0.0						0.0			0.0		0.0
19-07-04		0.0						0.0			0.0		0.0
20-07-04		0.0						0.0			0.0		0.0
21-07-04		0.0						0.0			0.0		0.0
22-07-04		0.0						0.0			0.0		0.0
23-07-04		0.0						0.0			0.0		0.0
24-07-04		0.0						0.0			0.0		0.0
25-07-04		0.0						0.0			0.0		0.0
26-07-04		0.0						0.0			0.0		0.0
27-07-04		0.0						0.0			0.0		0.0
28-07-04		0.0						0.0			0.0		0.0
29-07-04		0.0						0.0			0.0		0.0
30-07-04		0.0						0.0			0.0		0.0
31-07-04		0.0						0.0			0.0		0.0
01-08-04		0.0						0.0			0.0		0.0
02-08-04		0.0						0.0			0.0		0.0
03-08-04		0.0						0.0			0.0		0.0
04-08-04		0.0						0.0			0.0		0.0
05-08-04		0.0						0.0			0.0		0.0
06-08-04		0.0						0.0			0.0		0.0
07-08-04		0.0						0.0			0.0		0.0
08-08-04		0.0						0.0			0.0		0.0
09-08-04		0.0						0.0			0.0		0.0
10-08-04		0.0						0.0			0.0		0.0
11-08-04		0.0						0.0			0.0		0.0
12-08-04		0.0						0.0			0.0		0.0
13-08-04		0.0						0.0			0.0		0.0
14-08-04		0.0						0.0			0.0		0.0
15-08-04		0.0						0.0			0.0		0.0
16-08-04		0.0						0.0			0.0		0.0
17-08-04		0.0						0.0			0.0		0.0
18-08-04		0.0						0.0			0.0		0.0
19-08-04		0.0						0.0			0.0		0.0
20-08-04		0.0						0.0			0.0		0.0
21-08-04		0.0						0.0			0.0		0.0
22-08-04		0.0						0.0			0.0		0.0
23-08-04		0.0						0.0			0.0		0.0
24-08-04		0.0						0.0			0.0		0.0
25-08-04		0.0						0.0			0.0		0.0
26-08-04		0.0						0.0			0.0		0.0
27-08-04		0.0						0.0			0.0		0.0
28-08-04		0.0						0.0			0.0		0.0
29-08-04		0.0						0.0			0.0		0.0
30-08-04		0.0						0.0			0.0		0.0
31-08-04		0.0						0.0			0.0		0.0
01-09-04		0.0						0.0			0.0		0.0
02-09-04		0.0						0.0			0.0		0.0
03-09-04		0.0						0.0			0.0		0.0
04-09-04		0.0						0.0			0.0		0.0
05-09-04		0.0						0.0			0.0		0.0
06-09-04		0.0						0.0			0.0		0.0
07-09-04		0.0						0.0			0.0		0.0
08-09-04	102.0							0.0			0.0		0.0
09-09-04	127.0	25.0		6.0				0.0	23.0	17.5	4.0		15.0
10-09-04		0.0						0.0			0.0		0.0
11-09-04		0.0						0.0			0.0		0.0
12-09-04		0.0						0.0			0.0		0.0
13-09-04		0.0						0.0			0.0		0.0
14-09-04		0.0						0.0			0.0		0.0
15-09-04		0.0						0.0			0.0		0.0
16-09-04		0.0						0.0			0.0		0.0
17-09-04		0.0						0.0			0.0		0.0
18-09-04		0.0						0.0			0.0		0.0
19-09-04		0.0						0.0			0.0		0.0
20-09-04		0.0						0.0			0.0		0.0
21-09-04		0.0						0.0			0.0		0.0
22-09-04		0.0						0.0			0.0		0.0
23-09-04		0.0						0.0			0.0		0.0
24-09-04		0.0						0.0			0.0		0.0
25-09-04		0.0						0.0			0.0		0.0
26-09-04		0.0						0.0			0.0		0.0
27-09-04		0.0						0.0			0.0		0.0
28-09-04		0.0						0.0			0.0		0.0
29-09-04		0.0						0.0			0.0		0.0
30-09-04		0.0						0.0			0.0		0.0
01-10-04		0.0						0.0			0.0		0.0
02-10-04		0.0						0.0			0.0		0.0
03-10-04		0.0						0.0			0.0		0.0
04-10-04		0.0						0.0			0.0		0.0
05-10-04		0.0						0.0			0.0		0.0
06-10-04		0.0						0.0			0.0		0.0
07-10-04		0.0						0.0			0.0		0.0
08-10-04		0.0						0.0			0.0		0.0
09-10-04		0.0						0.0			0.0		0.0
10-10-04		0.0						0.0			0.0		0.0
11-10-04		0.0						0.0			0.0		0.0
12-10-04		0.0						0.0			0.0		0.0
13-10-04		0.0						0.0			0.0		0.0
14-10-04		0.0						0.0			0.0		0.0
15-10-04		0.0						0.0			0.0		0.0
16-10-04		0.0						0.0			0.0		0.0
17-10-04		0.0						0.0			0.0		0.0
18-10-04		0.0						0.0			0.0		0.0
19-10-04		0.0						0.0			0.0		0.0
20-10-04		0.0						0.0			0.0		0.0
21-10-04		0.0						0.0			0.0		0.0
22-10-04		0.0						0.0			0.0		0.0
23-10-04		0.0						0.0			0.0		0.0
24-10-04		0.0						0.0			0.0		0.0
25-10-04		0.0						0.0			0.0		0.0
26-10-04		0.0						0.0			0.0		0.0
27-10-04		0.0						0.0			0.0		0.0
28-10-04		0.0						0.0			0.0		0.0
29-10-04		0.0						0.0			0.0		0.0
30-10-04		0.0						0.0			0.0		0.0
31-10-04		0.0						0.0			0.0		0.0
01-11-04		0.0						0.0			0.0		0.0
02-11-04		0.0						0.0			0.0		0.0
03-11-04		0.0						0.0			0.0		0.0
04-11-04	322.0	0.0						0.0			0.0		0.0
05-11-04	412.0	90.0		5.0				0.0	67.0	22.0	14.7		70.3
06-11-04	489.0	77.0		5.0				0.0	22.0	22.0	4.8		67.2
07-11-04		0.0						0.0			0.0		0.0
08-11-04		0.0						0.0			0.0		0.0

28-03-05	0.0					0.0			0.0		0.0
29-03-05	0.0					0.0			0.0		0.0
30-03-05	0.0					0.0			0.0		0.0
31-03-05	0.0					0.0			0.0		0.0
01-04-05	0.0					0.0			0.0		0.0
02-04-05	0.0					0.0			0.0		0.0
03-04-05	0.0					0.0			0.0		0.0
04-04-05	0.0					0.0			0.0		0.0
05-04-05	0.0					0.0			0.0		0.0
06-04-05	0.0					0.0			0.0		0.0
07-04-05	0.0					0.0			0.0		0.0
08-04-05	0.0					0.0			0.0		0.0
09-04-05	0.0					0.0			0.0		0.0
10-04-05	0.0					0.0			0.0		0.0
11-04-05	0.0					0.0			0.0		0.0
12-04-05	0.0					0.0			0.0		0.0
13-04-05	0.0					0.0			0.0		0.0
14-04-05	0.0					0.0			0.0		0.0
15-04-05	0.0					0.0			0.0		0.0
16-04-05	0.0					0.0			0.0		0.0
17-04-05	0.0					0.0			0.0		0.0
18-04-05	0.0					0.0			0.0		0.0
19-04-05	0.0					0.0			0.0		0.0
20-04-05	0.0					0.0			0.0		0.0
21-04-05	0.0					0.0			0.0		0.0
22-04-05	0.0					0.0			0.0		0.0
23-04-05	0.0					0.0			0.0		0.0
24-04-05	0.0					0.0			0.0		0.0
25-04-05	0.0					0.0			0.0		0.0
26-04-05	0.0					0.0			0.0		0.0
27-04-05	0.0					0.0			0.0		0.0
28-04-05	0.0					0.0			0.0		0.0
29-04-05	0.0					0.0			0.0		0.0
30-04-05	0.0					0.0			0.0		0.0
01-05-05	0.0					0.0			0.0		0.0
02-05-05	0.0					0.0			0.0		0.0
03-05-05	0.0					0.0			0.0		0.0
04-05-05	0.0					0.0			0.0		0.0
05-05-05	0.0					0.0			0.0		0.0
06-05-05	0.0					0.0			0.0		0.0
07-05-05	0.0					0.0			0.0		0.0
08-05-05	0.0					0.0			0.0		0.0
09-05-05	0.0					0.0			0.0		0.0
10-05-05	0.0					0.0			0.0		0.0
11-05-05	0.0					0.0			0.0		0.0
12-05-05	0.0					0.0			0.0		0.0
13-05-05	0.0					0.0			0.0		0.0
14-05-05	0.0					0.0			0.0		0.0
15-05-05	0.0					0.0			0.0		0.0
16-05-05	0.0					0.0			0.0		0.0
17-05-05	0.0					0.0			0.0		0.0
18-05-05	0.0					0.0			0.0		0.0
19-05-05	0.0					0.0			0.0		0.0
20-05-05	0.0					0.0			0.0		0.0
21-05-05	0.0					0.0			0.0		0.0
22-05-05	0.0					0.0			0.0		0.0
23-05-05	0.0					0.0			0.0		0.0
24-05-05	0.0					0.0			0.0		0.0
25-05-05	0.0					0.0			0.0		0.0
26-05-05	0.0					0.0			0.0		0.0
27-05-05	0.0					0.0			0.0		0.0
28-05-05	0.0					0.0			0.0		0.0
29-05-05	0.0					0.0			0.0		0.0
30-05-05	0.0					0.0			0.0		0.0
31-05-05	0.0					0.0			0.0		0.0
01-06-05	0.0					0.0			0.0		0.0
02-06-05	0.0					0.0			0.0		0.0
03-06-05	0.0					0.0			0.0		0.0
04-06-05	0.0					0.0			0.0		0.0
05-06-05	0.0					0.0			0.0		0.0
06-06-05	0.0					0.0			0.0		0.0
07-06-05	0.0					0.0			0.0		0.0
08-06-05	0.0					0.0			0.0		0.0
09-06-05	0.0					0.0			0.0		0.0
10-06-05	0.0					0.0			0.0		0.0
11-06-05	0.0					0.0			0.0		0.0
12-06-05	0.0					0.0			0.0		0.0
13-06-05	0.0					0.0			0.0		0.0
14-06-05	0.0					0.0			0.0		0.0
15-06-05	0.0					0.0			0.0		0.0
16-06-05	0.0					0.0			0.0		0.0
17-06-05	0.0					0.0			0.0		0.0
18-06-05	0.0					0.0			0.0		0.0
19-06-05	0.0					0.0			0.0		0.0
20-06-05	0.0					0.0			0.0		0.0
21-06-05	0.0					0.0			0.0		0.0
22-06-05	0.0					0.0			0.0		0.0
23-06-05	0.0					0.0			0.0		0.0
24-06-05	0.0					0.0			0.0		0.0
25-06-05	0.0					0.0			0.0		0.0
26-06-05	0.0					0.0			0.0		0.0
27-06-05	0.0					0.0			0.0		0.0
28-06-05	0.0					0.0			0.0		0.0
29-06-05	0.0					0.0			0.0		0.0
30-06-05	0.0					0.0			0.0		0.0

Total FPH

1941.5

APPENDIX

D

List of Information Required for FPH Take Calculation.

Critical Information

1. Continuous storage meter readings – 30-minute intervals or gauge board readings.
2. Rain Gauges on each storage.
3. Full irrigation event details recorded per day.
i.e –
 - Which field and when started and stopped?
 - What area irrigated each 24hr day? (may include several shifts over 24hrs)
 - What happens to irrigation tailwater? (where does it go?)
 - Typical measured volume of irrigation water applied to fields (initially estimated at 1.0ML/ha).
 - Typical measured volume of irrigation water coming off fields as tailwater (initially estimated at 0.2ML/ha).
4. Date and time stamped flow meters on all surface and groundwater sources.
5. The date and time when rainfall causing the FPH event started on farm.
6. Date and time when last of FPH Take is pumped/ delivered by gravity into Permanent Storage.
7. If water delivered to empty storage, what was the storage area soil like before water was delivered to storage?
 - a) Wet
 - b) Medium
 - c) Dry

This sets the initial wet-up loss volume/ha. Default loss values provided based on soil types until measured.
8. Storage transfers Storage N° to Storage N° between (time) and (date).
9. Need to deal with each Permanent Storage individually.
10. Temporary storage of water in fields or in low areas need to be treated as permanent storages if water is held in them for more than 10days.
11. Buffer Storage Volume at start and end.

12. Main Supply Channel Volume at start and end.
13. Tailwater Return Drain Volume at start and end.

Useful Information

Useful information is required if storage seepage and evaporation losses need to be calculated or a whole farm water balance is required.

1. SILO Eto/day – based on Lat and Long for farm.
2. Evaporation losses from each storage, Eto x storage factor – (default storage factor = 1.0 until measured from storage meter).
3. Seepage loss from each storage (default values provided based on soil type until measured).

Calculation Procedure for FPH Take.

Case 1 Default case (at irrigators choice)

FPH take =

- gross change in storage volume
- + storage transfers going out of storage
- storage transfers coming into storage

Case 2 FPH with no irrigation

2a) No metered surface or ground water pumped during event.

FPH take =

- gross change in storage volume
- rainfall on storage
- + storage transfers going out of storage
- storage transfers coming into storage
- + storage losses

2b) Metered water coming into storage but no irrigation.

FPH take =

- gross change in storage volume
- rainfall on storage
- metered surface water pumped to storage (date stamped)
- metered groundwater pumped to storage (date stamped)
- storage transfers coming into storage
- + storage transfers going out of storage
- reduction in main supply channel volume OR + increase in main supply channel volume
- reduction in tailwater return drain volume OR + increase in main supply channel volume
- reduction in buffer storage volume OR + increase in buffer storage volume
- + storage losses.

Case 3 FPH with Irrigation During Event.

FPH Take =

gross change in storage volume

- rainfall on storage

- metered surface water delivered to supply to storage during event

- metered ground water delivered to supply to storage during event

+ water applied to irrigation fields from supply to storage during event

- water returned to storage from fields as tailwater during event

- reduction in main supply channel volume OR + increase in main supply channel volume.

- reduction in tailwater return drain volume OR + increase in tailwater return drain volume.

- reduction in buffer storage volume OR + increase in buffer storage volume.

+ storage transfers going out of storage

- storage transfers coming into storage

+ storage losses