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Date: 9/2/12 JM

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EXECUTIVE SUMMARY

Background

The Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam (Revision 7) (**"the Manual"**) defines the objectives and procedures for operating the dams during flood events.

Flood events impacting Wivenhoe and Somerset dams are caused by actual rainfall events that vary in intensity, duration and distribution over a catchment area exceeding 7,000 square kilometres above the dams. When making decisions about releasing water from the dams during flood events, consideration is also given to rain falling in Brisbane River catchment areas not controlled by the dams. These catchment areas, which include the Lockyer Creek and Bremer River catchments, also comprise an area in the order of 7,000 square kilometres and rain falling in these catchments will also vary in intensity, duration and distribution. Accordingly, there is an infinite number of flood event scenarios that the Manual needs to account for.

Given the infinite number of potential scenarios, it is not possible for the Manual to contain a specific procedure relating to every possible flood event. Therefore the Manual takes the approach of providing strategies and objectives to guide operational decision making during a flood event. The strategy chosen at any point in time will depend on the actual levels in the dams and flood modelling predictions which are made using the best forecast rainfall and stream flow information available at the time.

A number of strategies in the Manual are likely to be used over the course of the event. Strategies change during a flood event as forecasts change and rain is collected in the catchments. It is not possible to predict the range of strategies that will be used during the course of a flood event before or at any time during the event, prior to the event peak. Strategies are altered in response to changing rainfall forecasts and stream flow conditions to maximise the flood mitigation benefits of the dams.

Additionally, given the current level of forecasting technology available, it is not possible for the Bureau of Meteorology to provide completely accurate rainfall forecasts for the dam catchment areas. A degree of uncertainty is present in all forecasts and the further forward in time that forecasts are provided, the greater the degree of uncertainty there is in the forecast. Accordingly, three primary factors are always considered in flood operations decision making:

1. The safety of the public is paramount. — not in manual
2. The safety of the Dam is paramount.
3. Every attempt is made to ensure the extent to which water flows over the floors of residential and commercial buildings downstream of the dam is minimised. Dam outflows contributing to such flooding are delayed until it is apparent no other options are available without risking the safety of the dams.

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Significance of the Flood Event

The January 2011 flood event was extremely large and rare. Relevant statistics that demonstrate this fact are:

- Average rainfalls recorded in the catchment area above Wivenhoe Dam indicate rainfall intensities for the 72 hour period to Tuesday 11 January 2011 at 19:00 had an annual recurrence interval of between 1 in 500 years and 1 in 1000 years. Rainfall intensities for the 120 hour period to Tuesday 11 January 2011 at 19:00 also had an annual recurrence interval of between 1 in 500 years and 1 in 1000 years. These appear larger in magnitude than the 1893 flood of record.

- Point rainfalls experienced in the Wivenhoe Dam storage area between 05:00 and 13:00 on Tuesday 11 January 2011 are estimated to have had an annual recurrence interval of between 1 in 500 years and 1 in 1000 years. As it is not possible to have a recording station directly on the Dam storage area, this rainfall volume can not be accurately verified. However, in order to produce the rapid storage level rises experienced at Wivenhoe Dam during this period, we can confidently report this level of rainfall must have occurred.

- The volume of total inflow into Wivenhoe Dam during this Event has been calculated to be around 190% of the comparable volume of inflow calculated from the January 1974 flood event.

- The water flow into Wivenhoe Dam during this Event is represented by a dual-peaked hydrograph, with the two peaks separated by 30 hours. The maximum flow rate at the first peak is estimated to be around 50% greater than the comparable flow rate calculated from the January 1974 event while the maximum flow rate at the second peak is also estimated to be approximately 50% greater than the comparable flow rate calculated from the January 1974 event.

Flood mitigation benefits of Wivenhoe and Somerset dams

Wivenhoe Dam provided clear and greatly significant flood mitigation benefits during this Flood Event as demonstrated below:

- The following graph (Figure 1) demonstrates the significant benefits of Wivenhoe Dam in mitigating this Flood Event. Just below the Dam, the maximum hourly flow rate in the Brisbane River was reduced by 38%, the maximum three hourly flow rate was reduced by 30% and maximum six hourly flow rate was reduced by 30%.

  Using the above flow rate reductions to represent reductions in flood peak height downstream of Wivenhoe Dam, the estimated flood peak height reductions are up to 2.5 metres in the Brisbane city area.

- Based on the current damage curves, these projected reductions in the flood peak height equate to significant reductions in the potential for the loss of life as well as monetary savings in regard to property damages in the order of up to $1.6 billion. *(Source: Flood Damage Tables provided to Seqwater by the Brisbane City Council).*

- Without the above flow rate reductions provided by Wivenhoe Dam, it is estimated up to 13,000 more properties would have been impacted by the Event. *(Source: Flood Damage Tables provided to Seqwater by the Brisbane City Council).*

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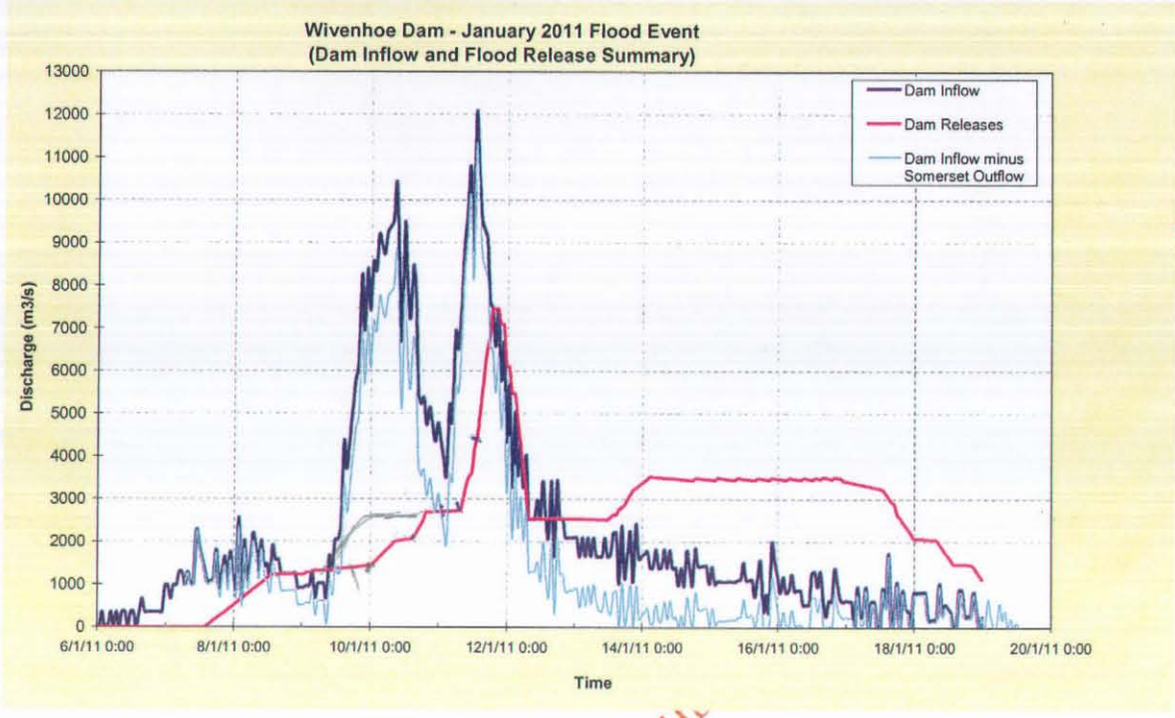
Figure 1



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Flood operations during the Event

During the Flood Event, operational decisions were made in accordance with the Manual, in line with the three primary factors:

1. The safety of the public was paramount.
   Every attempt was made to ensure public roads were closed by relevant authorities prior to them being inundated by controlled dam outflows. Every attempt was made to provide authorities with enough time to prepare for community isolations and to undertake any necessary evacuations.

2. The safety of the Dam was paramount.
   It is estimated that the failure of Wivenhoe Dam would likely result in damage and loss of life 100 to 1,000 times greater than that which was experienced and therefore at no stage was a situation allowed to develop that would put either dam at any risk of overtopping or failing.

3. Every attempt was made to ensure the extent to which water flowed over the floors of residential and commercial buildings was minimised.
   Dam outflows contributing to such flooding were delayed until it was apparent no other option was available, without risking the safety of Wivenhoe Dam. This is demonstrated by Figure 1 which shows the impact of the first inflow peak was completely mitigated. The second inflow peak, which resulted from rainfall directly on the dam with an annual recurrence interval of between 1 in 500 years and 1 in 1000 years, could not be completely mitigated however, its impacts were able to be greatly reduced. The location of the rainfall associated with this second peak, on and near the dam, also reduced available mitigation options.

It should be noted weather forecasts in the early stages of the Event did not support flood releases from Wivenhoe Dam greater than those that actually occurred. An increase to flood releases in the later stages of the Event (prior to the morning of Tuesday 11 January 2011) had the potential to increase urban damage, due to the forecast southward movement of the prevailing weather system. Had the rain that fell on Tuesday 11 January 2011 fallen south of the Dam, the transition to a operating Strategy that only considered the safety pf the dam may have been avoided. However, urban damage would have likely increased under this scenario, due to the loss of the mitigation effects provided by the Dam.

Additionally, given the current level of forecasting technology available, it should be noted there was an extremely high degree of difficulty in predicting the quantity, intensity and spatial distribution of the event rainfall. This is demonstrated by the three day and five day forecast rainfall model results reported in Section 2.0, and resulted in a high level of uncertainty in predicting the likely dam inflows in advance of rainfall on the ground. This issue is examined in further detail in Section 6.0.

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1 INTRODUCTION

1.1 Preface

Given the potential significant impact on downstream populations and property, it is imperative Wivenhoe and Somerset Dams are operated during flood events in accordance with clearly defined and pre-determined procedures. The current procedures are contained in Revision 7 of the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam ("the Manual") that was gazetted in January 2010. This Manual is an approved Flood Mitigation Manual under the *Queensland Water Supply (Safety and Reliability) Act 2008.*

The Manual requires the owner of Wivenhoe and Somerset Dams (currently Seqwater) to prepare a report after each flood event impacting the dams. A flood event is defined as a situation where either of the dams exceed their Full Supply Level (FSL). The report must contain details of the procedures used during the flood event, the reasons why procedures were used and other pertinent information. Seqwater must forward the report to the Director General of the Department of Environment and Resource Management within six weeks of the completion of the flood event. This document and its associated volumes comprises the required report relating to the Flood Event impacting both Wivenhoe and Somerset dams that commenced on Thursday 6 January 2011 and concluded on Wednesday 19 January 2011.

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1.2 Meaning of terms

In this report, the following terms are defined as below:

"Act" means the *Water Supply (Safety and Reliability) Act 2008*;

"AEP" means annual exceedance probability, the probability of a specified event being exceeded in any year.

"Agency" includes a person, a local government and a department of state government within the meaning of the Acts Interpretation Act 1954;

"AHD" means Australian Height Datum;

"Chairperson" means the Chairperson of Seqwater;

"Chief Executive" means the Director General of the Department of Environment and Resource Management or nominated delegate;

"Controlled Document" means a document subject to managerial control over its contents, distribution and storage. It may have legal and contractual implications;

"Dams" means Wivenhoe Dam and Somerset Dam;

"Dam Supervisor" means the senior on-site officer at Wivenhoe or Somerset Dam as the case may be;

"Duty Flood Operations Engineer" means the Senior Flood Operations Engineer or Flood Operations Engineer rostered on duty to be in charge of Flood Operations at the dams;

"EL" means elevation in metres Australian Height Datum;

"Flood Event" is a situation where the Duty Flood Operations Engineer expects the water level in either of the Dams to exceed the Full Supply Level;

"Flood Operations Centre" means the Centre used during by Flood Operations Engineers to manage Flood Events;

"Flood Operations Engineer" means a person designated to direct flood operations at the dams in accordance with Section 2.4 of this Manual;

"FSL" or "Full Supply Level" means the level of the water surface when the reservoir is at maximum operating level, excluding periods of flood discharge;

"Gauge" when referred to in (m) means river level referenced to AHD, and when referred to in (m^3/s) means flow rate in cubic metres per second;

"Manual" or "Manual of Operational Procedures for Flood Events at Wivenhoe Dam and Somerset Dam" means the current version (Revision 7) of this Manual;

"Power Station" means the Wivenhoe pumped storage hydro-electric power station associated with Wivenhoe Dam and Split Yard Creek Dam;

"Senior Flood Operations Engineer" means a person designated in accordance with Section 2.3 of this Manual under whose general direction the procedures in this Manual must be carried out;

"Seqwater" means the Queensland Bulk Water Supply Authority trading as Seqwater.

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1.3 Background

The primary objectives of the procedures contained in the Manual in order of importance are:

1. Ensure the structural safety of the dams.
2. Provide optimum protection of urbanised areas from inundation.
3. Minimise disruption to rural life in the valleys of the Brisbane and Stanley Rivers.
4. Retain the storage at Full Supply Level at the conclusion of the Flood Event.
5. Minimise impacts to riparian flora and fauna during the drain down phase of the Flood Event.

In meeting these objectives, the dams must be operated to account for the potential effects of closely spaced flood events. Accordingly, normal procedures require stored floodwaters to be emptied from the dams within seven days of the flood event peak

passing through the dams. During flood events, Wivenhoe Dam and Somerset Dam are operated in conjunction to maximise the overall flood mitigation capabilities of the two dams.

1.4 Wivenhoe Dam

Depending on the origin, magnitude and spatial extent of the flood, Wivenhoe Dam can be operated in a number of ways to reduce flooding in the Brisbane River downstream of the dam. Maximum overall flood mitigation is able to be achieved by operating Wivenhoe Dam in conjunction with Somerset Dam.

The reservoir volume above FSL of EL 67.0 is available as temporary flood storage. How much of the available flood storage compartment is utilised, depends on the initial reservoir level below FSL, the magnitude of the flood being regulated and the procedures adopted.

Radial gates and an auxiliary spillway are the primary infrastructure used to release water during flood events at Wivenhoe Dam. The arrangement of the radial gates is shown in the diagram below.

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In addition to the five radial gates, an auxiliary spillway was constructed in 2005 as part of an upgrade to improve flood adequacy of this storage. The auxiliary spillway consists of a three bay fuse plug spillway at the right abutment. In association with other constructions at the Dam, this gives the Dam crest flood an AEP of approximately 1 in 100,000. The arrangement of the auxiliary spillway is shown in the diagram below.



Once a flood event is declared, the magnitude of the event is assessed by predicting:

- The maximum storage levels in Wivenhoe and Somerset Dams.
- The peak flow rate at the Lowood Gauge, excluding Wivenhoe Dam releases.
- The peak flow rate at the Moggill Gauge, excluding Wivenhoe Dam releases.

The spillway gates are not to be opened for flood control purposes prior to the reservoir level exceeding EL 67.25.

The strategies contained in the Manual require a great deal of control over dam releases, as well as a knowledge of discharges into the Brisbane River from both Lockyer Creek and the Bremer River, below Wivenhoe Dam. Dam releases are controlled to ensure the combined flow from Lockyer Creek and Wivenhoe Dam is less than the limiting values contained in the strategies to delay the submergence of bridges and to minimise disruption to rural life in the Brisbane and Stanley River valleys. The map below shows the location of the impacted bridges and the approximate river flow rate at which they are closed to traffic.

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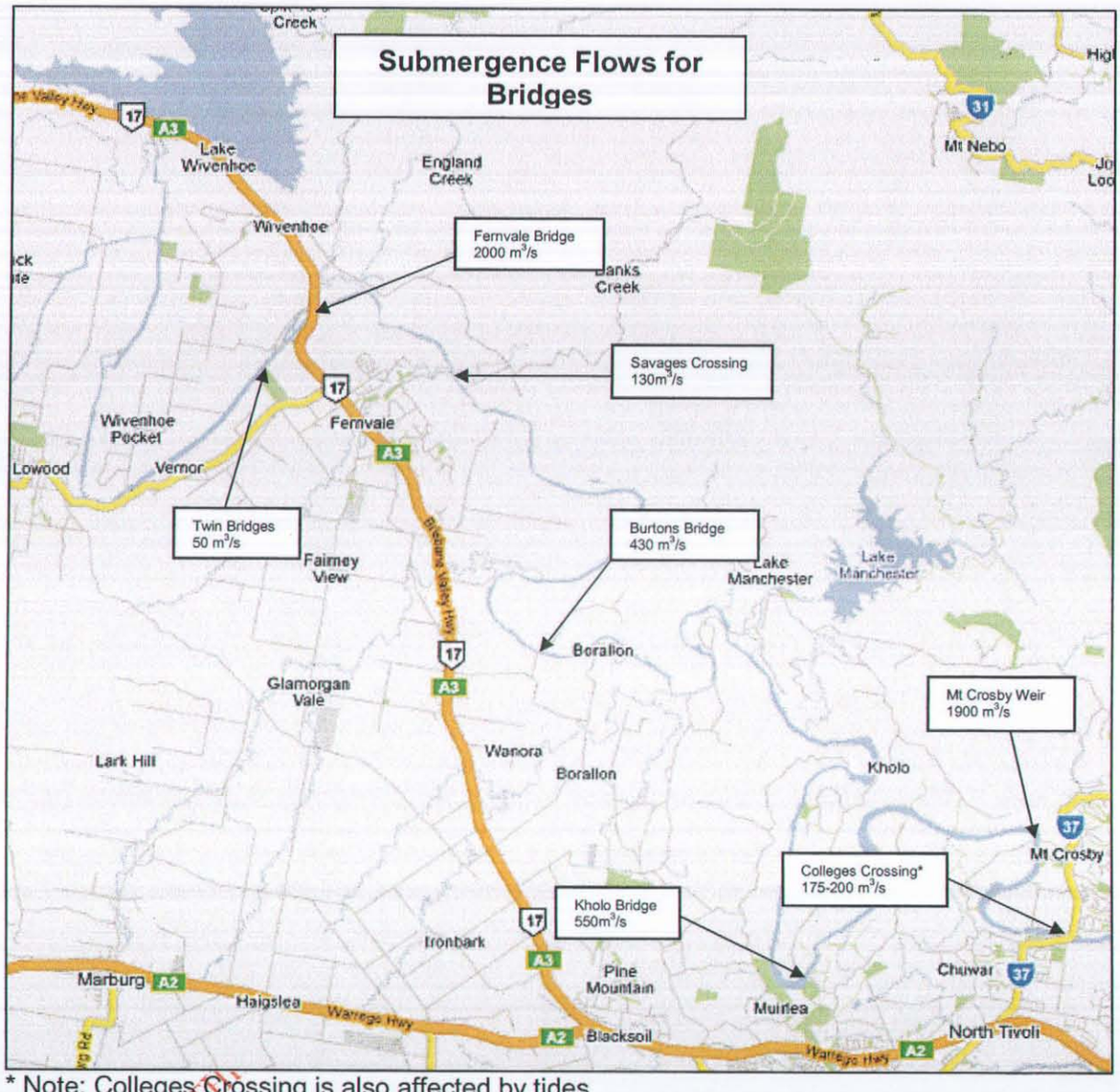

* Note: Colleges Crossing is also affected by tides

To protect urbanised areas from inundation, releases from Wivenhoe Dam are controlled so the combined flow from Lockyer Creek, Wivenhoe Dam and the Bremer River is either minimised or kept below the threshold level for urban damage.

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Releases from Wivenhoe Dam are also controlled to ensure the structural safety of the Dam is not put at risk of failure.

1.5 Somerset Dam

Somerset Dam is able to be operated in a number of ways to regulate Stanley River floods. Somerset Dam and Wivenhoe Dam are to be operated in conjunction to optimise the flood mitigation benefits downstream of Wivenhoe Dam. Radial gates, sluice gates

and regulator valves radial gates are the primary infrastructure used to release water during flood events at Somerset Dam. The arrangement of this infrastructure is shown in the diagram below.



The strategies used when operating Somerset Dam during a flood event are intended to maximise the benefits of the flood storage capabilities of the Dam while protecting the structural safety of both Somerset and Wivenhoe dams. To achieve this, a Wivenhoe/Somerset Operating Target Line is used to set a goal for balancing the use of the flood storage in each dam.

The Wivenhoe/Somerset Operating Target Line was selected based on the following factors:

- Equal minimisation of flood level peaks in both dams in relation to their associated dam failure levels.
- Minimisation of flows in the Brisbane River downstream of Wivenhoe Dam.
- Consideration of the time needed at the onset of a flood event to properly assess the magnitude of the event and the likely impacts. This is to ensure the likely optimal strategy to maximise the flood mitigation benefits of the storages can be selected.

The Wivenhoe/Somerset Operating Target Line is illustrated in the following diagram.

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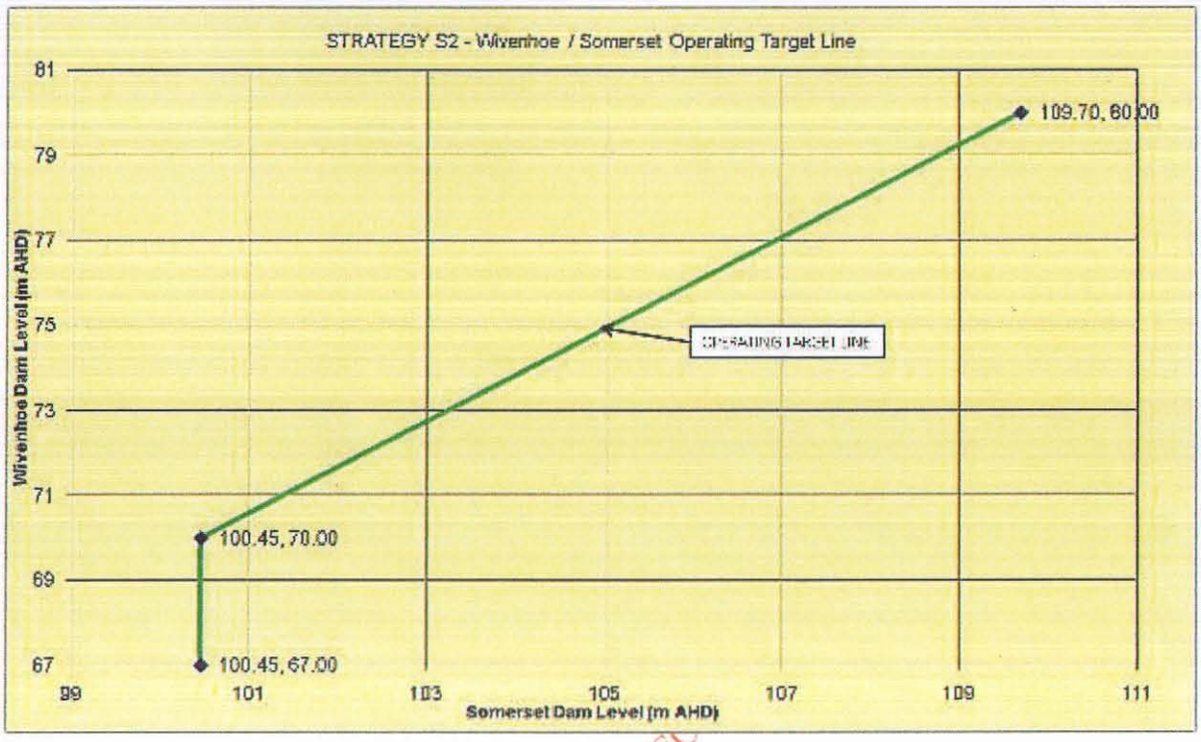

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2 SUMMARY OF JANUARY 2011 FLOOD EVENT

The following summary must be read in conjunction with the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam (Revision 7) ("the Manual"). It provides a detailed summary of the operation of Wivenhoe and Somerset Dams during the January 2011 Flood Event that impacted Brisbane. Each table covers a period of the event during which one of the following occurred:

- There was a transition or change to the flood operation strategy used as defined by the Manual.
- There was a period of stability during which no gate operations from either Wivenhoe Dam or Somerset Dam was directed.
- There was a period of sustained gate operations (either opening or closing) at either Wivenhoe Dam or Somerset Dam.

Each table also provides a summary of relevant background information and a summary of the information that was used to make decisions during the period covered by the table. This information includes:

- Details of the time period.
- Relevant background information from the period leading up to and during the period.
- Changes in dam conditions during the period.
- Rainfall information (including forecast rainfall) and model results available during the period.
- The strategy used and/or adopted during the period.

It should be noted that the forecast rainfall model results apply the full 24 hour catchment average rainfall forecast from the Bureau of Meteorology (BoM) Quantitative Precipitation Forecasts (QPF) to the model run. It does not take into account the model run time in relation to the issue time of the forecast or the rainfall since the forecast was issued. In effect, this provides a "worst case" 24 hour scenario. Full details of the modeling results are shown in the tables contained in Appendix A. Other tools used to support decisions that were examined and considered in conjunction with the modeling results and the 24 hour QPF included:

- The BoM weather radar available through the BoM website.
- BoM SILO Meteograms Forecast Rainfall (based on BoM ACCESS Model).
- BoM Interactive Weather and Wave Forecast Rainfall Maps (based on BoM ACCESS Model).
- BoM Water and the Land Forecast Rainfall (based on an ensemble of several numerical weather prediction models).
- Severe Weather Warnings issued by BoM.

QPF are considered the primary forecast tool as they are provided by BoM to give specific forecast information in relation to the dam catchment areas.

A significant quantitative variation from BoM model results presenting three day and five day rainfall forecasts can be expected in relation to other available rainfall forecast information. This is demonstrated in the following table that contains translated rainfall forecasting results using ACCESS model result data provided by BoM during the critical period of the event between 6 and 11 January 2011. The original BoM data has been translated to forecast catchment

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average rainfall results, based on a derived catchment centroid rainfall estimated by using Seqwater's Flood Early Warning Modeling System.

COMPARISON OF ACTUAL AND FORECAST RAINFALL FROM BOM ACCESS MODEL								
Forecast Date and Time	Somerset Dam Catchment Average Rainfall				Wivenhoe Dam Catchment Average Rainfall (excluding Somerset Dam Catchment)			
	3 Days from		5 Days from		3 Days from		5 Days from	
	Actual Rainfall (mm)	Forecast Rainfall (mm)	Actual Rainfall (mm)	Forecast Rainfall (mm)	Actual Rainfall (mm)	Forecast Rainfall (mm)	Actual Rainfall (mm)	Forecast Rainfall (mm)
06/01/2011 00:00	90	73	403	115	79	90	275	114
06/01/2011 12:00	150	85	515	133	87	51	335	78
07/01/2011 00:00	298	189	568	206	180	133	347	144
07/01/2011 12:00	321	123	536	137	183	79	322	89
08/01/2011 00:00	332	191	527	206	205	207	309	218
08/01/2011 12:00	447	165	527	169	284	136	309	139
09/01/2011 00:00	500	230	510	231	298	267	301	268
09/01/2011 12:00	441	140	446	141	271	170	273	171
10/01/2011 00:00	278	463	280	465	169	171	170	171
10/01/2011 12:00	218	59	219	60	140	389	141	390
11/01/2011 00:00	196	19	197	19	105	231	105	231

The table above shows:

- There are variations in excess of 700% between successive three day catchment average rainfall forecasts made 12 hours apart.
- There are variations in excess of 700% between successive five day catchment average rainfall forecasts made 12 hours apart.
- There are eight instances in which actual rainfall recorded is greater than 200% (highest is more than 1,000%) of the three day forecast rainfall.
- There are three instances in which the three day forecast rainfall is greater than 150% (highest is 280%) of the actual rainfall recorded.
- There are nine instances in which actual rainfall recorded is greater than 300% (highest is over 1,000%) of the five day forecast rainfall.
- There are two instances in which the five day forecast actual rainfall is greater than 200% (highest is 280%) of the actual rainfall recorded.

These results clearly show three day and five day forecasts only provide an indication of future rainfall and these forecasts cannot be used as a basis of flood operations decision making where public safety in both rural and urban areas is directly impacted. This forecasting information uses the most up-to-date scientific information available at the present time. Future improvements in this area will be examined with interest in order to maximise the flood mitigation benefits of the dams. This issue is discussed further in Section 6.0.

The source data for the information shown in the tables below is contained in the following Appendices of this report:

- Appendix A – Model Results
- Appendix B – Flood Volume Summary
- Appendix C – Quantitative Precipitation Forecasts

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- Appendix D – Catchment Rainfall
- Appendix E – Situation Reports
- Appendix G – Severe Weather Warnings
- Appendix H – Flood Event Notification Email
- Appendix L – Flood Operations Directives
- Appendix M – Flood Event Log

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JANUARY 2011 FLOOD EVENT - PERIOD 1 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY
Commenced Thursday 06 Jan 2011 07:42 Completed Friday 07 Jan 2011 02:00	**Strategy W1A and Strategy W1B; and Strategy S2** • Catchment conditions prior to the event are as described in Section 6.0. The event was considered a continuation of the ongoing wet period that commenced in October 2010. • No significant rainfall occurred in the 24 hours to 09:00 on 5 Jan 2011. • Catchment average rainfalls in the 24 hours to 08:00 on 6 Jan 2011 were: o Wivenhoe 25mm; o Somerset 21mm; o Lockyer 23mm; o Bremer 23mm. • Event mobilisation occurred at 07:42 on 6 Jan 2011, using Strategies W1A and S2. • Once mobilisation occurs, 24/7 staffing of the Flood Operations Centre and dams continues until official de-mobilisation is announced. This occurred at 12:00 on 19 Jan 2011. • Duty Engineer called back early from holidays to assist with the management of the Event. • Transition from Strategy W1A to W1B once the Wivenhoe Lake level exceeded 67.50.	Total rainfall from 08:00 on 6 Jan 2011 to the end of this period: o Wivenhoe 53mm; o Somerset 44mm; o Lockyer 53mm; o Bremer 54mm. Wivenhoe Dam level rises from 67.31 to 67.52 over the 18 hour period. Somerset Dam level rises from 99.34 to 99.55 over the 18 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 28mm; o Somerset 23mm; o Lockyer 30mm; o Bremer 31mm. • Forecast 24 hour catchment average rainfall at 10:00 on 6/1 was 26mm. • Estimated peak Wivenhoe level is: 68.2 (excluding forecast); 68.7 (including forecast). • Estimated peak Somerset level is: 99.7 (excluding forecast); 100.1 (including forecast). • Estimated total dam inflow is: 204,000ML (excluding forecast); 343,000ML (including forecast). • Estimated peak flow at Lowood excluding Wivenhoe releases is: 470 m3/s (excluding forecast); 720 m3/s (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 550 m3/s (excluding forecast); 960 m3/s (including forecast). These peaks were not expected to occur for more than 24 hours beyond period end. Therefore College's Crossing remained open in the short term. • Estimated peak Wivenhoe outflow is: 1220 m3/s (excluding forecast); 1260 m3/s (including forecast).	**Strategy W1A and Strategy W1B; and Strategy S2** **(Lake level greater than 67.25, maximum release 110 m^3/s)** • Peak inflows into the Brisbane River from Lockyer are estimated to be in the order of 400 m^3/s. These flows will not inundate Colleges Crossing until the morning of 7 Jan 2011. • Lake level not expected to reach 67.50 (Strategy W1B) until 7 Jan 2011. Lake level may not exceed 68.5. • Endeavour to keep College's Crossing trafficable by limiting combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 175 m^3/s. • Water held in Wivenhoe in an attempt to keep College's Crossing trafficable in accordance with Strategy W1A. Low level releases continued from the Mini-Hydro at this time and at various stages during the event. However, these releases (in the order of 13 m^3/s) have low relative significance and are not referred to specifically in the remainder of this summary document. • In accordance with Strategy S2, the crest gates at Somerset Dam were raised to enable uncontrolled discharge. The low level sluices were kept closed. Some regulator releases continued from XX December as part of previous event drain down, (in the order of 35 m^3/s). These were shut down at 18:00.

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JANUARY 2011 FLOOD EVENT - PERIOD 2 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
	Strategy W1B and Strategy S2			**Strategy W1B and Strategy S2 (Lake level greater than 67.50, maximum release ~~110~~ 380 m^3/s)**
Commenced Friday 07 Jan 2011 02:00 Completed Friday 07 Jan 2011 09:00	• Transition from Strategy W1A to W1B due to the Wivenhoe Lake Level exceeding 67.50. • Transition from Strategy W1B to W1C once the Wivenhoe Lake Level exceeds 67.75. • College's Crossing was inundated by natural river flows during this period.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 64mm; Somerset 60mm; Lockyer 57mm; Bremer 60mm. Wivenhoe Dam level rises from 67.52 to 67.75 over the 7 hour period. Somerset Dam level rises from 99.55 to 99.65 over the 7 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 11mm; o Somerset 15mm; o Lockyer 4mm; o Bremer 5mm. • Forecast 24 hour catchment average rainfall at 10:00 on 6/11 was 25mm. • Estimated peak Wivenhoe level is: 68.2 (excluding forecast); 68.5 (including forecast). • Estimated peak Somerset level is: 99.X (excluding forecast); 100.2 (including forecast). • Estimated total dam inflow is: 242,000ML (excluding forecast); 380,000ML (including forecast). • Estimated peak flow at Lowood excluding Wivenhoe releases is: 470 m^3/s (excluding forecast); 670 m^3/s (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 570 m^3/s (excluding forecast); 970 m^3/s (including forecast). • Estimated peak Wivenhoe outflow is: 1220 m^3/s (excluding forecast); 1250 m^3/s (including forecast).	• Endeavour to keep Burtons Bridge trafficable by limiting combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 430 m^3/s. • Peak inflows into the Brisbane River from Lockyer Creek are estimated to be in the order of 470 m^3/s. These flows may not be sufficient to inundate Burtons Bridge. • Lake level not expected to reach 67.75 (Strategy W1C) for ~~at least 6~~ hours. Lake level may not exceed 68.5. • Water held in Wivenhoe Dam in an attempt to keep Burtons Bridge trafficable in accordance with Strategy W1B. • In accordance with Strategy S2, the crest gates at Somerset Dam were raised to enable uncontrolled discharge and the low level regulators and sluices at Somerset Dam were kept closed.

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JANUARY 2011 FLOOD EVENT - PERIOD 3 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY
	Strategy W1C and Strategy S2			**Strategy W1C (Lake Level greater than ~~68.00~~, maximum release ~~1900~~ m^3/s)**
Commenced Friday 07 Jan 2011 09:00 Completed Friday 07 Jan 2011 15:00	• At around 9:00 it becomes apparent that flows from Lockyer Creek into the Brisbane River combined with local Brisbane River inflows downstream of Wivenhoe will be sufficient to inundate all bridges below the Dam with the exception of Mt Crosby Weir Bridge and Fernvale Bridge. Burtons Bridge was inundated by natural river flows near the end of this period. • All impacted Councils are notified of situation and that releases will commence from Wivenhoe Dam. Releases were timed to occur at 15:00 to allow bridges to be closed and arrangements to be made to cater for rural community isolation. The impacted rural communities had been isolated over the Christmas period and time was needed for suitable arrangements to be made to allow these communities to be prepared for another potentially extended period of isolation. The timing of release commencement was also in accordance with the Manual requirements of maintaining Burtons Bridge and Kholo Bridge trafficable when operating under Strategy W1C. • Transition from Strategy W1C to Strategy W1D once the Wivenhoe Dam lake level exceeds 68.0	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 89mm; Somerset 90mm; Lockyer 71mm; Bremer 71mm. Wivenhoe Dam level rises from 67.75 to 68.03 over the 6 hour period. Somerset Dam level rises from 99.65 to 99.94 over the 6 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 24mm; o Somerset 30mm; o Lockyer 14mm; o Bremer 12mm. • Forecast 24 hour catchment average rainfall at 10:00 on 7/11 was 25mm. • Estimated peak Wivenhoe level is: 68.4 (excluding forecast); 68.9 (including forecast). • Estimated peak Somerset level is: 100.3 (excluding forecast); 100.6 (including forecast). • Estimated total dam inflow is: 346,000ML (excluding forecast); 483,000ML (including forecast). • Estimated peak flow at Lowood excluding Wivenhoe releases is: 530 m^3/s (excluding forecast); 710 m^3/s (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 660 m^3/s (excluding forecast); 1040 m^3/s (including forecast). • Estimated peak Wivenhoe outflow is: 1240 m^3/s (excluding forecast); 1270 m^3/s (including forecast).	• Due to the further rain and observed stream rises, it has become apparent that flows from Lockyer Creek into the Brisbane River combined with local Brisbane River inflows downstream of Wivenhoe will be sufficient to inundate all bridges downstream of the dam with the exception of the Mt Crosby Weir Bridge and Fernvale Bridge. • Releases from Wivenhoe Dam managed in an attempt to maintain Mt Crosby Weir Bridge and Fernvale Bridge trafficable in accordance with Strategies W1D and W1E. • In accordance with Strategy S2, the crest gates at Somerset Dam were raised to enable uncontrolled discharge and the low level regulators and sluices at Somerset Dam were kept closed.

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JANUARY 2011 FLOOD EVENT - PERIOD 4 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY
	Transition from Strategy W1D to W1E to W3; and Strategy S2 Wivenhoe Directives #1 to #4. Somerset Directives #1 to #3.			**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)**
Commenced Friday 07 Jan 2011 15:00 Completed Saturday 08 Jan 2011 14:00	• Gates opened continuously at Wivenhoe Dam for 23 hours in accordance with the standard gate opening sequence at a rate or 0.5 metres of opening per hour. • Transition from Strategy W1D to W1E once the Wivenhoe Dam level exceeds 68.25 (22:00 on 7 Jan 2011). • Transition from Strategy W1E to W3 once it becomes apparent that the Wivenhoe Dam level will exceed 68.50 (08:00 on 8 Jan 2011). Strategy W2 was by-passed as it was not possible to meet the intent of this strategy by limiting the flow in the Brisbane River to less than the naturally occurring peaks at Lowood and Moggill. This is because the calculated naturally occurring peaks at Lowood and Moggill were 530 m^3/s and 800 m^3/s respectively, whereas the release rate from the dam was already 940 m^3/s. Limiting releases to these naturally occurring peak flows would also have compromised the dam drain down requirements. • At 14:00 on 08 January 2011, Wivenhoe discharge is 1239 m^3/s. All rural bridges below the dam with the exception of the Mt Crosby Weir Bridge and Fernvale Bridge are flooded.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 92mm; Somerset 95mm; Lockyer 72mm; Bremer 72mm. Wivenhoe Dam level rises from 68.03 to 68.61 over the 23 hour period. Somerset Dam level rises from 99.94 to 100.44 over the 23 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 3mm; o Somerset 5mm; o Lockyer 1mm; o Bremer 1mm. • Forecast 24 hour catchment average rainfall at 10:00 on 8/1 was 40mm. • Estimated peak Wivenhoe level is: 68.7 (excluding forecast); 69.1 (including forecast). • Estimated peak Somerset level is: 100.5 (excluding forecast); 100.6 (including forecast). • Estimated total dam inflow is: 420,000ML (excluding forecast); 662,000ML (including forecast). • Estimated peak flow at Lowood excluding Wivenhoe releases is: 530 m^3/s (excluding forecast); 530 m^3/s (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: ~~770~~ 550 m^3/s (excluding forecast); ~~940~~ 960 m^3/s (including forecast). This peak was estimated to have occurred at 05:00 on 8 January 2011. • Estimated peak Wivenhoe outflow is: 1480 m^3/s (excluding forecast); 1540 m^3/s (including forecast). This flow is significantly greater than the calculated natural peak that excluded Wivenhoe releases.	• Inflows from Lockyer Creek into the Brisbane River have inundated all bridges downstream of the dam with the exception of the Mt Crosby Weir Bridge and Fernvale Bridge. • The Strategy transitions from W1 to W3 once it becomes apparent that the Wivenhoe Dam level is likely to exceed 68.5 and Strategy W2 cannot be applied. • Strategy W3 requires the flow at Moggill to be lowered to 4000 m^3/s as soon as possible after the naturally occurring peak at Moggill (excluding Wivenhoe releases). This was already achieved. • Strategy W3 also requires consideration of lower level Manual objectives. Therefore consideration during this period was given to minimizing disruption to downstream rural life and endeavoring to maintain Mt Crosby Weir Bridge and Fernvale Bridge trafficable. • Due to rainfall on the ground, it was apparent that the Somerset Dam level would exceed 100.45. Accordingly two sluice gates were opened during this period to allow dam levels to move towards the Wivenhoe/Somerset Operating Target Line in accordance with Strategy S2.

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JANUARY 2011 FLOOD EVENT - PERIOD 5 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY
	Strategy W3 and Strategy S2			**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)**
Commenced Saturday 08 Jan 2011 14:00 Completed Sunday 09 Jan 2011 01:00	• Releases maintained from both dams to ensure Mt Crosby Weir Bridge and Fernvale Bridge remain trafficable. • No change to gate settings over this period. Wivenhoe discharge is 1240 m^3/s. All rural bridges below the dam with the exception of the Mt Crosby Weir Bridge and Fernvale Bridge are flooded.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 100mm; Somerset 111mm; Lockyer 75mm; Bremer 75mm. Wivenhoe Dam level rises very slightly from 68.61 to 68.63 over the 13 hour period. Somerset Dam level falls from 100.44 to 100.32 over the 13 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 8mm; o Somerset 16mm; o Lockyer 3mm; o Bremer 2mm. • Forecast 24 hour catchment average rainfall at 16:00 on 8/11 was 40mm. • Estimated peak Wivenhoe level is: 68.7 (excluding forecast); 68.9 (including forecast). • Estimated peak Somerset level is: 100.5 (excluding forecast); 100.6 (including forecast). • Estimated total dam inflow is: 457,000ML (excluding forecast); 697,000ML (including forecast). • Estimated peak flow at Lowood excluding Wivenhoe releases is: 530 m^3/s (excluding forecast); 530 m^3/s (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 770 m^3/s (excluding forecast); 840 m^3/s (including forecast). This peak was estimated to have occurred at 05:00 on 8 January 2011. • Estimated peak Wivenhoe outflow is: 1480 m^3/s (excluding forecast); 1520 m^3/s (including forecast). This flow is significantly greater than the calculated natural peak that excluded Wivenhoe releases.	• Strategy W3 requires the flow at Moggill to be lowered to 4000 m^3/s as soon as possible after the naturally occurring peak at Moggill (excluding Wivenhoe releases). This was already achieved. • Strategy W3 also requires consideration of lower level Manual objectives. Therefore with lake levels rising slightly (Wivenhoe) and falling (Somerset) consideration during this period remained on minimizing disruption to downstream rural life and endeavoring to maintain Mt Crosby Weir Bridge and Fernvale Bridge trafficable. • With the Somerset Lake Dam Level still expected to exceed 100.45 and the level in Wivenhoe remaining relatively static, releases from Somerset Dam continued. Closing of the sluices would have resulted in dam levels quickly moving under the Wivenhoe/Somerset Operating Target Line requiring sluice re-opening within a short period.

Some question as to why didn't release more
2000 m^3/s x 24hrs = 172,800ML
could have reduced peak @ W3 so didn't need to maintain bridge opening

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JANUARY 2011 FLOOD EVENT - PERIOD 6 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
	Strategy W3 and Strategy S2 Wivenhoe Directives #5 to #7.			**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)**
Commenced Sunday 09 Jan 2011 01:00 Completed Sunday 09 Jan 2011 08:00	• Releases increased marginally from Wivenhoe Dam to account for the passing of the Lockyer peak while maintaining Mt Crosby Weir Bridge and Fernvale Bridge trafficable. • Wivenhoe discharge increased from 1240 m^3/s to 1334 m^3/s. • No change to Somerset Dam gate settings over this period. • All rural bridges below the dam with the exception of the Mt Crosby Weir Bridge and Fernvale Bridge are flooded.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 112mm; Somerset 146mm; Lockyer 76mm; Bremer 75mm. Wivenhoe Dam level falls from 68.63 to 68.56 over the 7 hour period. Somerset Dam level falls from 100.32 to 100.28 over the 7 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 12mm; o Somerset 36mm; o Lockyer 1mm; o Bremer 0mm. • Forecast 24 hour catchment average rainfall at 16:00 on 8/11 was 40mm. • Estimated peak Wivenhoe level is: 68.7 (excluding forecast); 69.3 (including forecast). • Estimated peak Somerset level is: 100.5 (excluding forecast); 101.0 (including forecast). • Estimated total dam inflow is: 569,000ML (excluding forecast); 814,000ML (including forecast). • Estimated peak flow at Lowood excluding Wivenhoe releases is: 530 m^3/s (excluding forecast); 530 m^3/s (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 770 m^3/s (excluding forecast); 780 m^3/s (including forecast). This peak was estimated to have occurred at 05:00 on 8 January 2011. • Estimated peak Wivenhoe outflow is: 1500 m^3/s (excluding forecast); 1550 m^3/s (including forecast). This flow is significantly greater than the calculated natural peak that excluded Wivenhoe releases.	• Strategy W3 requires the flow at Moggill to be lowered to 4000 m^3/s as soon as possible after the naturally occurring peak at Moggill (excluding Wivenhoe releases). This was already achieved. • Strategy W3 also requires consideration of lower level Manual objectives. Therefore with lake levels falling at both dams, consideration during this period remained on minimizing disruption to downstream rural life and endeavoring to maintain Mt Crosby Weir Bridge and Fernvale Bridge trafficable. • With the Somerset Lake Dam Level still expected to exceed 100.45 and the level in Wivenhoe Dam falling, releases from Somerset Dam continued. Closing of the sluices would have resulted in dam levels quickly moving under the Wivenhoe/Somerset Operating Target Line requiring sluice re-opening within a short period, particularly given the rainfall that occurred in the Somerset Dam catchment during this period.

Same as before. could have dropped some

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JANUARY 2011 FLOOD EVENT - PERIOD 7 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
Commenced Sunday 09 Jan 2011 08:00 Completed Sunday 09 Jan 2011 14:00	**Strategy W3 and Strategy S2 Wivenhoe Directives #7. Somerset Directives #4 to #5.** • Releases increased marginally from Wivenhoe Dam to account for the passing of the Lockyer peak while maintaining Mt Crosby Weir Bridge and Fernvale Bridge trafficable. • Wivenhoe discharge increased from 1334 m^3/s to 1386 m^3/s. • Somerset Dam sluice gates opened progressively over this period to allow dam levels to move towards the Wivenhoe/Somerset Operating Target Line in accordance with Strategy S2. • All rural bridges below the dam with the exception of the Mt Crosby Weir Bridge and Fernvale Bridge are flooded. could have transitioned ?	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 146mm; Somerset 199mm; Lockyer 94mm; Bremer 90mm. Wivenhoe Dam level rises very slightly from 68.56 to 68.58 over the 6 hour period. Somerset Dam level rises from 100.28 to 100.47 over the 6 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 34mm; o Somerset 53mm; o Lockyer 18mm; o Bremer 15mm. • Forecast 24 hour catchment average rainfall at 10:00 on 9/11 was 50mm. • Estimated peak Wivenhoe level is: 70.0 (excluding forecast); 71.3 (including forecast). • Estimated peak Somerset level is: 100.7 (excluding forecast); 101.1 (including forecast). • Estimated total dam inflow is: 804,000ML (excluding forecast); 1,108,000ML (including forecast) • Estimated peak flow at Lowood excluding Wivenhoe releases is: 530 m^3/s (excluding forecast); 690 m^3/s (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 770 m^3/s (excluding forecast); 1210 m^3/s (including forecast). This peak was estimated to have occurred at 05:00 on 8 January 2011. • Estimated peak Wivenhoe outflow is: 1490 m^3/s (excluding forecast); 1560 m^3/s (including forecast). This flow is significantly greater than the calculated natural peak that excluded Wivenhoe releases.	**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)** • With lake levels rising at both dams and heavy rain being experienced in the dam catchments, consideration is given to transitioning the consideration from minimizing disruption to downstream rural life to protecting urban areas from inundation. • However, using the BOM rainfall forecasts, a three day assessment showed the lower limit of three day forecast inflow to be similar to the October 2010 event, with the upper limit similar to the February 1999 event. Therefore, during this period consideration remained on minimizing disruption to downstream rural life and endeavoring to maintain Mt Crosby Weir Bridge and Fernvale Bridge trafficable. • With dam levels under the Wivenhoe/Somerset Operating Target Line at the end of this period, releases continued from Somerset Dam.

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JANUARY 2011 FLOOD EVENT - PERIOD 8 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
Commenced Sunday 09 Jan 2011 14:00 Completed Sunday 09 Jan 2011 19:00	**Strategy W3 and Strategy S2** • During this period releases continued from both dams at a level that maintained Mt Crosby Weir Bridge and Fernvale Bridge trafficable. Gate settings were unchanged and the Wivenhoe discharge was 1411 m^3/s. • Due to rainfall on the ground and the modeled rapid lake level rises, a decision is made to transition to focus on protecting urban areas from inundation at 19:00. • Councils, the Dam Safety Regulator and the Seqwater CEO were notified of the decision soon after 19:00. The ramifications of the decision were that the new estimated peak flow at Moggill of 3300 m^3/s would impact properties and commence to cause damage to urban areas below Moggill. Damage tables supplied by the Brisbane City Council indicated that at flows of 3000 m^3/s, damage costs would exceed $5M and 2600 properties would be impacted in some way. These impacts rise steeply as flows increase, so the focus was on minimizing the flow at Moggill. • A decision is also made at 19:00, that because of the serious nature of the event, the Flood Operations Centre will be staffed with at least two Duty Engineers at all times until at least the peak of the event has occurred.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 208mm; Somerset 305mm; Lockyer 116mm; Bremer 96mm. Wivenhoe Dam level rises from 68.58 to 68.97 over the 5 hour period. Somerset Dam level rises from 100.47 to 101.43 over the 5 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 62mm; o Somerset 106mm; o Lockyer 22mm; o Bremer 6mm. • Forecast 24 hour catchment average rainfall at 16:00 on 9/11 was 65mm. • Estimated peak Wivenhoe level is: 72.1 (excluding forecast); 73.9 (including forecast). • Estimated peak Somerset level is: 102.3 (excluding forecast); 103.0 (including forecast). • Estimated total dam inflow is: 1,272,000ML (excluding forecast); 1,712,000ML (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 170 m^3/s (excluding forecast); 1940 m^3/s (including forecast). This peak was estimated to have occurred at 05:00 on 8 January 2011. • Estimated peak flow at Moggill including Wivenhoe releases is: 3300 m^3/s (excluding forecast); 4400 m^3/s (including forecast).	**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)** • With lake levels continuing to rise at both dams combined with heavy rain in the dam catchments during this period, the decision was made at the end of this period no longer consider minimizing disruption to downstream rural life and to focus only on protecting urban areas from inundation. • Towards the end of this period, it was becoming apparent that Moggill was likely to experience a second naturally occurring peak on 10 January 2011 or later and that the Manual required the flow at Moggill to be minimized prior to this peak occurring. This requirement was competing with the need to protect urban areas by not allowing the Wivenhoe Dam level to reach a level that invoked Strategy W4. After considering these issues it was decided that the best course of action would be to increase releases as quickly as possible to the limit of non-damaging flows at Moggill. However before this could occur, Councils needed to be advised, bridges needed to be closed and actions needed to be taken to prepare for rural communities for isolation and urban areas below Moggill for river flows approaching 3500 m^3/s. • With dam levels under the Wivenhoe/Somerset Operating Target Line during this period, releases continued from Somerset Dam.

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JANUARY 2011 FLOOD EVENT - PERIOD 9 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY
	Strategy W3 and Strategy S2			**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)**
Commenced Sunday 09 Jan 2011 19:00 Completed Monday 10 Jan 2011 01:00	• Agency notifications commenced at 7:00pm. The likely peak flow at Moggill of over 3000 m^3/s was communicated to the Brisbane City Council, the Dam Safety Regulator and Seqwater's CEO. • Damage tables supplied by the Brisbane City Council indicated that at flows of 3000 m^3/s, damage costs would exceed $5M and 2600 properties would be impacted in some way. These impacts rise steeply as flows increase, so the focus was on minimizing the flow at Moggill. • Fernvale Bridge closed by police at around 01:00 on 10 January 2011 and once this was confirmed a directive was issued to increases releases from Wivenhoe Dam. • No change to gate settings over this period due to the potential danger to the public associated with inundating Fernvale Bridge from Wivenhoe Dam outflows prior to the bridge being closed to traffic. Councils also required time to prepare for the isolation of rural communities, the onset of urban damage below Moggill and to undertake any necessary evacuations. Wivenhoe discharge is 1473 m^3/s. All rural bridges below the dam with the exception of the Mt Crosby Weir Bridge and Fernvale Bridge are flooded.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 232mm; Somerset 343mm; Lockyer 131mm; Bremer 102mm. Wivenhoe Dam level rises from 68.97 to 69.97 over the 6 hour period. Somerset Dam level rises from 101.43 to 102.54 over the 6 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 24mm; o Somerset 38mm; o Lockyer 14mm; o Bremer 6mm. • Forecast 24 hour catchment average rainfall at 16:00 on 9/11 was 65mm. • Estimated peak Wivenhoe level is: 72.9 (excluding forecast); 74.7 (including forecast). • Estimated peak Somerset level is: 102.9 (excluding forecast); 103.4 (including forecast). • Estimated total dam inflow is: 1,468,000ML (excluding forecast)); 1,922,000ML (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 820 m^3/s (excluding forecast); 2000 m^3/s (including forecast). This peak was estimated to occur at 16:00 on 10 January 2011. • Estimated peak flow at Moggill including Wivenhoe releases is: 3240 m^3/s (excluding forecast); 4480 m^3/s (including forecast). naturally occurring peak excl. Wivenhoe releases	• Consideration was on protecting urban areas from inundation. However before releases are increased to and above the limit of non-damaging floods at Moggill, Councils and other impacted agencies are notified so that appropriate actions can be taken including any necessary evacuations and the closure of both the Mt Crosby Weir Bridge and Fernvale Bridge. • The Manual requires the flow at Moggill to be minimized prior to its naturally occurring peak and this requirement was balanced against the need to protect urban areas by releasing water from the dams in an attempt to keep the Wivenhoe Dam lake level below a level that will invoke Strategy W4. Based on an estimated 16 hour travel time between the dam and Moggill, this did occur. • With dam levels under the Wivenhoe/Somerset Operating Target Line during this period, releases continued from Somerset Dam. • Although there is a full awareness of the rainfall forecasts and associated potential flood impacts, the strategy is not to release flows that will cause high level urban inundation until it is certain that this cannot be avoided. Model results continue to indicate that this may be possible.

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JANUARY 2011 FLOOD EVENT - PERIOD 10 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
	Strategy W3 and Strategy S2 Wivenhoe Directives #8 to #10.			**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)**
Commenced Monday 10 Jan 2011 01:00 Completed Monday 10 Jan 2011 09:00	• Gates opened continuously at Wivenhoe Dam for 8 hours in accordance with the standard gate opening sequence at a rate of 0.5 metres of opening per hour. • Wivenhoe discharge is increased from 1473 m^3/s to 2015 m^3/s. All rural bridges below the dam are flooded. • Further gate openings at Wivenhoe Dam were paused at 09:00 in an attempt to allow the Lockyer and Bremer peaks to pass Moggill and to restrict Brisbane River flows at Moggill to 3500 m^3/s. This was done following discussions with the Brisbane City Council that advised a flow of 3500 m^3/s at Moggill will fully submerge 322 properties and impact on 7000 properties. • No gate movements occurred at Somerset Dam during this period, with dam levels plotting under the Wivenhoe/Somerset Operating Target Line. This meant that the only gate movements allowable at Somerset under Strategy S2 would be openings and this was not done to limit further rises in Wivenhoe.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 244mm; Somerset 373mm; Lockyer 143mm; Bremer 120mm. Wivenhoe Dam level rises from 69.97 to 71.56 over the 8 hour period. Somerset Dam level rises from 102.54 to 103.08 over the 8 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 12mm; o Somerset 30mm; o Lockyer 12mm; o Bremer 18mm. • Forecast 24 hour catchment average rainfall at 16:00 on 9/11 was 65mm. • Estimated peak Wivenhoe level is: 72.9 (excluding forecast); 74.5 (including forecast). • Estimated peak Somerset level is: 103.1 (excluding forecast); 103.5 (including forecast). • Estimated total dam inflow is: 1,531,000ML (excluding forecast); 1,985,000ML (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 1090 m^3/s (excluding forecast); 2090 m^3/s (including forecast). This peak was estimated to occur at 16:00 on 10 January 2011. • Estimated peak flow at Moggill including Wivenhoe releases is: 3420 m^3/s (excluding forecast); 4680 m^3/s (including forecast).	• Consideration was on protecting urban areas from inundation and minimizing urban damage. • Due to advice received from the Brisbane City Council that a flow of 3500 m^3/s at Moggill will fully submerge 322 properties and impact on 7000 properties, an attempt was made to remain below this flow • The Manual states that the intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s and this approach was adopted. Advice received during the event from the Brisbane City Council that the upper limit of non-damaging floods was below the 4000 m^3/s stated in the manual was noted and taken into account in the decision making processes. • With dam levels under the Wivenhoe/Somerset Operating Target Line during this period, releases continued from Somerset Dam. • Although there is a full awareness of the rainfall forecasts and associated potential flood impacts, the strategy is not to release flows that will cause high level urban inundation until it is certain that this cannot be avoided. Model results continue to indicate that this may be possible.

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JANUARY 2011 FLOOD EVENT - PERIOD 11 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY
	Strategy W3 and Strategy S2			**Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)**
Commenced Monday 10 Jan 2011 09:00 Completed Monday 10 Jan 2011 15:00	• No change to gate settings occurred at Wivenhoe Dam over this period. Wivenhoe discharge is 2087 m^3/s. All rural bridges below the dam are flooded. • At 15:00 the attempt to restrict Brisbane River flows at Moggill to 3500 m^3/s was abandoned due to the rainfall being experienced in the dam catchments. A new target of 4000 m^3/s was set in accordance with the Manual, on the basis that the intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s and minimize urban damage. • No gate movements occurred at Somerset Dam during this period, with dam levels plotting under the Wivenhoe/Somerset Operating Target Line. This meant that the only gate movements allowable at Somerset under Strategy S2 would be openings and this was not done to limit further rises in Wivenhoe.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 274mm; Somerset 407mm; Lockyer 169mm; Bremer 149mm. Wivenhoe Dam level rises from 71.56 to 72.54 over the 6 hour period. Somerset Dam level rises from 103.08 to 103.43 over the 6 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 34mm; o Somerset 31mm; o Lockyer 27mm; o Bremer 30mm. • Forecast 24 hour catchment average rainfall at 10:00 on 10/11 was 75mm. • Estimated peak Wivenhoe level is: 73.6 (excluding forecast); 75.2 (including forecast). • Estimated peak Somerset level is: 103.4 (excluding forecast); 103.7 (including forecast). • Estimated total dam inflow is: 1,708,000ML (excluding forecast); 2,162,000ML (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 1500 m^3/s (excluding forecast); 2570 m^3/s (including forecast). This peak was estimated to occur at 20:00 on 10 January 2011. • Estimated peak flow at Moggill including Wivenhoe releases is: 3910 m^3/s (excluding forecast); 5180 m^3/s (including forecast).	• Consideration was on protecting urban areas from inundation and minimizing urban damage. • A decision was made at 15:00 to attempt to remain below a target flow of around 4000 m^3/s at Moggill. • The Manual states that the intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s and this approach continued to be followed. • With dam levels under the Wivenhoe/Somerset Operating Target Line during this period, releases continued from Somerset Dam. • Although there is a full awareness of the rainfall forecasts and associated potential flood impacts, the strategy is not to release flows that will cause high level urban inundation until it is certain that this cannot be avoided. Model results continue to indicate that this may be possible.

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JANUARY 2011 FLOOD EVENT - PERIOD 12 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY

Commenced Monday 10 Jan 2011 15:00
 	
Completed Monday 10 Jan 2011 20:00
	Strategy W3 and Strategy S2 Wivenhoe Directive #11.
	
	• Gates opened continuously at Wivenhoe Dam for 5 hours in accordance with the standard gate opening sequence at a rate or 1.0 metres of opening per hour. Wivenhoe discharge is increased from 2087 m^3/s to 2695 m^3/s.
	
	• A target of 4000 m^3/s at Moggill was set in accordance with the Manual, on the basis that the intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s and minimize urban damage.
	
	• Further gate openings at Wivenhoe Dam were paused at 20:00 in an attempt to allow the Lockyer and Bremer peaks to pass Moggill and to restrict Brisbane River flows at Moggill to 4000 m^3/s.
	
	• No gate movements occurred at Somerset Dam during this period, with dam levels plotting under the Wivenhoe/Somerset Operating Target Line. This limited further rises in Wivenhoe.
	
	• Initial advice on a major flash flood originating in the Lockyer headwaters was received from BoM at 17:32. No volume or flow details were available and gauges in the area were not indicating a significant event. The event could not impact on the Brisbane River for 24 hours.
		Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 279mm; Somerset 415mm; Lockyer 174mm; Bremer 153mm.
		
		Wivenhoe Dam level rises from 72.53 to 73.06 over the 5 hour period.
		
		Somerset Dam level rises from 103.43 to 103.45 over the 5 hour period.
			• Catchment average rainfalls during this period were:
			  ○ Wivenhoe 4mm;
			  ○ Somerset 8mm;
			  ○ Lockyer 5mm;
			  ○ Bremer 3mm.
			
			• Forecast 24 hour catchment average rainfall at 16:00 on 10/11 was 38mm.
			
			• Estimated peak Wivenhoe level is: 73.6 (excluding forecast); 74.3 (including forecast).
			
			• Estimated peak Somerset level is: 103.5 (excluding forecast); 103.5 (including forecast).
			
			• Estimated total dam inflow is: 1,731,000ML (excluding forecast); 1,982,000ML (including forecast).
			
			• Estimated peak flow at Moggill excluding Wivenhoe releases is: 1500 m^3/s (excluding forecast); 1840 m^3/s (including forecast). This peak was estimated to occur at 20:00 on 10 January 2011.
			
			• Estimated peak flow at Moggill including Wivenhoe releases is: 3980 m^3/s (excluding forecast); 4470 m^3/s (including forecast).
			
			• The extreme rainfall event that occurred in the Lockyer catchment during this period was not recorded in the remotely accessible rain gauges in the catchment and was not indicated on the BoM weather radar.
				Strategy W3 and Strategy S2 (Lake Level greater than 68.50, maximum release 4000 m^3/s)
				
				• Consideration was on protecting urban areas from inundation and minimizing urban damage.
				
				• The target maximum flow at Moggill was now 4000 m^3/s. The Manual states that the intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s and this approach continued to be followed.
				
				• With dam levels under the Wivenhoe/Somerset Operating Target Line during this period, releases continued from Somerset Dam.
				
				• The reduced rainfall forecast provides justification to retain the target of 4000 m^3/s at Moggill, with the Wivenhoe peak of 74.3 (including forecast) indicating that it may be possible to keep urban damage within tolerable limits. A discussion is held with the Dam Safety Regulator requesting permission to exceed a level of 74.0 in Wivenhoe for a short period (maximum 12 hours) without invoking Strategy W4 if the safety of the dam can be guaranteed and urban damage reduced. The Regulator agreed with this approach.
				
				• The strategy continues to be not to release flows that will cause high level urban inundation until it is certain that this cannot be avoided. Model results continue to indicate that this may be possible.

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JANUARY 2011 FLOOD EVENT - PERIOD 13 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
	Strategy W3 and Strategy S2			**Strategy W3 and Strategy S2 (Lake level greater than 68.50, maximum release 4000 m^3/s)**
Commenced Monday 10 Jan 2011 20:00 Completed Tuesday 11 Jan 2011 04:00	• Gate openings at Wivenhoe Dam were paused at 20:00 in an attempt to restrict flows at Moggill to close to 4000 m^3/s. No change to gate settings occurred at Wivenhoe Dam over this period. Wivenhoe discharge is 2726 m^3/s. • A target flow of 4000 m^3/s is set at Moggill in accordance with the Manual (the intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s). However BCC damage tables indicate this would still impact 5325 properties and cause damage in excess of $47M. • Initial advice on a significant flash flood originating in the Lockyer headwaters received at 17:32, with details received at 20:00. Considerations were undertaken during this period to develop strategies to manage these potential flows, but because any strategy would involve significantly reducing outflows from Wivenhoe, the strategies were not adopted. • During this period the plotted dam levels drifted just above the Wivenhoe/Somerset Operating Target Line. This lead to a decision at 04:00 to commence closing down releases from Somerset Dam to limit further rises in Wivenhoe.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 323mm; Somerset 437mm; Lockyer 186mm; Bremer 167mm. Wivenhoe Dam level rises from 73.06 to 73.40 over the 8 hour period. Somerset Dam level fell from 103.45 to 103.28 over the 8 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 44mm; o Somerset 22mm; o Lockyer 12mm; o Bremer 14mm. • Forecast 24 hour catchment average rainfall at 16:00 on 10/11 was 38mm. • Estimated peak Wivenhoe level is: 74.1 (excluding forecast); 74.9 (including forecast). • Estimated peak Somerset level is: 103.5 (excluding forecast); 103.7 (including forecast). • Estimated total dam inflow is: 2,016,000ML (excluding forecast); 2,267,000ML (including forecast). • Estimated peak flow at Moggill excluding Wivenhoe releases is: 1500 m^3/s (excluding forecast); 1810 m^3/s (including forecast). This peak was estimated to have occurred at 20:00 on 10 January 2011. • Estimated peak flow at Moggill including Wivenhoe releases is: 4040 m^3/s (excluding forecast); 4540 m^3/s (including forecast).	• Consideration on protecting urban areas from inundation and minimizing urban damage. The target maximum flow at Moggill remains at 4000 m^3/s. The Manual states that the intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s and this approach continues to be followed. • Model results show that a peak level in the dam close to 74.0 remains possible, but is appearing increasing unlikely. • With dam levels moving above the Wivenhoe/Somerset Operating Target Line during this period, a decision is made commence closing down releases from Somerset Dam to limit further rises in Wivenhoe. • Although there is a full awareness of the rainfall forecasts and associated potential flood impacts, the strategy is not to release flows that will cause high level urban inundation until it is certain that this cannot be avoided. Model results continue to indicate that this may be possible, although with continued rainfall, the strategy is now being reviewed on an hourly basis. A discussion with the Dam Safety Regulator is held at 21:00 obtaining permission to exceed a level of 74.0 in Wivenhoe for a short period without invoking Strategy W4 (provided the safety of the dam can be guaranteed). This issue is considered carefully during the period in view of the continued rainfall.

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JANUARY 2011 FLOOD EVENT - PERIOD 14 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
	Transition from Strategy W3 to Strategy W4; and Strategy S2 Wivenhoe Directive #12. Somerset Directive #6.			**Strategy W4 and Strategy S2 (Lake Level predicted to exceed 74.00, no maximum release rate)**
Commenced Tuesday 11 Jan 2011 04:00 Completed Tuesday 11 Jan 2011 08:00	• Extreme intense rainfall (estimated after the event to exceed **1 in 500 year intensities**) commenced on and close to the Wivenhoe Dam lake area during this period. If the centroid of this rainfall was located east or south, it may have been possible to avoid transition to Strategy W4. • Because the extreme intense rainfall was occurring on and close to the dam rather than in the northern areas of the dam catchment, response time is minimized and actions must be taken quickly to prevent a situation arising during which the safety of the dam is put at risk. Accordingly at 08:00 a decision is made to transition to Strategy W4. Significant urban damage can now not be avoided. The Dam Safety Regulator, Seqwater CEO and the Councils are advised of this development. • No change to gate settings occurred at Wivenhoe Dam over this period. Wivenhoe discharge is 2832 m^3/s. . • During this period sluice gate openings at Somerset Dam are reduced from 5 to 2 as the plotted dam levels had drifted just above the Wivenhoe/Somerset Operating Target Line.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 356mm; Somerset 483mm; Lockyer 240mm; Bremer 183mm. Wivenhoe Dam level rises from 73.40 to 73.70 over the 4 hour period. Somerset Dam level rises from 103.23 to 103.46 over the 4 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 33mm; o Wivenhoe Local 78mm; o Somerset 46mm; o Lockyer 54mm; o Bremer 16mm. • Forecast 24 hour catchment average rainfall at 16:00 on 10/11 was 38mm. • Estimated peak Wivenhoe level is: 74.6 (excluding forecast); 75.1 (including forecast). Estimated peak Somerset level is: 103.9 (excluding forecast); 104.2 (including forecast). • Estimated total dam inflow is: 2,210,000ML (excluding forecast); 2,460,000ML (including forecast). • Estimated peak flow at Moggill including Wivenhoe releases is: 5870 m^3/s (excluding forecast).	• At 08:00, model results show that restricting the peak level in the dam close to 74.0 is no longer possible due to the high intensity rainfall experienced over this period. • At 08:00 a decision is made to transition to Strategy W4 and the Dam Safety Regulator, Seqwater CEO and the Councils are advised of this decision. It was now apparent that significant urban damage resulting from releases from Wivenhoe Dam could not be avoided due to the extreme intense rainfall (estimated after the event to exceed **1 in 500 year intensities**) that commenced on and close to the Wivenhoe Dam lake area during this period • With dam levels moving above the Wivenhoe/Somerset Operating Target Line during this period releases from Somerset Dam were progressively closed down to limit further rises in Wivenhoe (sluices closed down at hourly intervals in accordance with the Manual).

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JANUARY 2011 FLOOD EVENT - PERIOD 15 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
Commenced Tuesday 11 Jan 2011 08:00 Completed Tuesday 11 Jan 2011 13:00	**Strategy W4 and Strategy S2 Wivenhoe Directive #12 to #14. Somerset Directive #7.** • Extreme intense rainfall (estimated after the event to exceed **1 in 500 year intensities)** continued on and close to the Wivenhoe Dam lake area during this period. If the centroid of this rainfall was located east or south, it may have been possible to avoid transition to Strategy W4. • Because the extreme rainfall is occurring on and close to the dam rather than in the northern areas of the dam catchment, response time is minimized and actions must be taken quickly to protect the safety of the dam. Once Strategy W4 is invoked, the Manual requires the opening of gates in accordance with standard sequences until the storage level of Wivenhoe Dam begins to fall. Accordingly gates are opened continuously at Wivenhoe Dam for 5 hours in accordance with the standard gate opening sequence at an average rate of 2.0 metres of opening per hour. This increases the dam discharge from 2753 m^3/s to 4250 m^3/s. The threshold limit for urban damage has been exceeded and the lake level continues to rise. • During this period sluice gate openings at Somerset Dam are closed off to limit rises in Wivenhoe in accordance with Strategy S2.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 382mm; Somerset 570mm; Lockyer 287mm; Bremer 237mm. Wivenhoe Dam level rises from 73.70 to 74.39 over the 5 hour period. Somerset Dam level rises from 103.46 to 103.83 over the 5 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 27mm; o Wivenhoe Local 85mm; o Somerset 86mm; o Lockyer 47mm; o Bremer 55mm. • Forecast 24 hour catchment average rainfall at 10:00 on 11/11 was 100mm. • A portion of the extreme intense rainfall in the dam catchment was falling in an un-gauged area (e.g. on the dam lake area) and this resulted in difficulties in the model being able to accurately predict lake level rises. Accordingly, during this period dam operations at Wivenhoe commenced taking gauge board readings every 30 minutes during this period and relaying this information to the Flood Operations Centre by telephone. • Estimated peak Wivenhoe level is: 75.0 (excluding forecast); 76.2 (including forecast). • Estimated peak Somerset level is: 104.8 (excluding forecast); 105.7 (including forecast). • Estimated total dam inflow is: 2,506,000ML (excluding forecast); 3,123,000ML (including forecast).	**Strategy W4 and Strategy S2 (Lake Level predicted to exceed 74.00, no maximum release rate)** • The strategy was to protect the structural safety of the dam. • The Manual requires actions under Strategy W4 to be that Wivenhoe gate openings are to occur in accordance with standard sequences until the storage level of Wivenhoe Dam begins to fall. • The dam level continued to rise at 13:00. During this period, a Dam Operator was relaying Wivenhoe Dam gauge board readings to the Flood Operations Centre every 30 minutes. All four duty engineers were present in the Flood Operations Centre and flood operations decisions were commenced to be made on a half hourly basis once the gauge board readings from Wivenhoe Dam were received. • With dam levels above the Wivenhoe/Somerset Operating Target Line during this period releases from Somerset Dam are closed down (all sluices closed at 10:00) to limit further rises in Wivenhoe.

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JANUARY 2011 FLOOD EVENT - PERIOD 16 OF 20

DATE/TIME	BACKGROUND	DAM CONDITIONS	RAINFALL AND MODEL RESULTS	STRATEGY
	Strategy W4 and Strategy S2 Wivenhoe Directive #12 to #14.			**Strategy W4 and Strategy S2 (Lake Level predicted to exceed 74.00, no maximum release rate)**
Commenced Tuesday 11 Jan 2011 13:00 Completed Tuesday 11 Jan 2011 19:00	• Extreme rapid lake level rises in Wivenhoe Dam continue during this period. The QPF issued at 16:00 is for a catchment average rainfall of 75mm over the next 24 hours. • Gates are opened continuously at Wivenhoe Dam for 6 hours in accordance with Strategy W4 and the standard gate opening sequence at an average rate of 4.5 metres of opening per hour. • Wivenhoe discharge is increased from 4250 m^3/s to 7464 m^3/s. Significant damage to urban areas below Moggill cannot be avoided. Estimated peak inflow during this period is in excess of 12,000 m^3/s. • No releases are made from Somerset Dam to limit increases in Wivenhoe Dam in accordance with Strategy S2.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 397mm; Somerset 610mm; Lockyer 325mm; Bremer 278mm. Wivenhoe Dam level rises from 74.39 to 74.97 over the 6 hour period. Somerset Dam level rises from 103.83 to 104.60 over the 6 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 15mm; o Wivenhoe Local 35mm; o Somerset 40mm; o Lockyer 38mm; o Bremer 40mm. • Forecast 24 hour catchment average rainfall at 16:00 on 11/11 was 75mm. However, catchment average rainfalls totals this period were: o Wivenhoe 8mm; o Wivenhoe Local 13mm; o Somerset 19mm; o Lockyer 9mm; o Bremer 8mm. • A portion of the extremely intense rainfall in the dam catchment had fallen in an un-gauged area (e.g. on the dam lake area) and this resulted in difficulties in the model being able to accurately predict lake level rises. • Estimated peak Wivenhoe level is: 75.0 (excluding forecast); 75.2 (including forecast). • Estimated peak Somerset level is: 105.2 (excluding forecast); 105.9 (including forecast). • Estimated total dam inflow is: 2,659,000ML (excluding forecast); 3,289,000ML (including forecast).	• The strategy was to protect the structural safety of the dam. • The Manual requires actions under Strategy W4 to be that Wivenhoe gate openings are to occur in accordance with standard sequences until the storage level of Wivenhoe Dam begins to fall. • The lake level in both dams continued to rise during this period. A dam operator was relaying Wivenhoe Dam gauge board readings to the Flood Operations Centre every 30 minutes. All four duty engineers were present in the Flood Operations Centre and decisions were being made on a half hourly basis once the gauge board readings were received. • With dam levels above the Wivenhoe/Somerset Operating Target Line during this period no releases from Somerset Dam are made to limit further rises in Wivenhoe. • The water level in Wivenhoe Dam peaked at 19:00 on 11 January 2011 at 74.97m AHD.

check opening increment

sluice gates closed crest gates open

gates closed check.

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JANUARY 2011 FLOOD EVENT - PERIOD 17 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
	Strategy W4 and Strategy S2 Wivenhoe Directive #15 to #24.			**Strategy W4 and Strategy S2 (Lake Level predicted to exceed 74.00, no maximum release rate)**
Commenced Tuesday 11 Jan 2011 19:00 Completed Tuesday 11 Jan 2011 21:00	• No change to gate settings occurred at Wivenhoe Dam over this period. Wivenhoe discharge is 7458 m^3/s. • The lake level in Wivenhoe dam stabilizes and then falls slightly at 21:00. A decision to commence closing down the gates as quickly as possible to reduce urban flood impacts is taken at 21:00. This decision requires gate openings below minimum recommended settings; however it is made in an attempt to minimize urban damage below Moggill which is an objective that must be considered under Strategy W4. Gates would have been re-opened if further lake level rises were experienced. • No releases are made from Somerset Dam in accordance with Strategy S2.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 398mm; Somerset 610mm; Lockyer 326mm; Bremer 278mm. During this 2 hour period, the lake level in Wivenhoe Dam stabilizes at 74.97 and then falls slightly to 74.95 at 21:00. ✓ Somerset Dam level rises from 104.60 to 104.78 over the 2 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 1mm; o Somerset 1mm; o Lockyer 1mm; o Bremer 1mm. • Forecast 24 hour catchment average rainfall at 16:00 on 11/11 was 75mm. • A portion of the extreme intense rainfall in the dam catchment had fallen in an un-gauged area (e.g. on the dam lake area) and this continued to result in difficulties in the model being able to accurately predict lake level behaviour. • Estimated peak Wivenhoe level is: 75.0 (excluding forecast); 75.2 (including forecast). • Estimated peak Somerset level is: 105.2 (excluding forecast); 105.9 (including forecast). • Estimated total dam inflow is: 2,659,000ML (excluding forecast); 3,289,000ML (including forecast).	• The target was to protect the structural safety of the dam. • The Manual requires actions under Strategy W4 to be that Wivenhoe gate openings are to occur at the minimum intervals and sequences until the storage level of Wivenhoe Dam begins to fall. • The dam level stabilized during this period and then fell slightly at 21:00. A dam operator was relaying Wivenhoe Dam gauge board readings to the Flood Operations Centre every 30 minutes. All four duty engineers were present in the Flood Operations Centre and decisions were being made on a half hourly basis once the gauge board readings were received. • With dam levels above the Wivenhoe/Somerset Operating Target Line during this period no releases from Somerset Dam are made to limit further rises in Wivenhoe. • The water level in Wivenhoe Dam peaked at 19:00 on 11 January 2011 at 74.97m AHD.

still in accordance with procedures

Pg 32

no model run given run 42

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JANUARY 2011 FLOOD EVENT - PERIOD 18 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
	Strategy W4 and Strategy S2 Wivenhoe Directive #25 to #34.			**Strategy W4 and Strategy S2 (Lake Level predicted to exceed 74.00, no maximum release rate)**
Commenced Tuesday 11 Jan 2011 21:00 Completed Wednesday 12 Jan 2011 08:00	• During this period Wivenhoe Dam gates are closed off as quickly as possible without causing rises in lake level. These actions are taken to reduce urban flood impacts downstream. This decision requires gate openings below minimum recommended settings; however it is made in an attempt to minimize urban damage below Moggill which is an objective that must be considered under this Strategy. • Gates closed continuously at Wivenhoe Dam for 11 hours in accordance with the standard gate closing sequence at an average rate of just over 3.6 metres of opening per hour. • Wivenhoe discharge is decreased from 7464 m^3/s to 2547 m^3/s. All rural bridges below the dam remain flooded and significant damage to urban areas below Moggill has not been avoided. • No releases are made from Somerset Dam in accordance with Strategy S2.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 399mm; Somerset 613mm; Lockyer 328mm; Bremer 279mm. Wivenhoe Dam level falls from 74.97 to 74.78 over the 11 hour period. Somerset Dam level rises from 104.78 to 105.11 over the 11 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 1mm o Somerset 3mm; o Lockyer 3m; o Bremer 1m. • Forecast 24 hour catchment average rainfall at 16:00 on 11/11 was 75mm. • Estimated peak Wivenhoe level is: 75.0 (excluding forecast); 75.0 (including forecast). • Estimated peak Somerset level is: 105.1 (excluding forecast); 105.1 (including forecast). • Estimated total dam inflow is: 2,650,000ML (excluding forecast); 2,650,000ML (including forecast).	• The target was to protect the structural safety of the dam. • The Manual requires actions under Strategy W4 to be that Wivenhoe gate openings are to occur at the minimum intervals and sequences until the storage level of Wivenhoe Dam begins to fall. Because the lake level was falling slightly, a decision was made to reduce releases from Wivenhoe Dam as quickly and as low a level as possible, to minimize urban damage below Moggill. • It was calculated that reducing to a discharge of 2547 m^3/s from Wivenhoe Dam would: o Not increase the downstream flood peak; o Not cause the water level in Wivenhoe Dam to rise and; o Allow the dam to be drained back to FSL in 7 days in accordance with the Manual. • With dam levels above the Wivenhoe/Somerset Operating Target Line during this period no releases from Somerset Dam are made to limit further rises in Wivenhoe.

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JANUARY 2011 FLOOD EVENT - PERIOD 19 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
Commenced Wednesday 12 Jan 2011 08:00 Completed Thursday 13 Jan 2011 12:00	**Transition from Strategy W4 to the Drain Down Phase** **Somerset Directives #8 to #9.** • No change to gate settings occurred at Wivenhoe Dam over this period. Wivenhoe discharge is 2534 m^3/s. All rural bridges below the dam remain flooded. • Releases commenced from Somerset Dam during this period as the plotted dam levels fell below the Wivenhoe/Somerset Operating Target Line. These actions were undertaken in accordance with Strategy S2 and to allow the D'Aguilar Highway to be opened as soon as possible. Even though plotted dam levels later rose above the Wivenhoe/Somerset Operating Target Line during this period, releases from Somerset dam continued to allow the dam to be drained back to FSL in 7 days in accordance with the Manual.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 401mm; Somerset 619mm; Lockyer 330mm; Bremer 280mm. Wivenhoe Dam level falls from 74.78 to 74.61 over the 28 hour period. Somerset Dam level falls from 105.11 to 103.96 over the 28 hour period.	• Catchment average rainfalls during this period were: o Wivenhoe 2mm; o Somerset 6mm; o Lockyer 6mm; o Bremer 6mm. • Forecast 24 hour catchment average rainfall at 10:00 on 12/11 was 10mm.	**Drain Down Phase** **(Stored floodwaters emptied from the dam in seven days)** • During this period the strategy transitioned from Strategy W4, during which the target is to protect the structural safety of the dam, to the Drain Down Phase of the event. • Once the Drain Down Phase commenced, the target was to release stored floodwaters from the dam within 7 days of the flood peak passing through the dams, while controlling downstream impacts. Considerations impacting on the duration and timing of the Drain Down Phase in this instance included: o Causing no renewed increases in river levels below the dam (except where they were unavoidable due to tidal influences. o Maintaining an adequate release rate to ensure that the temporary pumps providing water supplies to the Lowood area could continue to operate; o Minimizing bank slumping impacts along the river, particularly in key areas such as Coronation Drive (as requested from the Brisbane City Council); o Re-opening the Brisbane Valley highway and key rural bridges as quickly as possible; o Achieving full supply levels in the dams at the conclusion of the event.

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JANUARY 2011 FLOOD EVENT - PERIOD 20 OF 20				
DATE/TIME	**BACKGROUND**	**DAM CONDITIONS**	**RAINFALL AND MODEL RESULTS**	**STRATEGY**
Commenced Thursday 13 Jan 2011 12:00 Completed Wednesday 19 Jan 2011 12:00	**Drain Down Phase** **Wivenhoe Directives #35 to #62** **Somerset Directives #10 to #13.** • During this period releases from Wivenhoe Dam are increased as the peaks from the Lockyer and Bremer subside. Downstream impacts are controlled to ensure that at no time during this phase do downstream water levels rise except if impacted by tidal influences. • During this period, stored flood water in Somerset Dam is drained into Wivenhoe Dam in accordance with the drain down target of seven days. Importance is placed on opening the D'Aguilar Highway as soon as possible.	Total rainfall from 0800 on 6 January 2011 to the end of this period: Wivenhoe 415mm; Somerset 626mm; Lockyer 337mm; Bremer 288mm. Wivenhoe Dam level falls from 74.61 to 66.89 over the 6 day period. Somerset Dam level falls from 103.96 to 99.00 over the 6 day period.	• Catchment average rainfalls during this six day period were: o Wivenhoe 14mm; o Somerset 7mm; o Lockyer 7mm; o Bremer 8mm.	**Drain Down Phase** • During this period the target was to release stored floodwaters from the dam within 7 days of the flood peak passing through the dams, while controlling downstream impacts. Considerations impacting on the duration and timing of the Drain Down Phase in this instance included: o Causing no renewed increases in river levels below the dam (except where they were unavoidable due to tidal influences. o Maintaining an adequate release rate to ensure that the temporary pumps providing water supplies to the Lowood area could continue to operate; o Minimizing bank slumping impacts along the river, particularly in key areas such as Coronation Drive (as requested from the Brisbane City Council); o Re-opening the Brisbane Valley highway and key rural bridges as quickly as possible; o Achieving full supply levels in the dams at the conclusion of the event.

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9. DAM INFLOW AND FLOOD RELEASE DETAILS

9.1 Wivenhoe Dam

The following table provides full details of inflows into and releases from Wivenhoe Dam over the duration of the event. Details of the strategies used in determining these releases and how these strategies comply with the Manual are contained Section 7 of this report. The table shows that the gate operation sequence used was in accordance with the Manual over the duration of the event.

Some points to note in relation to the table are:

- Inflow and flood release calculations are based on manual gauge board readings shown in the table that provide the lake level. During the event, these manual gauge board readings were normally provided by the dam operators to the Flood Operations Centre on an hourly basis. However, with prior approval from the Flood Operations Centre, during non-critical periods the operators occasionally would miss a reading to complete higher priority site activities. In these instances, the table value has been interpolated from the closest available actual readings.

- Inflow calculations are based on the rate of change of the storage and use the dam storage curve.

- Release calculations are based on the discharge rating tables contained in the Manual.

- The table shows inflow rates and releases on the hour through the event. In some instances, gate operations may have occurred between hours or at less than one hourly intervals. In these instances the table shows the actual gate openings as there were at the time indicated.

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
07/01/2011 07:00	67.68	1239902	4464	1240	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	980	945
07/01/2011 08:00	67.71	1243250	3348	930	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1290	1255
07/01/2011 09:00	67.75	1247714	4464	1240	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	993	959
07/01/2011 10:00	67.78	1251110	3396	943	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	993	959
07/01/2011 11:00	67.81	1254506	3396	943	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	2251	2216
07/01/2011 12:00	67.88	1262429	7924	2201	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1937	1902
07/01/2011 13:00	67.94	1269221	6792	1887	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1622	1587
07/01/2011 14:00	67.99	1274881	5660	1572	50	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	1321	1286
07/01/2011 15:00	68.03	1279457	4576	1271	13	0.0	0.0	0.5	0.0	0.0	0	0	51	0	0	51	1021	986
07/01/2011 16:00	68.06	1282901	3444	957	13	0.0	0.0	1.0	0.0	0.0	0	0	103	0	0	103	1073	1038
07/01/2011 17:00	68.09	1286345	3444	957	13	0.0	0.0	1.5	0.0	0.0	0	0	154	0	0	154	1124	1054
07/01/2011 18:00	68.12	1289789	3444	957	13	0.0	0.0	2.0	0.0	0.0	0	0	205	0	0	205	1812	1742
07/01/2011 19:00	68.17	1295530	5740	1594	13	0.0	0.0	2.5	0.0	0.0	0	0	255	0	0	255	905	700
07/01/2011 20:00	68.19	1297826	2296	638	13	0.0	0.0	3.0	0.0	0.0	0	0	303	0	0	303	1273	1067
07/01/2011 21:00	68.22	1301270	3444	957	13	0.0	0.0	3.5	0.0	0.0	0	0	351	0	0	351	1644	1438
07/01/2011 22:00	68.26	1305878	4608	1280	13	0.0	0.5	3.5	0.0	0.0	0	52	351	0	0	403	1063	857
07/01/2011 23:00	68.28	1308206	2328	647	13	0.0	0.5	3.5	0.5	0.0	0	52	352	52	0	456	1762	1556
08/01/2011 00:00	68.32	1312862	4656	1293	13	0.0	1.0	3.5	0.5	0.0	0	104	352	52	0	509	1168	962
08/01/2011 01:00	68.34	1315190	2328	647	13	0.0	1.0	3.5	1.0	0.0	0	104	353	104	0	561	898	691
08/01/2011 02:00	68.35	1316354	1164	323	13	0.5	1.0	3.5	1.0	0.0	52	104	353	104	0	614	2567	2360
08/01/2011 03:00	68.41	1323339	6984	1940	13	0.5	1.0	3.5	1.0	0.5	52	105	354	105	52	667	680	474
08/01/2011 04:00	68.41	1323339	0	0	13	0.5	1.5	3.5	1.0	0.5	52	156	354	105	52	719	2026	1819
08/01/2011 05:00	68.45	1327995	4656	1293	13	0.5	1.5	3.5	1.5	0.5	52	157	354	157	52	773	1109	902
08/01/2011 06:00	68.46	1329159	1164	323	13	1.0	1.5	3.5	1.5	0.5	105	157	355	157	52	825	1485	1279
08/01/2011 07:00	68.48	1331487	2328	647	13	1.0	1.5	3.5	1.5	1.0	105	157	355	157	105	879	2194	1988

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
08/01/2011 08:00	68.52	1336176	4689	1303	13	1.0	1.5	4.0	1.5	1.0	105	157	402	157	105	927	1924	1717
08/01/2011 09:00	68.55	1339718	3542	984	13	1.0	2.0	4.0	1.5	1.0	105	209	403	157	105	980	1321	1114
08/01/2011 10:00	68.56	1340899	1181	328	13	1.0	2.0	4.0	2.0	1.0	105	209	403	209	105	1031	2028	1822
08/01/2011 11:00	68.59	1344441	3542	984	13	1.5	2.0	4.0	2.0	1.0	158	209	404	209	105	1085	1426	1219
08/01/2011 12:00	68.60	1345622	1181	328	13	1.5	2.0	4.0	2.0	1.5	158	209	404	209	158	1138	1479	1066
08/01/2011 13:00	68.61	1346802	1181	328	13	1.5	2.5	4.0	2.0	1.5	158	260	404	209	158	1189	1202	789
08/01/2011 14:00	68.61	1346802	0	0	13	1.5	2.5	4.0	2.5	1.5	158	260	404	260	158	1239	1908	1495
08/01/2011 15:00	68.63	1349164	2361	656	13	1.5	2.5	4.0	2.5	1.5	158	260	404	260	158	1240	1581	1168
08/01/2011 16:00	68.64	1350345	1181	328	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1241	1582	1169
08/01/2011 17:00	68.65	1351525	1181	328	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1242	1255	842
08/01/2011 18:00	68.65	1351525	0	0	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1242	1255	842
08/01/2011 19:00	68.65	1351525	0	0	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1242	1255	842
08/01/2011 20:00	68.65	1351525	0	0	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1242	1255	842
08/01/2011 21:00	68.65	1351525	0	0	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1242	1255	842
08/01/2011 22:00	68.65	1351525	0	0	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1242	1255	842
08/01/2011 23:00	68.65	1351525	0	0	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1242	927	514
09/01/2011 00:00	68.64	1350345	-1181	-328	13	1.5	2.5	4.0	2.5	1.5	158	260	405	260	158	1241	926	514
09/01/2011 01:00	68.63	1349164	-1181	-328	13	1.5	2.5	4.0	2.5	1.5	158	260	404	260	158	1240	925	513
09/01/2011 02:00	68.62	1347983	-1181	-328	13	1.5	2.5	4.5	2.5	1.5	158	260	450	260	158	1286	971	559
09/01/2011 03:00	68.61	1346802	-1181	-328	13	1.5	2.5	4.5	2.5	1.5	158	260	450	260	158	1285	970	558
09/01/2011 04:00	68.60	1345622	-1181	-328	13	1.5	2.5	4.5	2.5	1.5	158	260	450	260	158	1285	1298	886
09/01/2011 05:00	68.60	1345622	0	0	13	2.0	2.5	4.5	2.5	1.5	209	260	450	260	158	1336	693	281
09/01/2011 06:00	68.58	1343260	-2361	-656	13	2.0	2.5	4.5	2.5	1.5	209	259	449	259	158	1335	1020	608
09/01/2011 07:00	68.57	1342080	-1181	-328	13	2.0	2.5	4.5	2.5	1.5	209	259	449	259	158	1334	1019	607
09/01/2011 08:00	68.56	1340899	-1181	-328	13	2.0	2.5	4.5	2.5	1.5	209	259	449	259	157	1334	1019	607

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
09/01/2011 09:00	68.55	1339718	-1181	-328	13	2.0	2.5	4.5	2.5	1.5	209	259	449	259	157	1333	690	72
09/01/2011 10:00	68.53	1337357	-2361	-656	13	2.0	2.5	4.5	2.5	1.5	209	259	448	259	157	1332	1673	1054
09/01/2011 11:00	68.54	1338538	1181	328	13	2.0	2.5	4.5	2.5	1.5	209	259	448	259	157	1332	1345	727
09/01/2011 12:00	68.54	1338538	0	0	13	2.0	2.5	4.5	2.5	2.0	209	259	448	259	209	1384	2053	1433
09/01/2011 13:00	68.56	1340899	2361	656	13	2.0	2.5	4.5	2.5	2.0	209	259	449	259	209	1385	2054	1228
09/01/2011 14:00	68.58	1343260	2361	656	13	2.0	2.5	4.5	2.5	2.0	209	259	449	259	209	1386	2383	1350
09/01/2011 15:00	68.61	1346802	3542	984	13	2.0	2.5	4.5	2.5	2.0	209	260	450	260	209	1388	4353	3315
09/01/2011 16:00	68.70	1357429	10626	2952	13	2.0	2.5	4.5	2.5	2.0	210	261	452	261	210	1394	3711	2660
09/01/2011 17:00	68.77	1365725	8297	2305	13	2.0	2.5	4.5	2.5	2.0	211	262	453	262	211	1398	4403	3304
09/01/2011 18:00	68.86	1376494	10769	2991	13	2.0	2.5	4.5	2.5	2.0	212	263	455	263	212	1404	5073	3952
09/01/2011 19:00	68.97	1389656	13162	3656	13	2.0	2.5	4.5	2.5	2.0	213	264	458	264	213	1411	5789	4644
09/01/2011 20:00	69.10	1405370	15714	4365	13	2.0	2.5	4.5	2.5	2.0	214	265	461	265	214	1419	6147	4954
09/01/2011 21:00	69.24	1422345	16974	4715	13	2.0	2.5	4.5	2.5	2.0	215	267	464	267	215	1428	8261	7023
09/01/2011 22:00	69.44	1446897	24552	6820	13	2.0	2.5	4.5	2.5	2.0	217	269	468	269	217	1440	6957	5680
09/01/2011 23:00	69.60	1466712	19815	5504	13	2.0	2.5	4.5	2.5	2.0	218	271	471	271	218	1450	8400	7083
10/01/2011 00:00	69.80	1491685	24973	6937	13	2.0	2.5	4.5	2.5	2.0	220	273	475	273	220	1462	7431	6072
10/01/2011 01:00	69.97	1513125	21440	5955	13	2.0	2.5	4.5	2.5	2.0	222	275	479	275	222	1473	8567	7164
10/01/2011 02:00	70.17	1538617	25492	7081	13	2.5	2.5	4.5	2.5	2.0	277	277	483	277	223	1539	8340	6914
10/01/2011 03:00	70.36	1563055	24438	6788	13	2.5	2.5	4.5	2.5	2.5	280	280	487	280	280	1605	9191	7741
10/01/2011 04:00	70.57	1590316	27261	7573	13	2.5	3.0	4.5	2.5	2.5	282	336	491	282	282	1672	8964	7491
10/01/2011 05:00	70.77	1616520	26204	7279	13	2.5	3.0	4.5	3.0	2.5	284	338	495	338	284	1740	8743	7252
10/01/2011 06:00	70.96	1641685	25165	6990	13	2.5	3.5	4.5	3.0	2.5	286	395	499	341	286	1806	9248	7728
10/01/2011 07:00	71.16	1668426	26741	7428	13	2.5	3.5	4.5	3.5	2.5	288	398	503	398	288	1875	9382	7847
10/01/2011 08:00	71.36	1695406	26980	7494	13	3.0	3.5	4.5	3.5	2.5	346	401	507	401	290	1944	9518	7970
10/01/2011 09:00	71.56	1722624	27218	7561	13	3.0	3.5	4.5	3.5	3.0	349	404	511	404	349	2015	**10425**	**8858**

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow	
					Hydro	1	2	3	4	5	1	2	3	4	5				
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	
10/01/2011 10:00	71.78	1752854	30229	8397	13	3.0	3.5	4.5	3.5	3.0	351	407	515	407	351	2031	8598	7022	
10/01/2011 11:00	71.95	1776448	23595	6554	13	3.0	3.5	4.5	3.5	3.0	353	409	518	409	353	2044	6714	5121	
10/01/2011 12:00	72.07	1793215	16767	4658	13	3.0	3.5	4.5	3.5	3.0	355	411	521	411	355	2053	9480	7853	
10/01/2011 13:00	72.26	1819906	26691	7414	13	3.0	3.5	4.5	3.5	3.0	357	414	524	414	357	2067	7997	6336	
10/01/2011 14:00	72.41	1841210	21304	5918	13	3.0	3.5	4.5	3.5	3.0	359	416	527	416	359	2077	7237	5566	
10/01/2011 15:00	72.54	1859739	18529	5147	13	3.0	3.5	4.5	3.5	3.0	361	418	529	418	361	2087	8485	6800	
10/01/2011 16:00	72.70	1882728	22989	6386	13	3.0	4.0	4.5	3.5	3.0	363	477	532	420	363	2155	7797	6104	
10/01/2011 17:00	72.84	1902994	20266	5630	13	3.0	4.0	5.0	4.0	3.0	364	479	590	479	364	2277	5520	3827	2
10/01/2011 18:00	72.92	1914623	11629	3230	13	3.5	4.0	5.0	4.0	3.5	423	480	592	480	423	2399	5239	3546	2
10/01/2011 19:00	72.99	1924798	10175	2826	13	3.5	4.5	5.0	4.5	3.5	424	538	593	538	424	2517	5384	3691	2
10/01/2011 20:00	73.06	1935072	10273	2854	13	4.5	4.5	5.0	4.5	4.0	539	539	595	539	483	2695	4749	3056	3
10/01/2011 21:00	73.11	1942421	7350	2042	13	4.5	4.5	5.0	4.5	4.0	540	540	596	540	484	2699	5162	3473	
10/01/2011 22:00	73.17	1951241	8820	2450	13	4.5	4.5	5.0	4.5	4.0	541	541	597	541	484	2705	4759	3084	
10/01/2011 23:00	73.22	1958590	7350	2042	13	4.5	4.5	5.0	4.5	4.0	542	542	598	542	485	2709	4360	2688	
11/01/2011 00:00	73.26	1964486	5896	1638	13	4.5	4.5	5.0	4.5	4.0	543	543	599	543	486	2713	4790	3125	
11/01/2011 01:00	73.31	1971917	7431	2064	13	4.5	4.5	5.0	4.5	4.0	544	544	600	544	487	2717	4382	2721	
11/01/2011 02:00	73.35	1977862	5945	1651	13	4.5	4.5	5.0	4.5	4.0	544	544	601	544	487	2721	3973	2329	
11/01/2011 03:00	73.38	1982321	4459	1239	13	4.5	4.5	5.0	4.5	4.0	545	545	601	545	488	2724	3563	1932	
11/01/2011 04:00	73.40	1985294	2972	826	13	4.5	4.5	5.0	4.5	4.0	545	545	602	545	488	2726	5216	3599	
11/01/2011 05:00	73.46	1994211	8917	2477	13	4.5	4.5	5.0	4.5	4.0	546	546	603	546	489	2731	4813	3396	
11/01/2011 06:00	73.51	2001658	7447	2069	13	4.5	4.5	5.0	4.5	4.0	547	547	604	547	490	2736	6922	5702	
11/01/2011 07:00	73.61	2016681	15023	4173	13	4.5	4.5	5.0	4.5	4.0	549	549	606	549	492	2745	6513	5490	
11/01/2011 08:00	73.70	2030202	13521	3756	13	4.5	4.5	5.0	4.5	4.0	551	551	608	551	493	2753	7383	6557	
11/01/2011 09:00	73.81	2046825	16623	4618	0	4.5	5.0	5.5	5.0	4.5	553	610	666	610	553	2991	8897	8275	3
11/01/2011 10:00	73.95	2068085	21260	5906	0	5.5	5.5	5.5	5.5	5.5	669	669	669	669	669	3347	9721	9085	6

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
11/01/2011 11:00	74.10	2091030	22945	6374	0	5.5	6.0	6.0	6.0	5.5	673	729	729	729	673	3533	10793	10133
11/01/2011 12:00	74.27	2117163	26133	7259	0	6.0	6.0	6.0	6.0	6.0	733	733	733	733	733	3667	8843	8158
11/01/2011 13:00	74.39	2135795	18632	5175	0	7.0	7.0	7.0	7.0	7.0	850	850	850	850	850	4250	12046	11308
11/01/2011 14:00	74.57	2163861	28066	7796	0	7.5	7.5	7.5	7.5	7.5	912	912	912	912	912	4562	10666	9880
11/01/2011 15:00	74.71	2185835	21974	6104	0	8.5	8.5	8.5	8.5	8.5	1033	1033	1033	1033	1033	5167	9556	8709
11/01/2011 16:00	74.81	2201636	15801	4389	0	9.5	9.5	9.5	9.5	9.5	1157	1157	1157	1157	1157	5786	9313	8393
11/01/2011 17:00	74.89	2214333	12697	3527	0	10.5	10.5	10.5	10.5	10.5	1286	1286	1286	1286	1286	6432	9077	8117
11/01/2011 18:00	74.95	2223855	9523	2645	0	11.0	11.0	11.0	11.0	11.0	1355	1355	1355	1355	1355	6774	7656	6654
11/01/2011 19:00	74.97	2227030	3174	882	0	12.0	12.0	12.0	12.0	12.0	1493	1493	1493	1493	1493	7464	7464	6425
11/01/2011 20:00	74.97	2227030	0	0	0	12.0	12.0	12.0	12.0	12.0	1493	1493	1493	1493	1493	7464	6582	5502
11/01/2011 21:00	74.95	2223855	-3174	-882	0	12.0	12.0	12.0	12.0	12.0	1492	1492	1492	1492	1492	7458	7458	6344
11/01/2011 22:00	74.95	2223855	0	0	0	11.5	11.5	11.5	11.5	11.5	1422	1422	1422	1422	1422	7111	5788	4644
11/01/2011 23:00	74.92	2219094	-4761	-1323	0	11.5	11.5	11.5	11.5	11.5	1421	1421	1421	1421	1421	7103	6662	5496
12/01/2011 00:00	74.91	2217507	-1587	-441	0	10.0	10.0	10.0	10.0	10.0	1224	1224	1224	1224	1224	6118	4354	3153
12/01/2011 01:00	74.87	2211158	-6348	-1763	0	10.0	10.0	10.0	10.0	10.0	1222	1222	1222	1222	1222	6109	5668	4458
12/01/2011 02:00	74.86	2209571	-1587	-441	0	9.0	9.0	9.0	9.0	9.0	1098	1098	1098	1098	1098	5492	3288	2059
12/01/2011 03:00	74.81	2201636	-7936	-2204	0	9.0	9.0	9.0	9.0	9.0	1097	1097	1097	1097	1097	5483	5042	3800
12/01/2011 04:00	74.80	2200049	-1587	-441	0	8.0	8.0	8.0	8.0	8.0	978	978	978	978	978	4888	3566	2315
12/01/2011 05:00	74.77	2195287	-4761	-1323	0	7.0	7.0	7.0	7.0	7.0	861	861	861	861	861	4304	4304	3049
12/01/2011 06:00	74.77	2195287	0	0	0	6.0	6.0	6.0	6.0	6.0	745	745	745	745	745	3727	3286	2026
12/01/2011 07:00	74.76	2193700	-1587	-441	0	5.0	5.0	5.0	5.0	5.0	629	629	629	629	629	3143	4025	2765
12/01/2011 08:00	74.78	2196874	3174	882	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	2547	1287
12/01/2011 09:00	74.78	2196874	0	0	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	2547	1291
12/01/2011 10:00	74.78	2196874	0	0	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	2547	1296
12/01/2011 11:00	74.78	2196874	0	0	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	2987	1527

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0.13
0.10
0.08
0.06
0.02
still raining

OK because down outflow exceeded 4000

exceeded minimum increment

V

did there need to (still in accordance with manual)

V

Outflows much greater than minimum manual minimum

outside manual

Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
12/01/2011 12:00	74.79	2198461	1587	441	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	2547	1091
12/01/2011 13:00	74.79	2198461	0	0	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	3429	1991
12/01/2011 14:00	74.81	2201636	3174	882	0	3.5	4.0	5.0	4.0	3.5	449	510	630	510	449	2549	2549	1133
12/01/2011 15:00	74.81	2201636	0	0	0	3.5	4.0	5.0	4.0	3.5	449	510	630	510	449	2549	2108	710
12/01/2011 16:00	74.80	2200049	-1587	-441	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2548	3430	2049
12/01/2011 17:00	74.82	2203223	3174	882	0	3.5	4.0	5.0	4.0	3.5	449	510	630	510	449	2550	1668	309
12/01/2011 18:00	74.80	2200049	-3174	-882	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2548	3430	2089
12/01/2011 19:00	74.82	2203223	3174	882	0	3.5	4.0	5.0	4.0	3.5	449	510	630	510	449	2550	2550	1230
12/01/2011 20:00	74.82	2203223	0	0	0	3.5	4.0	5.0	4.0	3.5	449	510	630	510	449	2550	2550	1247
12/01/2011 21:00	74.82	2203223	0	0	0	3.5	4.0	5.0	4.0	3.5	449	510	630	510	449	2550	2109	823
12/01/2011 22:00	74.81	2201636	-1587	-441	0	3.5	4.0	5.0	4.0	3.5	449	510	630	510	449	2549	2108	844
12/01/2011 23:00	74.80	2200049	-1587	-441	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2548	2107	860
13/01/2011 00:00	74.79	2198461	-1587	-441	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	2107	876
13/01/2011 01:00	74.78	2196874	-1587	-441	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2547	2106	896
13/01/2011 02:00	74.77	2195287	-1587	-441	0	3.5	4.0	5.0	4.0	3.5	449	510	629	510	449	2546	1664	470
13/01/2011 03:00	74.75	2192113	-3174	-882	0	3.5	4.0	5.0	4.0	3.5	449	509	628	509	449	2544	2108	931
13/01/2011 04:00	74.74	2190543	-1570	-436	0	3.5	4.0	5.0	4.0	3.5	448	509	628	509	448	2544	1672	514
13/01/2011 05:00	74.72	2187404	-3139	-872	0	3.5	4.0	5.0	4.0	3.5	448	509	628	509	448	2542	2106	965
13/01/2011 06:00	74.71	2185835	-1570	-436	0	3.5	4.0	5.0	4.0	3.5	448	509	628	509	448	2541	1669	548
13/01/2011 07:00	74.69	2182696	-3139	-872	0	3.5	4.0	5.0	4.0	3.5	448	508	627	508	448	2540	2104	998
13/01/2011 08:00	74.68	2181126	-1570	-436	0	3.5	4.0	5.0	4.0	3.5	448	508	627	508	448	2539	1667	577
13/01/2011 09:00	74.66	2177987	-3139	-872	0	3.5	4.0	5.0	4.0	3.5	447	508	627	508	447	2537	1665	375
13/01/2011 10:00	74.64	2174848	-3139	-872	0	3.5	4.0	5.0	4.0	3.5	447	508	626	508	447	2536	1664	389
13/01/2011 11:00	74.62	2171709	-3139	-872	0	3.5	4.0	5.0	4.0	3.5	447	507	626	507	447	2534	2098	847
13/01/2011 12:00	74.61	2170139	-1570	-436	0	3.5	4.0	5.0	4.0	3.5	447	507	626	507	447	2534	1662	437

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
13/01/2011 13:00	74.59	2167000	-3139	-872	0	3.5	4.5	5.0	4.0	3.5	446	567	625	507	446	2592	1720	295
13/01/2011 14:00	74.57	2163861	-3139	-872	0	3.5	4.5	5.0	4.5	3.5	446	566	625	566	446	2650	2214	808
13/01/2011 15:00	74.56	2162291	-1570	-436	0	4.0	4.5	5.0	4.0	3.5	506	566	625	506	446	2650	2214	834
13/01/2011 16:00	74.55	2160722	-1570	-436	0	4.0	4.5	5.0	4.5	4.0	506	566	625	566	506	2769	1025	0
13/01/2011 17:00	74.51	2154444	-6278	-1744	0	4.5	4.5	5.0	4.5	4.0	565	565	624	565	506	2825	2389	1057
13/01/2011 18:00	74.50	2152874	-1570	-436	0	4.5	4.5	5.0	4.5	4.5	565	565	624	565	565	2883	1158	0
13/01/2011 19:00	74.46	2146663	-6211	-1725	0	4.5	5.0	5.0	5.0	4.5	564	623	623	623	564	2997	1703	417
13/01/2011 20:00	74.43	2142006	-4658	-1294	0	5.0	5.0	5.0	5.0	5.0	622	622	622	622	622	3111	2248	984
13/01/2011 21:00	74.41	2138900	-3105	-863	0	5.0	5.5	5.5	5.0	5.0	622	680	680	622	622	3225	1068	0
13/01/2011 22:00	74.36	2131137	-7763	-2156	0	5.0	5.5	5.5	5.5	5.0	621	678	678	678	621	3277	2414	970
13/01/2011 23:00	74.34	2128032	-3105	-863	0	5.5	5.5	5.5	5.5	5.0	678	678	678	678	620	3332	1607	190
14/01/2011 00:00	74.30	2121821	-6211	-1725	0	5.5	5.5	5.5	5.5	5.5	677	677	677	677	677	3386	1661	270
14/01/2011 01:00	74.26	2115611	-6211	-1725	0	5.5	5.5	6.0	5.5	5.5	676	676	733	676	676	3438	1728	361
14/01/2011 02:00	74.22	2109452	-6158	-1711	0	5.5	6.0	6.0	5.5	5.5	675	732	732	675	675	3491	1785	440
14/01/2011 03:00	74.18	2103312	-6141	-1706	0	5.5	6.0	6.0	6.0	5.5	675	731	731	731	675	3543	1411	88
14/01/2011 04:00	74.13	2095636	-7676	-2132	0	5.5	6.0	6.0	6.0	5.5	673	730	730	730	673	3537	1405	101
14/01/2011 05:00	74.08	2087960	-7676	-2132	0	5.5	6.0	6.0	6.0	5.5	672	729	729	729	672	3531	1825	540
14/01/2011 06:00	74.04	2081819	-6141	-1706	0	5.5	6.0	6.0	6.0	5.5	671	728	728	728	671	3526	1399	138
14/01/2011 07:00	73.99	2074159	-7659	-2128	0	5.5	6.0	6.0	6.0	5.5	670	727	727	727	670	3521	1411	168
14/01/2011 08:00	73.94	2066566	-7593	-2109	0	5.5	6.0	6.0	6.0	5.5	669	725	725	725	669	3515	1827	602
14/01/2011 09:00	73.90	2060492	-6074	-1687	0	5.5	6.0	6.0	6.0	5.5	668	724	724	724	668	3510	1401	193
14/01/2011 10:00	73.85	2052899	-7593	-2109	0	5.5	6.0	6.0	6.0	5.5	667	723	723	723	667	3504	1817	628
14/01/2011 11:00	73.81	2046825	-6074	-1687	0	5.5	6.0	6.0	6.0	5.5	666	722	722	722	666	3499	1390	218
14/01/2011 12:00	73.76	2039232	-7593	-2109	0	5.5	6.0	6.0	6.0	5.5	665	721	721	721	665	3493	1402	247
14/01/2011 13:00	73.71	2031704	-7528	-2091	0	5.5	6.0	6.0	6.0	5.5	664	720	720	720	664	3488	984	0

slight decrease

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
14/01/2011 14:00	73.65	2022690	-9014	-2504	0	5.5	6.0	6.0	6.0	5.5	663	718	718	718	663	3480	1394	270
14/01/2011 15:00	73.60	2015179	-7511	-2087	0	5.5	6.0	6.0	6.0	5.5	662	717	717	717	662	3475	971	0
14/01/2011 16:00	73.54	2006165	-9014	-2504	0	5.5	6.0	6.0	6.0	5.5	660	716	716	716	660	3467	1798	707
14/01/2011 17:00	73.50	2000156	-6009	-1669	0	5.5	6.0	6.0	6.0	5.5	659	715	715	715	659	3463	1398	319
14/01/2011 18:00	73.45	1992725	-7431	-2064	0	5.5	6.0	6.0	6.0	5.5	658	713	713	713	658	3457	980	0
14/01/2011 19:00	73.39	1983807	-8917	-2477	0	6.0	6.0	6.0	6.0	5.5	712	712	712	712	657	3504	1853	805
14/01/2011 20:00	73.35	1977862	-5945	-1651	0	6.0	6.0	6.0	6.0	5.5	711	711	711	711	656	3500	1435	400
14/01/2011 21:00	73.30	1970431	-7431	-2064	0	6.0	6.0	6.0	6.0	5.5	710	710	710	710	655	3493	1429	408
14/01/2011 22:00	73.25	1963000	-7431	-2064	0	6.0	6.0	6.0	6.0	5.5	708	708	708	708	654	3487	1446	435
14/01/2011 23:00	73.20	1955650	-7350	-2042	0	6.0	6.0	6.0	6.0	5.5	707	707	707	707	653	3481	1440	442
15/01/2011 00:00	73.15	1948301	-7350	-2042	0	6.0	6.0	6.0	6.0	5.5	706	706	706	706	651	3475	1025	39
15/01/2011 01:00	73.09	1939481	-8820	-2450	0	6.0	6.0	6.0	6.0	5.5	704	704	704	704	650	3468	1426	452
15/01/2011 02:00	73.04	1932132	-7350	-2042	0	6.0	6.0	6.0	6.0	5.5	703	703	703	703	649	3462	1021	58
15/01/2011 03:00	72.98	1923345	-8787	-2441	0	6.0	6.0	6.0	6.0	6.0	702	702	702	702	702	3508	1086	133
15/01/2011 04:00	72.92	1914623	-8722	-2423	0	6.0	6.0	6.0	6.0	6.0	700	700	700	700	700	3501	1078	138
15/01/2011 05:00	72.86	1905902	-8722	-2423	0	6.0	6.0	6.0	6.0	6.0	699	699	699	699	699	3493	1070	137
15/01/2011 06:00	72.80	1897180	-8722	-2423	0	6.0	6.0	6.0	6.0	6.0	697	697	697	697	697	3485	1067	146
15/01/2011 07:00	72.74	1888475	-8705	-2418	0	6.0	6.0	6.0	6.0	6.0	696	696	696	696	696	3478	1083	172
15/01/2011 08:00	72.68	1879854	-8621	-2395	0	6.0	6.0	6.0	6.0	6.0	694	694	694	694	694	3470	1075	172
15/01/2011 09:00	72.62	1871234	-8621	-2395	0	6.0	6.0	6.0	6.0	6.0	693	693	693	693	693	3463	1068	173
15/01/2011 10:00	72.56	1862613	-8621	-2395	0	6.0	6.0	6.5	6.0	6.0	691	691	744	691	691	3507	1113	227
15/01/2011 11:00	72.50	1853992	-8621	-2395	0	6.0	6.0	6.5	6.0	6.0	689	689	742	689	689	3500	1133	253
15/01/2011 12:00	72.44	1845471	-8521	-2367	0	6.0	6.0	6.5	6.0	6.0	688	688	740	688	688	3492	1519	646
15/01/2011 13:00	72.39	1838369	-7101	-1973	0	6.0	6.0	6.5	6.0	6.0	687	687	739	687	687	3485	1118	251
15/01/2011 14:00	72.33	1829848	-8521	-2367	0	6.0	6.0	6.5	6.0	6.0	685	685	737	685	685	3477	1110	250

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
15/01/2011 15:00	72.27	1821326	-8521	-2367	0	6.0	6.0	6.5	6.0	6.0	684	684	735	684	684	3469	1121	266
15/01/2011 16:00	72.21	1812870	-8456	-2349	0	6.0	6.0	6.5	6.0	6.0	682	682	734	682	682	3462	732	0
15/01/2011 17:00	72.14	1803043	-9827	-2730	0	6.0	6.5	6.5	6.0	6.0	680	732	732	680	680	3504	1164	320
15/01/2011 18:00	72.08	1794619	-8424	-2340	0	6.0	6.5	6.5	6.0	6.0	679	730	730	679	679	3496	1546	707
15/01/2011 19:00	72.03	1787600	-7020	-1950	0	6.0	6.5	6.5	6.0	6.0	677	729	729	677	677	3489	391	0
15/01/2011 20:00	71.95	1776448	-11151	-3098	0	6.0	6.5	6.5	6.0	6.0	675	726	726	675	675	3478	779	0
15/01/2011 21:00	71.88	1766733	-9715	-2699	0	6.0	6.5	6.5	6.0	6.0	673	724	724	673	673	3469	384	0
15/01/2011 22:00	71.80	1755630	-11103	-3084	0	6.0	6.5	6.5	6.5	6.0	671	722	722	722	671	3509	1966	1140
15/01/2011 23:00	71.76	1750078	-5552	-1542	0	6.0	6.5	6.5	6.5	6.0	670	721	721	721	670	3503	1593	766
16/01/2011 00:00	71.71	1743202	-6875	-1910	0	6.0	6.5	6.5	6.5	6.0	669	719	719	719	669	3496	1210	384
16/01/2011 01:00	71.65	1734971	-8231	-2286	0	6.0	6.5	6.5	6.5	6.0	667	718	718	718	667	3488	820	0
16/01/2011 02:00	71.58	1725368	-9603	-2668	0	6.0	6.5	6.5	6.5	6.0	665	716	716	716	665	3478	1191	368
16/01/2011 03:00	71.52	1717137	-8231	-2286	0	6.0	6.5	6.5	6.5	6.0	664	714	714	714	664	3469	824	1
16/01/2011 04:00	71.45	1707612	-9525	-2646	0	6.5	6.5	6.5	6.5	6.0	712	712	712	712	662	3509	872	51
16/01/2011 05:00	71.38	1698119	-9493	-2637	0	6.5	6.5	6.5	6.5	6.0	710	710	710	710	660	3499	1239	418
16/01/2011 06:00	71.32	1689981	-8137	-2260	0	6.5	6.5	6.5	6.5	6.0	708	708	708	708	658	3491	854	34
16/01/2011 07:00	71.25	1680488	-9493	-2637	0	6.5	6.5	6.5	6.5	6.0	706	706	706	706	657	3481	875	56
16/01/2011 08:00	71.18	1671107	-9381	-2606	0	6.5	6.5	6.5	6.5	6.0	704	704	704	704	655	3470	865	46
16/01/2011 09:00	71.11	1661725	-9381	-2606	0	6.5	6.5	6.5	6.5	6.5	702	702	702	702	702	3509	531	0
16/01/2011 10:00	71.03	1651004	-10722	-2978	0	6.5	6.5	6.5	6.5	6.5	699	699	699	699	699	3497	541	0
16/01/2011 11:00	70.95	1640361	-10643	-2956	0	6.5	6.5	6.5	6.5	6.5	697	697	697	697	697	3486	542	0
16/01/2011 12:00	70.87	1629765	-10596	-2943	0	6.5	6.5	6.5	6.5	6.5	695	695	695	695	695	3474	1266	655
16/01/2011 13:00	70.81	1621818	-7947	-2207	0	6.5	6.5	7.0	6.5	6.5	693	693	741	693	693	3513	1305	694
16/01/2011 14:00	70.75	1613871	-7947	-2207	0	6.5	6.5	7.0	6.5	6.5	691	691	739	691	691	3503	959	349
16/01/2011 15:00	70.68	1604711	-9160	-2544	0	6.5	6.5	7.0	6.5	6.5	689	689	737	689	689	3493	1312	702

THIS DOCUMENT CONTAINS TWO CHECKED OR VERIFIED INFORMATION
PREVIOUS

Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
16/01/2011 16:00	70.62	1596859	-7852	-2181	0	6.5	7.0	7.0	6.5	6.5	687	735	735	687	687	3531	623	14
16/01/2011 17:00	70.54	1586390	-10469	-2908	0	6.5	7.0	7.0	6.5	6.5	685	732	732	685	685	3518	268	0
16/01/2011 18:00	70.45	1574691	-11699	-3250	0	6.5	7.0	7.0	6.5	6.5	682	729	729	682	682	3504	631	23
16/01/2011 19:00	70.37	1564348	-10343	-2873	0	6.5	7.0	7.0	6.5	6.5	680	726	726	680	680	3491	618	11
16/01/2011 20:00	70.29	1554005	-10343	-2873	0	6.5	7.0	7.0	7.0	6.5	677	724	724	724	677	3525	1379	772
16/01/2011 21:00	70.23	1546279	-7726	-2146	0	6.5	7.0	7.0	7.0	6.5	675	722	722	722	675	3515	1032	426
16/01/2011 22:00	70.16	1537340	-8939	-2483	0	6.5	7.0	7.0	7.0	6.5	673	719	719	719	673	3504	666	262
16/01/2011 23:00	70.08	1527124	-10216	-2838	0	6.5	7.0	7.0	7.0	6.0	671	717	717	717	624	3445	607	203
17/01/2011 00:00	70.00	1516908	-10216	-2838	0	6.5	7.0	7.0	7.0	6.0	668	714	714	714	622	3432	629	225
17/01/2011 01:00	69.92	1506819	-10089	-2803	0	6.5	7.0	7.0	7.0	6.0	666	711	711	711	620	3419	616	213
17/01/2011 02:00	69.84	1496729	-10089	-2803	0	6.5	7.0	7.0	7.0	6.0	663	708	708	708	617	3406	603	200
17/01/2011 03:00	69.76	1486640	-10089	-2803	0	6.5	7.0	7.0	7.0	6.0	661	706	706	706	615	3393	0	0
17/01/2011 04:00	69.65	1472934	-13706	-3807	0	6.5	7.0	7.0	7.0	6.0	657	702	702	702	612	3375	955	753
17/01/2011 05:00	69.58	1464223	-8711	-2420	0	6.5	7.0	7.0	7.0	6.0	655	699	699	699	610	3363	256	55
17/01/2011 06:00	69.49	1453039	-11184	-3107	0	6.5	7.0	7.0	7.0	6.0	652	696	696	696	607	3348	277	76
17/01/2011 07:00	69.40	1441983	-11056	-3071	0	6.5	7.0	7.0	7.0	6.0	649	693	693	693	605	3333	945	876
17/01/2011 08:00	69.33	1433384	-8599	-2389	0	6.5	7.0	7.0	7.0	6.0	647	691	691	691	603	3322	0	0
17/01/2011 09:00	69.22	1419920	-13464	-3740	0	6.5	7.0	7.0	7.0	6.0	643	687	687	687	599	3303	609	540
17/01/2011 10:00	69.14	1410220	-9700	-2694	0	6.5	7.0	7.0	7.0	6.0	641	684	684	684	597	3290	596	527
17/01/2011 11:00	69.06	1400521	-9700	-2694	0	6.5	7.0	7.0	7.0	6.0	638	681	681	681	595	3276	0	0
17/01/2011 12:00	68.96	1388460	-12061	-3350	0	6.5	7.0	7.0	7.0	6.0	635	678	678	678	592	3259	0	0
17/01/2011 13:00	68.85	1375298	-13162	-3656	0	6.5	7.0	7.0	7.0	6.0	631	674	674	674	588	3241	914	845
17/01/2011 14:00	68.78	1366922	-8376	-2327	0	6.5	6.5	6.5	6.5	6.5	629	629	629	629	629	3145	508	439
17/01/2011 15:00	68.70	1357429	-9493	-2637	0	6.0	6.5	6.5	6.5	6.0	584	626	626	626	584	3047	1735	1666
17/01/2011 16:00	68.66	1352706	-4723	-1312	0	6.0	6.0	6.5	6.0	6.0	583	583	625	583	583	2956	0	0

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↑ gate closure sequencing slightly out.

Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
17/01/2011 17:00	68.56	1340899	-11807	-3280	0	6.0	6.0	6.0	6.0	6.0	580	580	580	580	580	2898	284	215
17/01/2011 18:00	68.48	1331487	-9412	-2614	0	5.5	5.5	5.5	5.5	5.5	535	535	535	535	535	2673	1057	988
17/01/2011 19:00	68.43	1325667	-5820	-1617	0	5.0	5.5	5.5	5.5	5.0	490	533	533	533	490	2580	0	0
17/01/2011 20:00	68.35	1316354	-9312	-2587	0	5.0	5.0	5.5	5.0	5.0	488	488	531	488	488	2483	866	798
17/01/2011 21:00	68.30	1310534	-5820	-1617	0	5.0	5.0	5.0	5.0	4.5	487	487	487	487	443	2390	454	386
17/01/2011 22:00	68.24	1303566	-6968	-1936	0	4.5	5.0	5.0	4.5	4.5	442	485	485	442	442	2295	382	313
17/01/2011 23:00	68.18	1296678	-6888	-1913	0	4.5	4.5	5.0	4.5	4.0	440	440	484	440	396	2200	0	0
18/01/2011 00:00	68.08	1285197	-11480	-3189	0	4.0	4.5	5.0	4.5	3.5	394	438	481	438	348	2099	823	755
18/01/2011 01:00	68.04	1280605	-4592	-1276	0	4.0	4.5	5.0	4.5	3.5	393	437	480	437	347	2095	819	751
18/01/2011 02:00	68.00	1276013	-4592	-1276	0	4.0	4.5	5.0	4.5	3.5	392	436	479	436	347	2090	833	764
18/01/2011 03:00	67.96	1271485	-4528	-1258	0	4.0	4.5	5.0	4.5	3.5	391	435	478	435	346	2086	828	760
18/01/2011 04:00	67.92	1266957	-4528	-1258	0	4.0	4.5	5.0	4.5	3.5	390	434	477	434	345	2082	824	755
18/01/2011 05:00	67.88	1262429	-4528	-1258	0	4.0	4.5	5.0	4.5	3.5	390	433	476	433	345	2077	191	122
18/01/2011 06:00	67.82	1255638	-6792	-1887	0	4.0	4.5	5.0	4.5	3.5	388	432	475	432	344	2071	184	116
18/01/2011 07:00	67.76	1248846	-6792	-1887	0	4.0	4.5	5.0	4.5	3.5	387	431	473	431	343	2064	200	131
18/01/2011 08:00	67.70	1242134	-6712	-1864	0	4.0	4.5	5.0	4.5	3.5	386	429	471	429	342	2058	198	129
18/01/2011 09:00	67.64	1235438	-6696	-1860	0	3.5	4.5	5.0	4.0	3.5	341	428	470	385	341	1964	1034	965
18/01/2011 10:00	67.61	1232091	-3346	-930	0	3.5	4.0	5.0	4.0	3.0	340	384	469	384	295	1872	322	253
18/01/2011 11:00	67.56	1226511	-5580	-1550	0	3.0	4.0	4.5	4.0	3.0	294	383	426	383	294	1780	540	471
18/01/2011 12:00	67.52	1222047	-4464	-1240	0	3.0	3.5	4.5	3.5	3.0	293	338	425	338	293	1688	457	389
18/01/2011 13:00	67.48	1217615	-4431	-1231	0	2.5	3.5	4.5	3.5	2.5	246	338	424	338	246	1592	370	301
18/01/2011 14:00	67.44	1213216	-4399	-1222	0	2.5	3.0	4.5	3.0	2.5	246	292	423	292	246	1499	0	0
18/01/2011 15:00	67.39	1207718	-5499	-1527	0	2.5	3.0	4.5	3.0	2.5	245	291	422	291	245	1495	0	0
18/01/2011 16:00	67.33	1201119	-6599	-1833	0	2.5	3.0	4.5	3.0	2.5	244	290	421	290	244	1490	879	810
18/01/2011 17:00	67.31	1198920	-2200	-611	0	2.5	3.0	4.5	3.0	2.5	244	290	420	290	244	1488	877	809

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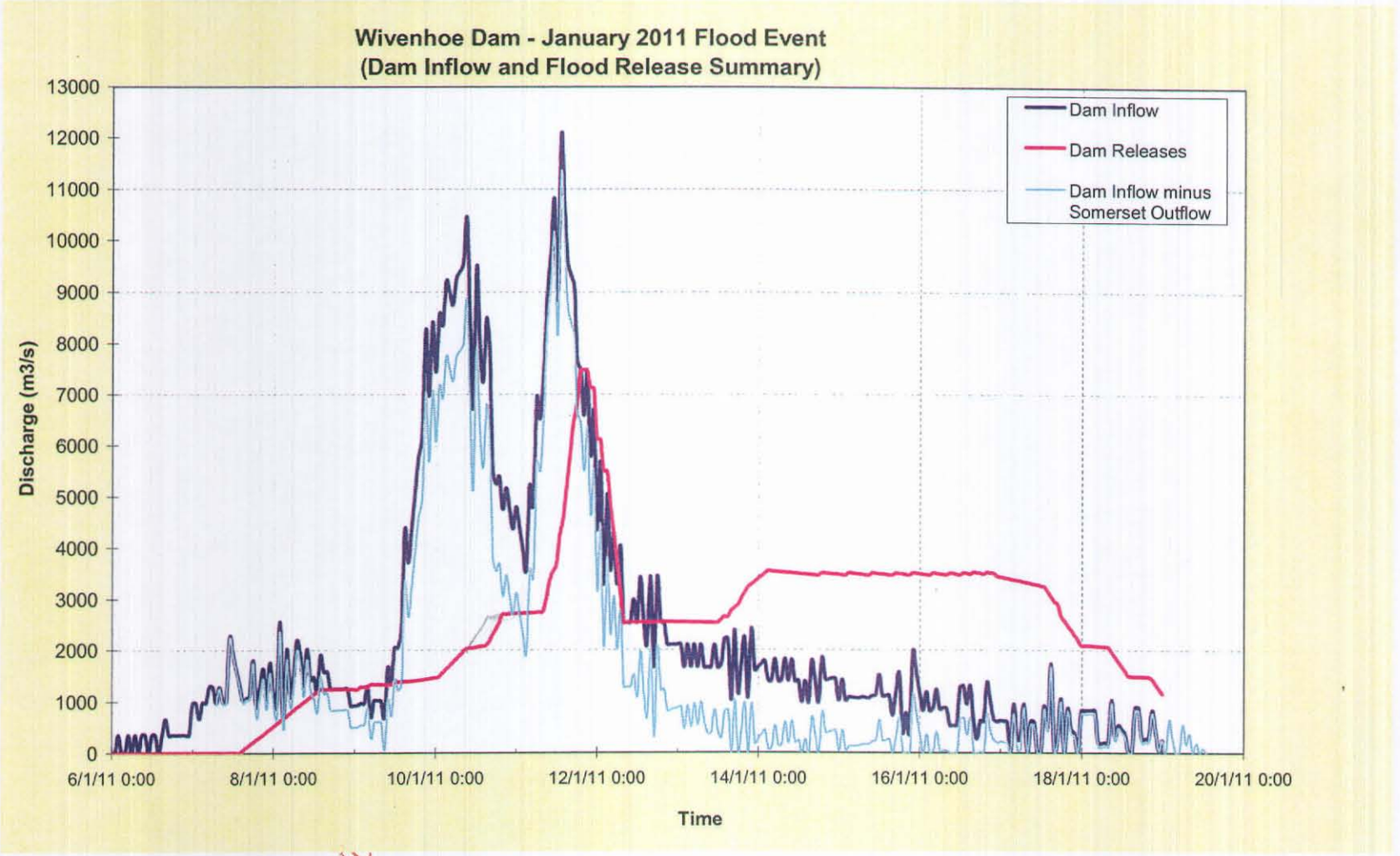
Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)			Radial Gates Settings					Radial Gate Discharges					Total Outflow	Gross Inflow	Gross Inflow minus Somerset Inflow
					Hydro	1	2	3	4	5	1	2	3	4	5			
	m AHD	ML	ML	m3/s	m3/s	m	m	m	m	m	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s	m3/s
18/01/2011 18:00	67.29	1196720	-2200	-611	0	2.5	3.0	4.5	3.0	2.5	244	290	420	290	244	1487	265	196
18/01/2011 19:00	67.25	1192321	-4399	-1222	0	2.5	3.0	4.5	3.0	2.5	243	289	419	289	243	1484	280	211
18/01/2011 20:00	67.21	1187988	-4333	-1204	0	2.5	3.0	4.5	3.0	2.5	243	288	418	288	243	1480	277	208
18/01/2011 21:00	67.17	1183654	-4333	-1204	0	2.5	3.0	4.5	2.5	2.5	242	288	417	242	242	1432	830	761
18/01/2011 22:00	67.15	1181488	-2167	-602	0	2.5	2.5	4.5	2.5	2.0	242	242	416	242	195	1338	435	435
18/01/2011 23:00	67.12	1178238	-3250	-903	0	2.0	2.5	4.5	2.5	1.5	195	242	416	242	147	1241	38	38
19/01/2011 00:00	67.08	1173905	-4333	-1204	0	1.5	2.5	4.0	2.5	1.5	147	241	373	241	147	1150	247	247
19/01/2011 01:00	67.05	1170655	-3250	-903	0	1.5	2.0	4.0	2.0	1.5	147	194	373	194	147	1055	0	0
19/01/2011 02:00	67.01	1166321	-4333	-1204	0	1.0	2.0	4.0	2.0	1.0	98	194	372	194	98	956	655	655
19/01/2011 03:00	67.00	1165238	-1083	-301	0	1.0	1.5	4.0	1.5	1.0	98	146	372	146	98	860	268	268
19/01/2011 04:00	66.98	1163105	-2133	-592	0	0.5	1.5	4.0	1.5	0.5	49	146	371	146	49	762	0	0
19/01/2011 05:00	66.95	1159906	-3199	-889	0	0.0	1.0	4.0	1.0	0.5	49	98	370	98	49	664	0	0
19/01/2011 06:00	66.92	1156707	-3199	-889	0	0.0	1.0	4.0	1.0	0.0	0	98	370	98	0	565	565	565
19/01/2011 07:00	66.92	1156707	0	0	0	0.0	0.5	4.0	0.5	0.0	0	49	370	49	0	468	171	171
19/01/2011 08:00	66.91	1155641	-1066	-296	0	0.0	0.5	3.5	0.0	0.0	0	49	327	0	0	376	376	376
19/01/2011 09:00	66.91	1155641	0	0	0	0.0	0.0	3.0	0.0	0.0	0	0	284	0	0	284	0	0
19/01/2011 10:00	66.90	1154575	-1066	-296	0	0.0	0.0	2.0	0.0	0.0	0	0	193	0	0	193	193	193
19/01/2011 11:00	66.90	1154575	0	0	0	0.0	0.0	1.0	0.0	0.0	0	0	98	0	0	98	0	0
19/01/2011 12:00	66.89	1153508	-1066	-296		0.0	0.0	1.0	0.0	0.0	0	0	97	0	0	97	97	97
19/01/2011 13:00	66.89	1153508	0	0		0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0

1 0300 12/1

2 2 2


Wivenhoe Dam - January 2011 Flood Event
(Dam Inflow and Flood Release Summary)
Discharge (m3/s)
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
6/1/11 0:00
8/1/11 0:00
10/1/11 0:00
12/1/11 0:00
14/1/11 0:00
16/1/11 0:00
18/1/11 0:00
20/1/11 0:00
Time
Dam Inflow
Dam Releases
Dam Inflow minus Somerset Outflow

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9.2 Somerset Dam

The following table provides full details of inflows into and releases from Somerset Dam over the duration of the event. Details of the strategies used in determining these releases and how these strategies comply with the Manual are contained Section 7 of this report. The table shows that the gate operation sequence used was in accordance with the Manual over the duration of the event.

Some points to note in relation to the table are:

- Inflow and flood release calculations are based on manual gauge board readings shown in the table that provide the lake level. During the event, these manual gauge board readings were normally provided by the dam operators to the Flood Operations Centre on an hourly basis. However, with prior approval from the Flood Operations Centre, during non-critical periods the operators occasionally would miss a reading to complete higher priority site activities. In these instances, the table value has been interpolated from the closest available actual readings.

- Inflow calculations are based on the rate of change of the storage and use the dam storage curve.

- Release calculations use the discharge rating formuleas contained in the Manual.

- The table shows inflow rates and releases on the hour through the event. In some instances, gate operations may have occurred between hours or at less than one hourly intervals. In these instances the table shows the actual gate openings as there were at the time indicated.

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Date/Time	Lake Level	Storage Volume	Net Inflow (Outflow Deducted)		Outflow				Total Outflow	Gross Inflow
	m AHD	ML	ML	m3/s	No. of Regulators Open	No. of Sluice Gates Open	No. of Crest Gates Open	Hydro	m3/s	m3/s
07/01/2011 07:00	99.60	405829	445	124	0.5	0	8	0	35	158
07/01/2011 08:00	99.63	407165	1336	371	0.5	0	8	0	35	406
07/01/2011 09:00	99.65	408056	891	247	0.5	0	8	0	35	282
07/01/2011 10:00	99.66	408501	445	124	0.5	0	8	0	35	158
07/01/2011 11:00	99.71	410728	2227	618	0.5	0	8	0	35	653
07/01/2011 12:00	99.76	412964	2237	621	0.5	0	8	0	35	656
07/01/2011 13:00	99.82	415697	2732	759	0.5	0	8	0	35	794
07/01/2011 14:00	99.88	418429	2732	759	0.5	0	8	0	35	794
07/01/2011 15:00	99.94	421162	2732	759	0.5	0	8	0	35	794
07/01/2011 16:00	100.01	424360	3198	888	0.5	0	8	0	35	923
07/01/2011 17:00	100.06	426690	2330	647	1.0	0	8	0	70	717
07/01/2011 18:00	100.11	429020	2330	647	1.0	0	8	0	70	717
07/01/2011 19:00	100.15	430885	1864	518	0.0	1	8	0	205	723
07/01/2011 20:00	100.17	431817	932	259	0.0	1	8	0	206	464
07/01/2011 21:00	100.21	433681	1864	518	0.0	1	8	0	206	724
07/01/2011 22:00	100.25	435545	1864	518	0.0	1	8	0	206	724
07/01/2011 23:00	100.28	436976	1431	398	0.0	1	8	0	206	604
08/01/2011 00:00	100.31	438408	1431	398	0.0	1	8	0	206	604
08/01/2011 01:00	100.34	439839	1431	398	0.0	1	8	0	206	604
08/01/2011 02:00	100.36	440794	954	265	0.0	1	8	0	206	471
08/01/2011 03:00	100.39	442225	1431	398	0.0	1	8	0	206	604
08/01/2011 04:00	100.41	443180	954	265	0.0	1	8	0	206	472
08/01/2011 05:00	100.42	443657	477	133	0.0	1	8	0	206	339
08/01/2011 06:00	100.43	444134	477	133	0.0	1	8	0	207	339
08/01/2011 07:00	100.44	444611	477	133	0.0	1	8	0	207	339
08/01/2011 08:00	100.46	445565	954	265	0.0	1	8	0	207	472
08/01/2011 09:00	100.46	445565	0	0	0.0	1	8	0	207	207
08/01/2011 10:00	100.46	445565	0	0	0.0	1	8	0	207	207
08/01/2011 11:00	100.45	445088	-477	-133	0.0	1	8	0	207	74
08/01/2011 12:00	100.45	445088	0	0	0.0	2	8	0	413	413
08/01/2011 13:00	100.45	445088	0	0	0.0	2	8	0	413	413
08/01/2011 14:00	100.44	444611	-477	-133	0.0	2	8	0	413	281
08/01/2011 15:00	100.43	444134	-477	-133	0.0	2	8	0	413	281
08/01/2011 16:00	100.41	443180	-954	-265	0.0	2	8	0	413	148

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08/01/2011 17:00	100.40	442702	-477	-133	0.0	2	8	0	413	280
08/01/2011 18:00	100.39	442225	-477	-133	0.0	2	8	0	413	280
08/01/2011 19:00	100.37	441271	-954	-265	0.0	2	8	0	413	148
08/01/2011 20:00	100.36	440794	-477	-133	0.0	2	8	0	413	280
08/01/2011 21:00	100.35	440317	-477	-133	0.0	2	8	0	412	280
08/01/2011 22:00	100.34	439839	-477	-133	0.0	2	8	0	412	280
08/01/2011 23:00	100.33	439362	-477	-133	0.0	2	8	0	412	280
09/01/2011 00:00	100.32	438885	-477	-133	0.0	2	8	0	412	280
09/01/2011 01:00	100.32	438885	0	0	0.0	2	8	0	412	412
09/01/2011 02:00	100.31	438408	-477	-133	0.0	2	8	0	412	280
09/01/2011 03:00	100.30	437931	-477	-133	0.0	2	8	0	412	280
09/01/2011 04:00	100.28	436976	-954	-265	0.0	2	8	0	412	147
09/01/2011 05:00	100.28	436976	0	0	0.0	2	8	0	412	412
09/01/2011 06:00	100.27	436499	-477	-133	0.0	2	8	0	412	279
09/01/2011 07:00	100.27	436499	0	0	0.0	2	8	0	412	412
09/01/2011 08:00	100.28	436976	477	133	0.0	2	8	0	412	544
09/01/2011 09:00	100.28	436976	0	0	0.0	3	8	0	618	618
09/01/2011 10:00	100.31	438408	1431	398	0.0	3	8	0	618	1016
09/01/2011 11:00	100.34	439839	1431	398	0.0	3	8	0	619	1016
09/01/2011 12:00	100.39	442225	2386	663	0.0	3	8	0	619	1282
09/01/2011 13:00	100.43	444134	1909	530	0.0	4	8	0	826	1356
09/01/2011 14:00	100.47	446043	1909	530	0.0	5	8	0	1034	1564
09/01/2011 15:00	100.57	450891	4848	1347	0.0	5	8	0	1038	2385
09/01/2011 16:00	100.75	459677	8786	2441	0.0	5	8	0	1052	3492
09/01/2011 17:00	101.14	479305	19628	5452	0.0	5	8	0	1098	**6551**
09/01/2011 18:00	101.29	487007	7702	2139	0.0	5	8	0	1121	3261
09/01/2011 19:00	101.43	494310	7304	2029	0.0	5	8	0	1145	3174
09/01/2011 20:00	101.68	507564	13254	3682	0.0	5	8	0	1193	4875
09/01/2011 21:00	101.89	518935	11371	3159	0.0	5	8	0	1238	4396
09/01/2011 22:00	102.06	528282	9347	2596	0.0	5	8	0	1277	3874
09/01/2011 23:00	102.22	537207	8925	2479	0.0	5	8	0	1317	3796
10/01/2011 00:00	102.38	546296	9088	2524	0.0	5	8	0	1359	3883
10/01/2011 01:00	102.54	555472	9176	2549	0.0	5	8	0	1403	3952
10/01/2011 02:00	102.62	560135	4663	1295	0.0	5	8	0	1426	2721
10/01/2011 03:00	102.70	564798	4663	1295	0.0	5	8	0	1449	2745
10/01/2011 04:00	102.78	569498	4699	1305	0.0	5	8	0	1473	2778
10/01/2011 05:00	102.84	573067	3569	991	0.0	5	8	0	1491	2483
10/01/2011 06:00	102.93	578421	5354	1487	0.0	5	8	0	1519	3006
10/01/2011 07:00	102.98	581395	2974	826	0.0	5	8	0	1535	2361
10/01/2011 08:00	103.02	583798	2403	667	0.0	5	8	0	1548	2215
10/01/2011 09:00	103.08	587437	3639	1011	0.0	5	8	0	1567	2578
10/01/2011 10:00	103.11	589257	1820	505	0.0	5	8	0	1577	2082
10/01/2011 11:00	103.16	592289	3033	842	0.0	5	8	0	1593	2436

doesn't correlate with WL

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10/01/2011 12:00	103.26	598367	6077	1688	0.0	5	8	0	1627	3315
10/01/2011 13:00	103.36	604553	6187	1719	0.0	5	8	0	1661	3380
10/01/2011 14:00	103.39	606410	1856	516	0.0	5	8	0	1672	2187
10/01/2011 15:00	103.43	608884	2475	687	0.0	5	8	0	1686	2373
10/01/2011 16:00	103.45	610122	1237	344	0.0	5	8	0	**1693**	2037
10/01/2011 17:00	103.45	610122	0	0	0.0	5	8	0	1693	1693
10/01/2011 18:00	103.45	610122	0	0	0.0	5	8	0	1693	1693
10/01/2011 19:00	103.45	610122	0	0	0.0	5	8	0	1693	1693
10/01/2011 20:00	103.45	610122	0	0	0.0	5	8	0	1693	1693
10/01/2011 21:00	103.44	609503	-619	-172	0.0	5	8	0	1689	1517
10/01/2011 22:00	103.40	607028	-2475	-687	0.0	5	8	0	1675	988
10/01/2011 23:00	103.39	606410	-619	-172	0.0	5	8	0	1672	1500
11/01/2011 00:00	103.37	605172	-1237	-344	0.0	5	8	0	1665	1321
11/01/2011 01:00	103.36	604553	-619	-172	0.0	5	8	0	1661	1489
11/01/2011 02:00	103.31	601460	-3093	-859	0.0	5	8	0	1644	785
11/01/2011 03:00	103.27	598985	-2475	-687	0.0	5	8	0	1630	943
11/01/2011 04:00	103.23	596535	-2450	-681	0.0	5	8	0	1617	936
11/01/2011 05:00	103.28	599604	3069	853	0.0	4	8	0	1417	2269
11/01/2011 06:00	103.34	603316	3712	1031	0.0	3	8	0	1220	2251
11/01/2011 07:00	103.40	607028	3712	1031	0.0	2	8	0	1023	2054
11/01/2011 08:00	103.46	610740	3712	1031	0.0	1	8	0	826	1857
11/01/2011 09:00	103.50	613215	2475	687	0.0	0	8	0	622	1309
11/01/2011 10:00	103.54	615741	2526	702	0.0	0	8	0	636	1337
11/01/2011 11:00	103.61	620161	4420	1228	0.0	0	8	0	660	1888
11/01/2011 12:00	103.68	624582	4420	1228	0.0	0	8	0	684	1912
11/01/2011 13:00	103.83	634158	9576	2660	0.0	0	8	0	738	3398
11/01/2011 14:00	103.96	642535	8378	2327	0.0	0	8	0	786	3113
11/01/2011 15:00	104.12	652997	10462	2906	0.0	0	8	0	846	3753
11/01/2011 16:00	104.31	665556	12558	3488	0.0	0	8	0	921	**4409**
11/01/2011 17:00	104.41	672250	6694	1860	0.0	0	8	0	961	2820
11/01/2011 18:00	104.51	678957	6707	1863	0.0	0	8	0	1001	2864
11/01/2011 19:00	104.60	685093	6136	1704	0.0	0	8	0	1039	2743
11/01/2011 20:00	104.70	691910	6818	1894	0.0	0	8	0	1081	2974
11/01/2011 21:00	104.78	697401	5491	1525	0.0	0	8	0	1115	2640
11/01/2011 22:00	104.85	702259	4858	1349	0.0	0	8	0	1145	2494
11/01/2011 23:00	104.90	705729	3470	964	0.0	0	8	0	1167	2130
12/01/2011 00:00	104.98	711281	5552	1542	0.0	0	8	0	1202	2744
12/01/2011 01:00	105.00	712669	1388	386	0.0	0	8	0	1211	1596
12/01/2011 02:00	105.04	715493	2824	785	0.0	0	8	0	1228	2013
12/01/2011 03:00	105.07	717612	2118	588	0.0	0	8	0	1242	1830
12/01/2011 04:00	105.09	719024	1412	392	0.0	0	8	0	1251	1643
12/01/2011 05:00	105.10	719730	706	196	0.0	0	8	0	1255	1451
12/01/2011 06:00	**105.11**	720436	706	196	0.0	0	8	0	1260	1456

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12/01/2011 07:00	105.11	720436	0	0	0.0	0	8	0	1260	1260
12/01/2011 08:00	105.11	720436	0	0	0.0	0	8	0	1260	1260
12/01/2011 09:00	105.10	719730	-706	-196	0.0	0	8	0	1255	1059
12/01/2011 10:00	105.09	719024	-706	-196	0.0	0	8	0	1251	1055
12/01/2011 11:00	105.06	716906	-2118	-588	0.0	1	8	0	**1461**	872
12/01/2011 12:00	105.05	716200	-706	-196	0.0	1	8	0	1456	1260
12/01/2011 13:00	105.01	713375	-2824	-785	0.0	1	8	0	1438	653
12/01/2011 14:00	104.96	709893	-3482	-967	0.0	1	8	0	1416	449
12/01/2011 15:00	104.92	707117	-2776	-771	0.0	1	8	0	1398	627
12/01/2011 16:00	104.88	704341	-2776	-771	0.0	1	8	0	1380	609
12/01/2011 17:00	104.83	700871	-3470	-964	0.0	1	8	0	1359	395
12/01/2011 18:00	104.79	698095	-2776	-771	0.0	1	8	0	1341	570
12/01/2011 19:00	104.74	694637	-3458	-960	0.0	1	8	0	1320	359
12/01/2011 20:00	104.70	691910	-2727	-758	0.0	1	8	0	1303	545
12/01/2011 21:00	104.66	689183	-2727	-758	0.0	1	8	0	1286	528
12/01/2011 22:00	104.61	685774	-3409	-947	0.0	1	8	0	1264	318
12/01/2011 23:00	104.57	683047	-2727	-758	0.0	1	8	0	1248	490
13/01/2011 00:00	104.53	680320	-2727	-758	0.0	1	8	0	1231	473
13/01/2011 01:00	104.48	676936	-3384	-940	0.0	1	8	0	1210	270
13/01/2011 02:00	104.44	674258	-2678	-744	0.0	1	8	0	1194	450
13/01/2011 03:00	104.40	671581	-2678	-744	0.0	1	8	0	1177	434
13/01/2011 04:00	104.35	668233	-3347	-930	0.0	1	8	0	1157	227
13/01/2011 05:00	104.31	665556	-2678	-744	0.0	1	8	0	1141	397
13/01/2011 06:00	104.26	662208	-3347	-930	0.0	1	8	0	1121	191
13/01/2011 07:00	104.22	659568	-2641	-733	0.0	1	8	0	1105	372
13/01/2011 08:00	104.18	656940	-2628	-730	0.0	1	8	0	1090	360
13/01/2011 09:00	104.13	653655	-3285	-913	0.0	2	8	0	1290	378
13/01/2011 10:00	104.09	651026	-2628	-730	0.0	2	8	0	1275	544
13/01/2011 11:00	104.03	647084	-3942	-1095	0.0	2	8	0	1251	156
13/01/2011 12:00	103.96	642535	-4549	-1264	0.0	2	8	0	1225	0
13/01/2011 13:00	103.91	639313	-3222	-895	0.0	3	8	0	1425	530
13/01/2011 14:00	103.86	636091	-3222	-895	0.0	3	8	0	1406	511
13/01/2011 15:00	103.79	631580	-4511	-1253	0.0	3	8	0	1380	127
13/01/2011 16:00	103.72	627108	-4472	-1242	0.0	3	8	0	1354	112
13/01/2011 17:00	103.66	623319	-3789	-1052	0.0	3	8	0	1332	280
13/01/2011 18:00	103.60	619530	-3789	-1052	0.0	3	8	0	1311	258
13/01/2011 19:00	103.53	615109	-4420	-1228	0.0	3	8	0	1286	58
13/01/2011 20:00	103.47	611359	-3750	-1042	0.0	3	8	0	1265	223
13/01/2011 21:00	103.40	607028	-4331	-1203	0.0	4	8	0	1458	255
13/01/2011 22:00	103.36	604553	-2475	-687	0.0	4	8	0	1444	757
13/01/2011 23:00	103.28	599604	-4949	-1375	0.0	4	8	0	1417	42
14/01/2011 00:00	103.20	594715	-4889	-1358	0.0	4	8	0	1390	32
14/01/2011 01:00	103.13	590470	-4246	-1179	0.0	4	8	0	1367	188

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14/01/2011 02:00	103.06	586224	-4246	-1179	0.0	4	8	0	1344	165
14/01/2011 03:00	102.99	581990	-4234	-1176	0.0	4	8	0	1322	146
14/01/2011 04:00	102.93	578421	-3569	-991	0.0	4	8	0	1303	312
14/01/2011 05:00	102.87	574852	-3569	-991	0.0	4	8	0	1285	294
14/01/2011 06:00	102.79	570093	-4759	-1322	0.0	4	8	0	1261	0
14/01/2011 07:00	102.73	566547	-3545	-985	0.0	4	8	0	1243	258
14/01/2011 08:00	102.67	563050	-3498	-972	0.0	4	8	0	1226	254
14/01/2011 09:00	102.61	559552	-3498	-972	0.0	4	8	0	1208	237
14/01/2011 10:00	102.54	555472	-4080	-1133	0.0	4	8	0	1189	55
14/01/2011 11:00	102.48	551999	-3472	-965	0.0	4	8	0	1172	208
14/01/2011 12:00	102.42	548577	-3422	-951	0.0	4	8	0	1156	205
14/01/2011 13:00	102.36	545155	-3422	-951	0.0	4	8	0	1140	189
14/01/2011 14:00	102.30	541733	-3422	-951	0.0	4	8	0	1124	174
14/01/2011 15:00	102.24	538323	-3410	-947	0.0	4	8	0	1109	162
14/01/2011 16:00	102.17	534418	-3905	-1085	0.0	4	8	0	1091	7
14/01/2011 17:00	102.12	531629	-2789	-775	0.0	4	8	0	1079	304
14/01/2011 18:00	102.05	527724	-3905	-1085	0.0	4	8	0	1062	0
14/01/2011 19:00	101.99	524390	-3335	-926	0.0	4	8	0	1049	122
14/01/2011 20:00	101.93	521117	-3273	-909	0.0	4	8	0	1035	126
14/01/2011 21:00	101.87	517844	-3273	-909	0.0	4	8	0	1022	112
14/01/2011 22:00	101.82	515116	-2727	-758	0.0	4	8	0	1011	253
14/01/2011 23:00	101.76	511843	-3273	-909	0.0	4	8	0	998	89
15/01/2011 00:00	101.70	508631	-3213	-892	0.0	4	8	0	986	93
15/01/2011 01:00	101.64	505430	-3201	-889	0.0	4	8	0	974	85
15/01/2011 02:00	101.58	502230	-3201	-889	0.0	4	8	0	962	73
15/01/2011 03:00	101.53	499562	-2667	-741	0.0	4	8	0	953	212
15/01/2011 04:00	101.46	495875	-3687	-1024	0.0	4	8	0	940	0
15/01/2011 05:00	101.42	493789	-2087	-580	0.0	4	8	0	933	354
15/01/2011 06:00	101.35	490137	-3652	-1014	0.0	4	8	0	921	0
15/01/2011 07:00	101.29	487007	-3130	-869	0.0	4	8	0	912	42
15/01/2011 08:00	101.24	484410	-2597	-721	0.0	4	8	0	904	182
15/01/2011 09:00	101.18	481347	-3063	-851	0.0	4	8	0	895	44
15/01/2011 10:00	101.12	478284	-3063	-851	0.0	4	8	0	886	36
15/01/2011 11:00	101.07	475732	-2552	-709	0.0	4	8	0	879	171
15/01/2011 12:00	101.02	473180	-2552	-709	0.0	4	8	0	873	164
15/01/2011 13:00	100.97	470661	-2519	-700	0.0	4	8	0	867	167
15/01/2011 14:00	100.91	467665	-2996	-832	0.0	4	8	0	860	28
15/01/2011 15:00	100.86	465169	-2496	-693	0.0	4	8	0	855	161
15/01/2011 16:00	100.81	462673	-2496	-693	0.0	4	8	0	850	156
15/01/2011 17:00	100.75	459677	-2996	-832	0.0	4	8	0	844	12
15/01/2011 18:00	100.69	456748	-2929	-814	0.0	4	8	0	839	26
15/01/2011 19:00	100.65	454796	-1952	-542	0.0	4	8	0	836	294
15/01/2011 20:00	100.58	451379	-3417	-949	0.0	4	8	0	832	0

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15/01/2011 21:00	100.53	448938	-2441	-678	0.0	4	8	0	829	151
15/01/2011 22:00	100.47	446043	-2896	-804	0.0	4	8	0	827	22
15/01/2011 23:00	100.47	446043	0	0	0.0	4	8	0	827	827
16/01/2011 00:00	100.36	440794	-5249	-1458	0.0	4	8	0	825	0
16/01/2011 01:00	100.30	437931	-2863	-795	0.0	4	8	0	824	29
16/01/2011 02:00	100.24	435079	-2852	-792	0.0	4	8	0	823	31
16/01/2011 03:00	100.18	432283	-2796	-777	0.0	4	8	0	822	46
16/01/2011 04:00	100.13	429953	-2330	-647	0.0	4	8	0	822	174
16/01/2011 05:00	100.08	427622	-2330	-647	0.0	4	8	0	821	174
16/01/2011 06:00	100.01	424360	-3262	-906	0.0	4	8	0	820	0
16/01/2011 07:00	99.96	422072	-2288	-635	0.0	4	8	0	819	184
16/01/2011 08:00	99.90	419340	-2732	-759	0.0	4	8	0	818	59
16/01/2011 09:00	99.84	416608	-2732	-759	0.0	4	8	0	817	58
16/01/2011 10:00	99.78	413875	-2732	-759	0.0	3	8	0	612	0
16/01/2011 11:00	99.73	411618	-2257	-627	0.0	3	8	0	612	0
16/01/2011 12:00	99.69	409837	-1781	-495	0.0	3	8	0	611	116
16/01/2011 13:00	99.65	408056	-1781	-495	0.0	3	8	0	611	116
16/01/2011 14:00	99.60	405829	-2227	-618	0.0	3	8	0	610	0
16/01/2011 15:00	99.56	404048	-1781	-495	0.0	3	8	0	610	115
16/01/2011 16:00	99.51	401821	-2227	-618	0.0	3	8	0	609	0
16/01/2011 17:00	99.47	400070	-1752	-487	0.0	3	8	0	609	122
16/01/2011 18:00	99.43	398328	-1742	-484	0.0	3	8	0	608	124
16/01/2011 19:00	99.38	396151	-2177	-605	0.0	3	8	0	608	3
16/01/2011 20:00	99.34	394410	-1742	-484	0.0	3	8	0	607	123
16/01/2011 21:00	99.30	392668	-1742	-484	0.0	3	8	0	607	123
16/01/2011 22:00	99.25	390491	-2177	-605	0.0	2	8	0	404	0
16/01/2011 23:00	99.22	389214	-1277	-355	0.0	2	8	0	404	49
17/01/2011 00:00	99.19	387937	-1277	-355	0.0	2	8	0	404	49
17/01/2011 01:00	99.17	387086	-851	-236	0.0	2	8	0	403	167
17/01/2011 02:00	99.14	385809	-1277	-355	0.0	2	8	0	403	49
17/01/2011 03:00	99.11	384531	-1277	-355	0.0	1	8	0	202	0
17/01/2011 04:00	99.08	383254	-1277	-355	0.0	1	8	0	201	0
17/01/2011 05:00	99.08	383254	0	0	0.0	1	8	0	201	201
17/01/2011 06:00	99.06	382403	-851	-236	0.0	1	8	0	201	0
17/01/2011 07:00	99.07	382829	426	118	1.0	0	8	0	69	187
17/01/2011 08:00	99.06	382403	-426	-118	1.0	0	8	0	69	0
17/01/2011 09:00	99.05	381977	-426	-118	1.0	0	8	0	69	0
17/01/2011 10:00	99.05	381977	0	0	1.0	0	8	0	69	69
17/01/2011 11:00	99.04	381552	-426	-118	1.0	0	8	0	69	0
17/01/2011 12:00	99.04	381552	0	0	1.0	0	8	0	69	69
17/01/2011 13:00	99.04	381552	0	0	1.0	0	8	0	69	69
17/01/2011 14:00	99.04	381552	0	0	1.0	0	8	0	69	69
17/01/2011 15:00	99.03	381126	-426	-118	1.0	0	8	0	69	0

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17/01/2011 16:00	99.02	380700	-426	-118	1.0	0	8	0	69	0
17/01/2011 17:00	99.02	380700	0	0	1.0	0	8	0	69	69
17/01/2011 18:00	99.01	380275	-426	-118	1.0	0	8	0	69	0
17/01/2011 19:00	99.01	380275	0	0	1.0	0	8	0	69	69
17/01/2011 20:00	99.01	380275	0	0	1.0	0	8	0	69	69
17/01/2011 21:00	99.01	380275	0	0	1.0	0	8	0	69	69
17/01/2011 22:00	99.00	379849	-426	-118	1.0	0	8	0	69	0
17/01/2011 23:00	99.00	379849	0	0	1.0	0	8	0	69	69
18/01/2011 00:00	99.00	379849	0	0	1.0	0	8	0	69	69
18/01/2011 01:00	99.00	379849	0	0	1.0	0	8	0	69	69
18/01/2011 02:00	98.99	379432	-417	-116	1.0	0	8	0	69	0
18/01/2011 03:00	98.99	379432	0	0	1.0	0	8	0	69	69
18/01/2011 04:00	98.99	379432	0	0	1.0	0	8	0	69	69
18/01/2011 05:00	98.98	379016	-417	-116	1.0	0	8	0	69	0
18/01/2011 06:00	98.98	379016	0	0	1.0	0	8	0	69	69
18/01/2011 07:00	98.98	379016	0	0	1.0	0	8	0	69	69
18/01/2011 08:00	98.98	379016	0	0	1.0	0	8	0	69	69
18/01/2011 09:00	98.97	378599	-417	-116	1.0	0	8	0	69	0
18/01/2011 10:00	98.97	378599	0	0	1.0	0	8	0	69	69
18/01/2011 11:00	98.97	378599	0	0	1.0	0	8	0	69	69
18/01/2011 12:00	98.96	378182	-417	-116	1.0	0	8	0	69	0
18/01/2011 13:00	98.96	378182	0	0	1.0	0	8	0	69	69
18/01/2011 14:00	98.96	378182	0	0	1.0	0	8	0	69	69
18/01/2011 15:00	98.95	377766	-417	-116	1.0	0	8	0	69	0
18/01/2011 16:00	98.95	377766	0	0	1.0	0	8	0	69	69
18/01/2011 17:00	98.95	377766	0	0	1.0	0	8	0	69	69
18/01/2011 18:00	98.95	377766	0	0	1.0	0	8	0	69	69
18/01/2011 19:00	98.95	377766	0	0	1.0	0	8	0	69	69
18/01/2011 20:00	98.95	377766	0	0	1.0	0	8	0	69	69
18/01/2011 21:00	98.95	377766	0	0	1.0	0	8	0	69	69
18/01/2011 22:00	98.96	378182	417	116	0.0	0	8	0	0	116
18/01/2011 23:00	98.96	378182	0	0	0.0	0	8	0	0	0
19/01/2011 00:00	98.97	378599	417	116	0.0	0	8	0	0	116
19/01/2011 01:00	98.97	378599	0	0	0.0	0	8	0	0	0
19/01/2011 02:00	98.98	379016	417	116	0.0	0	8	0	0	116
19/01/2011 03:00	98.98	379016	0	0	0.0	0	8	0	0	0
19/01/2011 04:00	98.99	379432	417	116	0.0	0	8	0	0	116
19/01/2011 05:00	98.99	379432	0	0	0.0	0	8	0	0	0
19/01/2011 06:00	99.00	379849	417	116	0.0	0	8	0	0	116
19/01/2011 07:00	99.00	379849	0	0	0.0	0	8	0	0	0
19/01/2011 08:00	99.00	379849	0	0	0.0	0	8	0	0	0
19/01/2011 09:00	99.01	380275	426	118	0.0	0	8	0	0	118
19/01/2011 10:00	99.01	380275	0	0	0.0	0	8	0	0	0

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19/01/2011 11:00	99.01	380275	0	0	0.0	0	8	0	0	0
19/01/2011 12:00	99.02	380700	426	118	0.0	0	8	0	0	118
19/01/2011 13:00	99.02	380700	0	0	0.0	0	8	0	0	0

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10. FLOOD MANAGEMENT STRATEGIES AND MANUAL COMPLIANCE

10.1 Wivenhoe Dam Flood Mitigation Strategies

Wivenhoe Dam is capable of being operated in a number of ways to reduce flooding in the Brisbane River downstream of the dam, depending on the origin, magnitude and spatial extent of the flood. Maximum overall flood mitigation effect will be achieved by operating Wivenhoe Dam in conjunction with Somerset Dam.

There are four strategies (W1 to W4) used when operating Wivenhoe Dam during a flood event. These strategies are based on the Flood Objectives of the Manual. These objectives, listed in descending order of importance, are as follows:

- Ensure the structural safety of the dams;
- Provide optimum protection of urbanised areas from inundation;
- Minimise disruption to rural life in the valleys of the Brisbane and Stanley Rivers;
- Retain the storage at Full Supply Level at the conclusion of the Flood Event.
- Minimise impacts to riparian flora and fauna during the drain down phase of the Flood Event.

Within any strategy, consideration is always given to these objectives in this order, when making decisions on dam releases.

The strategy chosen at any point in time will depend on the actual levels in the dams and the following predictions, which are to be made using the best forecast rainfall and stream flow information available at the time:

- Maximum storage levels in Wivenhoe and Somerset Dams.
- Peak flow rate at the Lowood Gauge (excluding Wivenhoe Dam releases).
- Peak flow rate at the Moggill Gauge (excluding Wivenhoe Dam releases).

Strategies change during a flood event as forecasts change and rain is received in the catchments. It is not possible to predict the range of strategies that will be used during the course of a flood event at the commencement of the event. Strategies are changed in response to changing rainfall forecasts and stream flow conditions to maximise the flood mitigation benefits of the dams.

When determining dam outflows within all strategies, peak outflow should generally not exceed peak inflow. A flowchart showing how best to select the appropriate strategy to use at any point in time is shown below:

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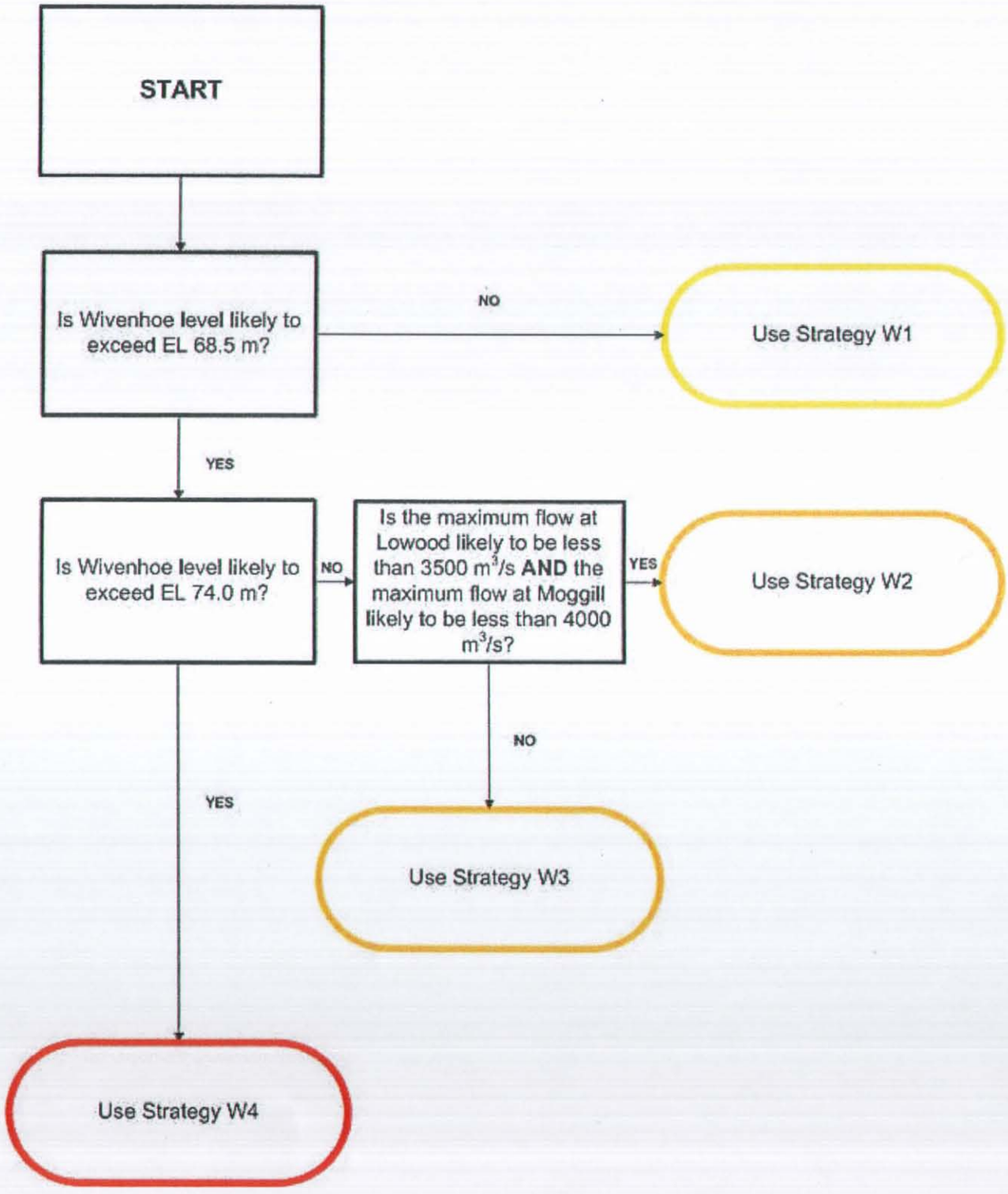
WIVENHOE FLOOD STRATEGY FLOW CHART



Summary details of the four strategies (W1 to W4) used when operating Wivenhoe Dam during a flood event are contained below:

Strategy W1 - The Primary Consideration is Minimising Disruption to Downstream Rural Life

Conditions	• **Wivenhoe Storage Level predicted to be less than 68.50 m AHD** • **Maximum release predicted to be less than 1,900 m^3/s** • **The primary consideration is minimising disruption to downstream rural life**

The intent of Strategy W1 is to not to submerge the seven bridges between the dam and Moggill prematurely. The limiting condition for Strategy W1 is the submergence of Mt Crosby Weir Bridge that occurs at approximately 1,900 m^3/s.

This strategy require a great deal of control over releases and knowledge of discharges from Lockyer Creek. In general, the releases from Wivenhoe Dam are controlled such that the combined flow from Lockyer Creek and Wivenhoe Dam is less than the limiting values to delay the submergence of a particular bridge.

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Strategy W2 - Strategy W2 is a Transition Strategy where the primary consideration changes from Minimising Impact to Downstream Rural Life to Protecting Urban Areas from Inundation.

Conditions	• **Wivenhoe Storage Level predicted to be between 68.50 and 74.00 m AHD** • **Maximum Release predicted to be less than 3,500 m^3/s** • **This is a transition strategy in which the primary consideration changes from minimising disruption to downstream rural life to protecting urban areas from inundation** • **Lower level objectives are still considered when making decisions on water releases. Objectives are always considered in order of importance**

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The intent of Strategy W2 is limit the flow in the Brisbane River to less than the naturally occurring peaks at Lowood and Moggill, while remaining within the upper limit of non-damaging floods at Lowood (3,500 m^3/s).

Strategy W3 – The primary consideration is Protecting Urban Areas from Inundation

Conditions	• **Wivenhoe Storage Level predicted to be between 68.50 and 74.00 m AHD** • **Maximum Release should not exceed 4,000 m^3/s** • **The primary consideration is protecting urban areas from inundation** • **Lower level objectives are still considered when making decisions on water releases. Objectives are always considered in order of importance**

The intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s, noting that 4000 m^3/s at Moggill is the upper limit of non-damaging floods downstream. The combined peak river flow targets for Strategy W3 are shown in the following table. In relation to these targets, it should be noted that depending on natural flows from the Lockyer and Bremer catchments, it may not be possible to limit the flow at Moggill to below 4000 m^3/s. In these instances, the flow at Moggill is to be kept as low as possible.

TIMING	TARGET MAXIMUM FLOW IN THE BRISBANE RIVER
Prior to the naturally occurring peak at Moggill (excluding Wivenhoe Dam releases).	The flow at Moggill is to be minimised.
After the naturally occurring peak at Moggill (excluding Wivenhoe Dam releases).	The flow at Moggill is to be lowered to 4,000m^3/s as soon as possible.

Strategy W4 – The primary consideration is Protecting the Structural Safety of the Dam

Conditions	• **Wivenhoe Storage Level predicted to exceed 74.00m AHD.** • **No limit on Maximum Release rate** • **The primary consideration is protecting the structural safety of the dam** • **Lower level objectives are still considered when making decisions on water releases. Objectives are always considered in order of importance**

The intent of Strategy W4 is to ensure the safety of the dam while limiting downstream impacts as much as possible. This strategy normally comes into effect when the water level in Wivenhoe Dam reaches 74.0 m AHD. However the Senior Flood Operations

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Engineer may seek to invoke the discretionary powers of Section 2.8 if earlier commencement is able to prevent triggering of a fuse plug.

Under Strategy W4 the release rate is increased as the safety of the dam becomes the priority. Opening of the gates is to occur generally, until the storage level of Wivenhoe Dam begins to fall.

There are no restrictions on gate opening increments or gate operating frequency once the storage level exceeds 74.0 AHD, as the safety of the dam is of primary concern at these storage levels.

10.2 Somerset Dam Flood Mitigation Strategies

Somerset Dam is capable of being operated in a number of ways to regulate Stanley River floods. Somerset Dam and Wivenhoe Dam are to be operated in conjunction to optimise the flood mitigation benefits downstream of Wivenhoe Dam. Once a Flood Event is declared, all radial gates are to be fully opened and all sluice gates and regulator valves are to be fully closed. An assessment is to be made of the magnitude of the Flood Event, including a prediction of the maximum storage levels in Wivenhoe and Somerset Dams.

There are three strategies used when operating Somerset Dam during a flood event. These strategies are based on the objectives of the Manual. The strategy chosen at any point in time will depend on predictions of the maximum storage levels in Wivenhoe and Somerset Dams which are to be made using the best forecast rainfall and stream flow information available at the time.

Strategies are likely to change during a flood event as forecasts change and rain is received in the catchments. It is not possible to predict the range of strategies that will be used during the course of a flood event at the commencement of the event. Strategies are changed in response to changing rainfall forecasts and stream flow conditions to maximise the flood mitigation benefits of the dams.

A flowchart showing how best to select the appropriate strategy to use at any point in time is shown below.

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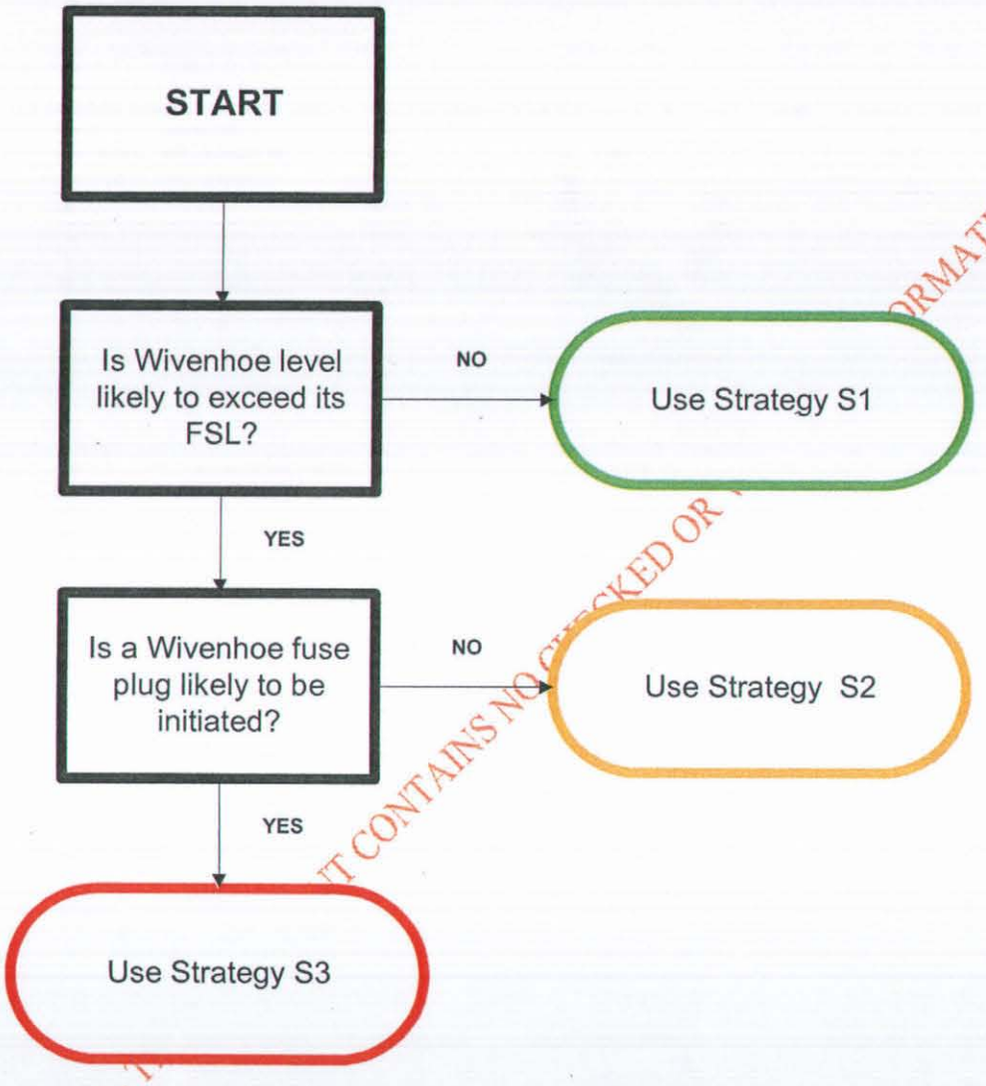
SOMERSET FLOOD STRATEGY FLOW CHART



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Summary details of the three strategies (S1 to S3) used when operating Somerset Dam during a flood event are contained below:

Strategy S1 – Minimising Impact on Rural Life Upstream

Conditions	• **Somerset Dam Level expected to exceed EL 99.0 and Wivenhoe Dam not expected to reach EL 67.0 (FSL) during the course of the Flood Event**

The intent of this strategy is to return the dam to full supply level while minimising the impact on rural life upstream of the dam. Consideration is also given to minimising the downstream environmental impacts from the release.

The crest gates at Somerset Dam are raised to enable uncontrolled discharge. The Regulator Valves and Sluice gates are to be used to maintain the level in Somerset dam below EL 102.0 (deck level of Mary Smokes Bridge). The release rate from Somerset dam is not to exceed the peak inflow into the dam.

Strategy S2 – Minimise Impacts below Wivenhoe Dam

Conditions	• **Somerset Dam Level expected to exceed EL 99.0 and Wivenhoe Dam level expected to exceed EL 67.0 (FSL) but not exceed EL 75.5 (fuse plug initiation) during the course of the Flood Event.**

The intent of this strategy is to maximise the benefits of the flood storage capabilities of the dam while protecting the structural safety of both dams. The table below contains the operating conditions and actions for Strategy S2.

CONDITION	ACTION
Wivenhoe rising and Somerset level below EL 100.45.	The crest gates are raised to enable uncontrolled discharge. The low level regulators and sluices are generally kept closed.
Wivenhoe rising and Somerset level above EL 100.45.	The crest gates are raised to enable uncontrolled discharge. Operations are to target a correlation of water levels in Somerset Dam and Wivenhoe Dam as set out in the graph below. The operations target line shown on this graph is to generally be followed as the flood event progresses. The release rate from Somerset Dam is generally not to exceed the peak inflow into the dam.
Wivenhoe falling and Somerset level above EL 100.45.	The opening of the regulators and sluices generally should not cause Wivenhoe Dam to rise significantly. The release rate from Somerset Dam is generally not to exceed the peak inflow into the dam.
The Flood Event has emanated mainly from the Stanley River catchment without significant runoff in the Upper Brisbane River catchment	The crest gates at Somerset Dam are raised to enable uncontrolled discharge. The Regulator Valves and Sluice gates are to be used to maintain the level in Somerset dam below EL 102.0 (deck level of Mary Smokes Bridge). The release rate from Somerset Dam is generally not to exceed the peak inflow into the dam.

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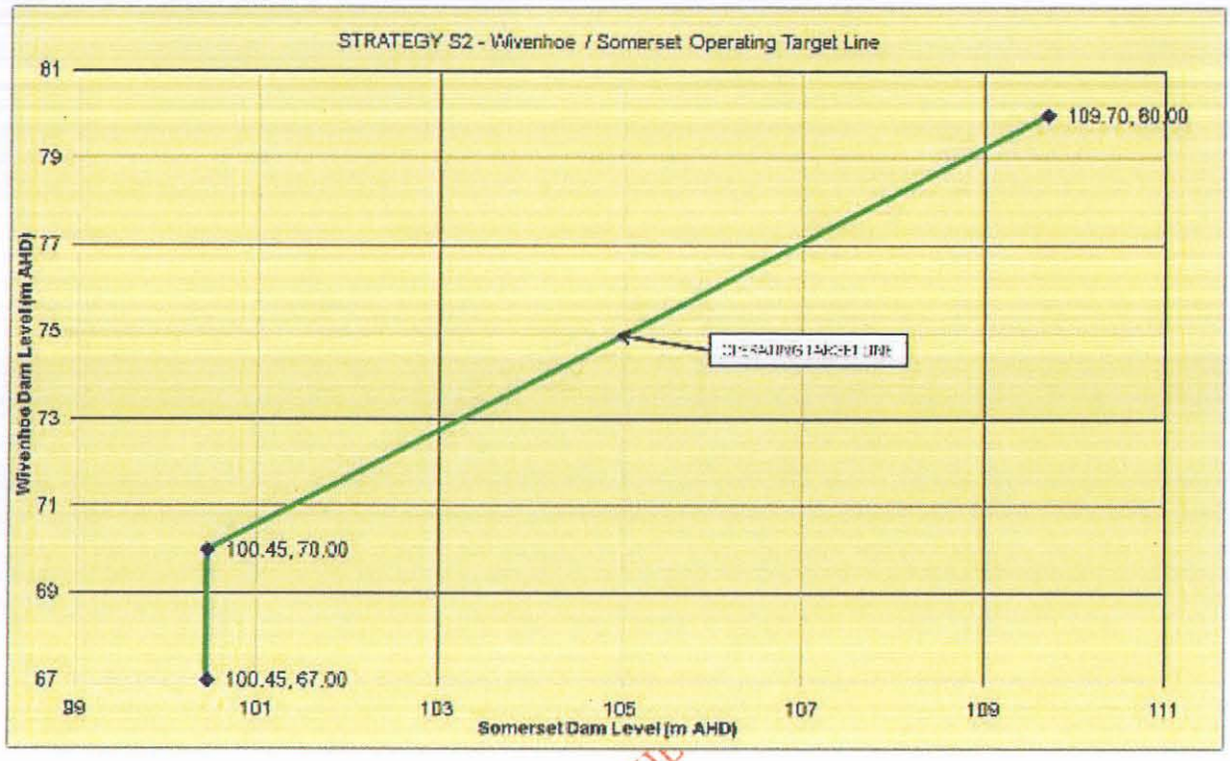

Notes on the above graph:

- The Operating Target Line was selected following an optimisation study. The Target Line was selected based on the following factors:
    - Equal minimisation of flood level peaks in both dams in relation to their associated dam failure levels.
    - Minimisation of flows in the Brisbane River downstream of Wivenhoe Dam.
    - Consideration of the time needed at the onset of a Flood Event to properly assess the magnitude of the event and the likely impacts, so that the likely optimal strategy to maximise the Flood Mitigation benefits of the storages can be selected.
- The target point on the operating target line at any point in time is based on the maximum storage levels in Wivenhoe and Somerset Dams using the best forecast rainfall and stream flow information available at the time.
- Gate operations will enable the movement of the duty point towards the target line in a progressive manner. It will not necessarily be possible to adjust the duty point directly towards the target line in a single gate operation.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Friday 08 Jan 2011 17:00 (Lake level 100.40) Completed Saturday 09 Jan 2011 10:00 (Lake level 100.31)	Strategy S2	• During this seventeen hour period, the Wivenhoe Dam level was falling (68.65 at the start of the period, falling to 68.53 by the end of the period) and the Somerset level remained below 100.45. • Strategy S2 does not provide specific guidance for this situation however, Strategy S2 intends to maximise the benefits of the flood storage capabilities of the dams. Accordingly two sluices remained open during this period and a third sluice was opened near the end of the period as modelling results indicated rapidly increasing inflows into Somerset Dam occurring soon after the end of the period and continuing. Increasing the sluice gate release would ultimately allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. Strategy S2 intends to maximise the benefits of the flood storage capabilities of the dams.
Commenced Saturday 09 Jan 2011 10:00 (Lake level 100.31) Completed Saturday 09 Jan 2011 13:00 (Lake level 100.43)	Strategy S2	• During this three hour period, the Wivenhoe Dam level was rising (68.53 at the start of the period, rising to 68.56 by the end of the period) and the Somerset Dam level remained below 100.45, but rose rapidly. • Three sluices remained open during this period and a forth sluice was opened near the end of the period to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is below EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are **generally** kept closed.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Saturday 09 Jan 2011 13:00 (Lake level 100.43) Completed Tuesday 11 Jan 2011 04:00 (Lake level 103.23)	Strategy S2	• During this sixty-three hour period, the Wivenhoe Dam level was rising (68.56 at the start of the period, rising to 73.40 by the end of the period) and the Somerset Dam level moved above 100.45 (this occurred between 13:00 and 14:00 on 9 January 2011) and then stayed above 100.45 for the remainder of the period. • Four sluices remained open during this period and a fifth sluice was opened near the beginning of the period to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** allow the Wivenhoe/Somerset Operating Target Line to be followed.
Commenced Tuesday 11 Jan 2011 04:00 (Lake level 103.23) Completed Tuesday 11 Jan 2011 09:00 (Lake level 103.50)	Strategy S2	• During this five hour period, the Wivenhoe Dam level was rising (73.40 at the start of the period, rising to 73.81 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period all sluice gates were closed to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and limit rises in Wivenhoe Dam.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** allow the Wivenhoe/Somerset Operating Target Line to be followed.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Tuesday 11 Jan 2011 09:00 (Lake level 103.50) Completed Tuesday 11 Jan 2011 19:00 (Lake level 104.60)	Strategy S2	• During this ten hour period, the Wivenhoe Dam level was rising (73.81 at the start of the period, rising to 74.97 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period all sluice gates remained closed to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and limit rises in Wivenhoe Dam.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** allow the Wivenhoe/Somerset Operating Target Line to be followed.
Commenced Tuesday 11 Jan 2011 19:00 (Lake level 104.60) Completed Wednesday 12 Jan 2011 10:00 (Lake level 105.09)	Strategy S2	• During this fifteen hour period, the Wivenhoe Dam level was falling (74.97 at the start of the period, falling to 74.78 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period all sluice gates remained closed to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and limit rises in Wivenhoe Dam.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is falling and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** not cause Wivenhoe Dam to rise significantly.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Wednesday 12 Jan 2011 10:00 (Lake level 105.09) Completed Thursday 13 Jan 2011 12:00 (Lake level 103.96)	Strategy S2	• During this twenty-six hour period, the Wivenhoe Dam level was falling (74.78 at the start of the period, falling to 74.61 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period two sluice gates were opened to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and the timing of these openings was calculated to ensure that the Wivenhoe Lake level did not rise. • At the end of this period it was apparent that the flood peak had passed and so the operational strategy transitioned to the drain down phase.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is falling and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** not cause Wivenhoe Dam to rise significantly. Drain down operations require stored floodwaters to be emptied from the dams within seven days of the flood event peak passing through the dams.
Commenced Thursday 13 Jan 2011 08:00 (Lake level 103.96) Completed Wednesday 19 Jan 2011 12:00 (Lake level 99.02)	Drain-down	• On the basis of the information contained in the table row above, it was decided to transition to the drain down phase at the commencement of this period. • Considerations that impacted on the duration and timing of the drain down phase in this instance included: o Causing no renewed increases in the Wivenhoe Dam lake level. o Re-opening the D'Aguilar Highway and other impacted rural bridges as quickly as possible; o Achieving Full Supply Levels in the dams at the conclusion of the event. • The flood event was concluded on Wednesday 19 Jan 2011 at 12:00.	Drain-down operations require stored floodwaters to be emptied from the dams within seven days of the flood event peak passing through the dams.

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Strategy S3 - Protect the Structural Safety of the Dam

Conditions	• **Somerset Dam Level expected to exceed EL 99.0 and Wivenhoe Dam level expected to exceed EL 75.5 (fuse plug initiation) during the course of the Flood Event.**

The intent of this strategy is to maximise the benefits of the flood storage capabilities of the dam while protecting the structural safety of both dams.

In addition to the operating protocols used in Strategy S2, to prevent fuse plug initiation, consideration can be given to temporary departure from the operating protocols contained in this strategy under the following conditions:

- The safety of Somerset Dam is the primary consideration and cannot be compromised.
- The peak level in Somerset dam cannot exceed EL 109.7.

10.3 Wivenhoe Dam – Manual Compliance

The following table summarises the Strategies that were used in the operation of Wivenhoe Dam during the January 2011 Flood Event and provides explanations of how the use of these strategies complies with the Manual.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Thursday 06 Jan 2011 07:42 (Lake level 67.31) Completed Friday 07 Jan 2011 02:00 (Lake level 67.52)	Strategy W1A	• At the start of the event, Strategy W1A was used as the lake level was between 67.25 and 67.50. • The Strategy during this period was to keep College's Crossing trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 175 m^3/s. Because of the inflows into the Brisbane River from Lockyer Creek, no releases from the Dam were made during this period to ensure College's Crossing remained trafficable. • Based on flows recorded at Mt Crosby Weir, College's Crossing remained trafficable during this period. • The strategy transitioned from Strategy W1A to Strategy W1B once the lake level exceeded 67.50.	Use Strategy W1A when the Lake level is between 67.25 m AHD and 67.50 m AHD. [Maximum Release 110 m^3/s] Under Strategy W1A, the Manual requirement is to endeavour to keep College's Crossing trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 175 m^3/s. Use Strategy W1B when the Lake level is between 67.50 m AHD and 67.75 m AHD. [Maximum Release 380 m^3/s]
Commenced Friday 07 Jan 2011 02:00 (Lake level 67.52) Completed Friday 07 Jan 2011 09:00 (Lake level 67.75)	Strategy W1B	• The strategy transitioned from Strategy W1A to Strategy W1B once the lake level exceeded 67.50. • Based on flows recorded at Mt Crosby Weir, College's Crossing was inundated during this period. • The strategy during this period was to keep Burtons Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 430 m3/s. Because of the inflows into the Brisbane River from Lockyer Creek, no releases from the Dam were made during this period to ensure Burtons Bridge remained trafficable. • Based on flows recorded at Savages Crossing, Burtons Bridge remained trafficable during this period. • The strategy transitioned from Strategy W1B to Strategy W1C once the lake level exceeded 67.75.	Use Strategy W1B when the Lake level is between 67.50 m AHD and 67.75 m AHD. [Maximum Release 380 m^3/s] Under Strategy W1B, the Manual requires that once College's Crossing is closed to traffic, endeavour to keep Burtons Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 430 m^3/s. Use Strategy W1C when the Lake level is between 67.75 m AHD and 68.00 m AHD. [Maximum Release 500 m^3/s]

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Friday 07 Jan 2011 09:00 (Lake level 67.75) Completed Friday 07 Jan 2011 15:00 (Lake level 68.03)	Strategy W1C	• The strategy transitioned from Strategy W1B to Strategy W1C once the lake level exceeded 67.75. • The strategy during this period was to keep Burtons Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 430 m3/s and then once Burtons Bridge was closed to traffic, endeavour to ensure Kholo Bridge remained trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 550 m3/s. Because of the inflows into the Brisbane River from Lockyer Creek, no releases from the dam were made during this period. • Based on flows recorded at Savages Crossing, Burtons Bridge was inundated near the end of this period. • Based on flows recorded at Mt Crosby Weir, Kholo Bridge remained trafficable during this period. • As well as being in accordance with the Manual, delaying the commencement of releases until 15:00 allowed bridges to be closed by the relevant authorities and arrangements to be made to cater for rural community isolation. The impacted rural communities had been isolated over the Christmas period and time was needed for suitable arrangements to be made to allow these communities to be prepared for another potentially extended period of isolation. • The strategy transitioned from Strategy W1C to Strategy W1D once the lake level exceeded 68.00.	Use Strategy W1C when the Lake level is between 67.75 m AHD and 68.00 m AHD. [Maximum Release 500 m^3/s] Under Strategy W1C, the Manual requirement is to endeavour to keep Burtons Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 430 m^3/s. Under Strategy W1C, the Manual also requires that once Burtons Bridge is closed to traffic (occurred around 13:00 during this period) endeavour to keep Kholo Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 550 m^3/s. Use Strategy W1D when the Lake level is between 68.00 m AHD and 68.25 m AHD. [Maximum Release 1900 m^3/s]

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Friday 07 Jan 2011 15:00 (Lake level 68.03) Completed Friday 07 Jan 2011 22:00 (Lake level 68.26)	Strategy W1D	• The strategy transitioned from Strategy W1C to Strategy W1D once the lake level exceeded 68.00. • At the start of this period, it became apparent Kholo Bridge would be inundated by natural Brisbane River flows (excluding Wivenhoe Dam releases). Based on flows recorded at Mt Crosby Weir, Kholo Bridge was inundated near the end of this period (middle of the night). Therefore, the strategy adopted was to close Kholo Bridge in daylight hours for public safety and then assume – for the purposes of Strategy W1D – that Kholo Bridge was closed to traffic. • Accordingly, the strategy during this period was to keep Mt Crosby Weir Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 1900 m3/s. • During this period, releases were increased to 421 m^3/s, with radial gates opened continuously at Wivenhoe Dam during this period, in accordance with the standard gate opening sequence at a rate or 0.5 metres of opening per hour. • Mt Crosby Weir Bridge remained trafficable during the period. • The Strategy transitioned from Strategy W1D to Strategy W1E once the lake level exceeded 68.25.	Use Strategy W1D when the Lake level is between 68.00 m AHD and 68.25 m AHD. [Maximum Release 1900 m^3/s] Under Strategy W1D, the Manual requires that once Kholo Bridge is closed to traffic, endeavour to keep Mt Crosby Weir Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 1900 m^3/s. Use Strategy W1E when the Lake level is between 68.25 m AHD and 68.50 m AHD. [Maximum Release 1900 m^3/s]
Commenced Friday 07 Jan 2011 22:00 (Lake level 68.26) Completed Saturday 08 Jan 2011 08:00 (Lake level 68.26)	Strategy W1E	• The strategy transitioned from Strategy W1D to Strategy W1E once the lake level exceeded 68.25. • The Strategy during this period was to keep Mt Crosby Weir Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 1900 m3/s. • During this period, releases were increased to 953 m3/s, with radial gates opened continuously at Wivenhoe Dam during this period, in accordance with the standard gate opening sequence at a rate or 0.5 metres of opening per hour. • Mt Crosby Weir Bridge remained trafficable during the period. • The Strategy transitioned from Strategy W1E to Strategy W12 once the lake level reached 68.50.	Use Strategy W1E when the Lake level is between 68.25 m AHD and 68.50 m AHD. [Maximum Release 1900 m^3/s] The Manual requirement is to endeavour to keep Mt Crosby Weir Bridge trafficable by limiting the combined flows from Wivenhoe Dam and Lockyer Creek to a maximum of 1900 m^3/s. Use Strategy W2 or Strategy W3 as appropriate when the Lake level reached 68.50 m AHD.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLANATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Saturday 08 Jan 2011 08:00 (Lake level 68.52)	Attempt to transition to Strategy W2	• The lake level at this time was 68.52 and the release rate from the Dam at this time was 940 m3/s. • At this time, it was not possible to satisfy Strategy W2 by limiting the flow in the Brisbane River to less than the naturally occurring peaks at Lowood and Moggill. The calculated naturally occurring peaks at Lowood and Moggill were 530 m3/s and 800 m3/s respectively, whereas the release rate from the dam at this time was 940 m3/s. • Accordingly, it was not appropriate to switch to Strategy W2 and Strategy W3 was adopted for use at 08:00 on Saturday 8 January 2011.	The manual states that "*If the level reaches EL 68.5m AHD in Wivenhoe Dam, switch to Strategy W2 or W3 as appropriate*". Use Strategy W2 when the Lake level predicted to be between 68.50 and 74.00 m AHD [Maximum Release 3,500 m^3/s] Strategy W2 is a transition strategy in which the primary consideration changes from minimising disruption to downstream rural life to protecting urban areas from inundation. Lower level objectives are still considered under Strategy W2 when making decisions on water releases. Objectives are always considered in order of importance. The intent of Strategy W2 is to limit the flow in the Brisbane River to less than the naturally occurring peaks at Lowood and Moggill, while remaining within the upper limit of non-damaging floods at Lowood (3,500 m^3/s).

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Saturday 08 Jan 2011 08:00 (Lake level 68.52) Completed Sunday 09 Jan 2011 08:00 (Lake level 68.58)	Strategy W3	• The lake level at the start of this period was 68.52 and the release rate from the Dam was 940 m3/s. The lake level at the end of this period was 68.58 and the release rate from the Dam was 1386 m3/s. The lake level rose 60 millimetres during this 24 hour period. • The catchment average rainfall experienced in the Wivenhoe Dam catchment (excluding the Somerset Dam catchment) during this 24 hour period was 21 millimetres. • The latest QPF forecast available at the end of this period was for 40 millimetres in the Dam catchments in the next 24 hours (issued at 16:00 on 8 January 2011). • At the end of this period, model results estimate the Wivenhoe Dam peak at 68.7 (excluding forecast) and 69.3 (including forecast). The estimated peak of 69.3 (including forecast) had previously been exceeded in March 1989, April 1989, February 1999, October 2010 and December 2010. On each of these occasions, no known urban damage had occurred downstream of Moggill as a result of dam releases. • At the end of this period, model results estimate total dam inflow at 420,000ML (excluding forecast) and 662,000ML (including forecast). The estimated total dam inflow of 662,000ML (including forecast) on a full dam had previously been exceeded in March 1989, April 1989 and February 1999. On each of these occasions, no known urban damage had occurred downstream of Moggill as a result of dam releases. • Estimated peak flow at Moggill (including Wivenhoe Dam releases) is 1720 m^3/s (excluding forecast) and 2220 m^3/s (including forecast). • On the basis of the information above, the available data did not indicate there would be a need to increase releases from Wivenhoe Dam above the current modelled levels to protect urban areas from inundation either during the current period or in the 24 hours following the current period. • The naturally occurring peak at Moggill was estimated to have occurred at 05:00 on 08 January 2011 (i.e. in the past). • Strategy W3 requires the flow at Moggill to be lowered to 4,000 m^3/s as soon as possible after the naturally occurring peak at Moggill (excluding Wivenhoe releases). This was already achieved. • Strategy W3 also requires consideration of lower level Manual objectives, and on the basis of this requirement, consideration during this period was given to minimising disruption to downstream rural life and endeavouring to keep Mt Crosby Weir Bridge and Fernvale Bridge trafficable.	Use Strategy W3 when the intent of Strategy2 cannot be met and the lake level is predicted to be between 68.50 and 74.00 m AHD [Maximum Release 4,000 m^3/s] The primary consideration is protecting urban areas from inundation however, the Manual also requires lower level objectives to be considered when making decisions on water releases. Objectives are always considered in order of importance. The intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s. After the naturally occurring peak at Moggill (excluding Wivenhoe Dam releases), the flow at Moggill is to be lowered to 4000 m^3/s as soon as possible.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLANATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Sunday 09 Jan 2011 08:00 (Lake level 68.58) Completed Sunday 09 Jan 2011 19:00 (Lake level 68.97)	Strategy W3	• The lake level at the start of this period was 68.58 and the release rate from the Dam was 1,386 m3/s. The Lake level at the end of this period was 68.97 and the release rate from the Dam was 1411 m3/s. The Lake level rose 390 millimetres during this 11 hour period. • The catchment average rainfall experienced in the Wivenhoe Dam catchment (excluding the *Somerset Dam catchment*) during this 24 hour period was 96 millimetres, the bulk of which (62 millimetres) occurred in the last five hours of the period.. • The latest QPF forecast available at the end of this period was for 65 millimetres in the Dam catchments in the next 24 hours (issued at 16:00 on 9 January 2011). • At the mid point of this period (14:00), model results estimate the Wivenhoe Dam to peak at 70.0 (excluding forecast) and 71.3 (including forecast). The estimated peak of 71.3 (including forecast) had been previously been exceeded in April 1989 and on this occasion no known urban damage had occurred downstream of Moggill as a result of dam releases. • At the mid point of this period (14:00), model results estimate total Dam inflow at 804,000ML (excluding forecast) and 1,108,000ML (including forecast). The estimated total Dam inflow of 1,108,000ML (including forecast) on a full dam, had never previously been exceeded, with the previous largest volumes being 870,000ML in April 1989 and 925,000 in February 1999. Although the inflow estimate of 1,108,000ML was based on a forecast, it resulted in an expectation that there may be a need within the next six hours to transition to a situation of no longer considering minimising disruption to downstream rural life. This would result is the closure of all bridges between the Dam and Moggill, and the closure of the Brisbane Valley Highway. • At the mid point of this period (14:00), estimated peak flow at Moggill (including Wivenhoe Dam releases) is 1,850 m^3/s (excluding forecast) and 2,590 m^3/s (including forecast). • On the basis of the information above, the available data at the mid point of this period did not indicate that there would be a definite need to increase releases from Wivenhoe Dam above the current modelled levels to protect urban areas from inundation, in the six hours from 14:00. • At the end of this period, model results estimate the Wivenhoe Dam to peak at 72.1 (excluding forecast) and 73.9 (including forecast). These values had never been previously exceeded. • At the end of this period, model results estimate total dam inflow at 1,272,000ML (*excluding* forecast) and 1,712,000ML (including forecast). These values had never been previously exceeded. • On the basis of the estimated Wivenhoe Dam peak levels and inflow volumes from the model results undertaken towards the end of this period, it was decided to transition to a situation of no longer considering minimising disruption to downstream rural life at 19:00 on 09 January 2011.	Use Strategy W3 when the intent of Strategy2 cannot be met and the Lake level is predicted to be between 68.50 and 74.00 m AHD [Maximum Release 4,000 m^3/s] *The primary consideration is protecting* urban areas from inundation however, the Manual also requires lower level objectives to be considered when making decisions on water releases. Objectives are always considered in order of importance. The intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s. After the naturally occurring peak at Moggill (excluding Wivenhoe Dam releases), the flow at Moggill is to be lowered to 4000 m^3/s as soon as possible.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Sunday 09 Jan 2011 19:00 (Lake level 68.97) Completed Tuesday 11 Jan 2011 08:00 (Lake level 73.70)	Strategy W3	• On the basis of the information contained on the previous page, it was decided to transition to a situation of no longer considering minimising disruption to downstream rural life at the commencement of this period. • The Lake level at the start of this period was 68.97 and the release rate from the Dam was 1411 m3/s. The Lake level at the end of this period was 73.70 and the release rate from the Dam was 2,753 m3/s. The Lake level rose 4730 millimetres during this 37 hour period. • The catchment average rainfall experienced in the Wivenhoe Dam catchment (excluding the Somerset Dam catchment) during this 24 hour period was 115 millimetres, the bulk of which (77 millimetres) occurred in the last twelve hours of this 37 hour period.. • The latest QPF forecast available at the end of this period was for 65 millimetres in the Dam catchments in the next 24 hours (issued at 16:00 on 10 January 2011). • By two thirds of the way through this period (20:00 on 10/1), model results estimate the Wivenhoe Dam to peak at 73.6 (excluding forecast) and 74.3 (including forecast). A discussion with the Dam Safety Regulator was held at 21:00 obtaining permission to exceed a level of 74.0 in Wivenhoe Dam for a short period without invoking Strategy W4 (provided the safety of the Dam can be guaranteed). This issue is considered carefully at all times during the period in view of the continued rainfall. • At 04:00 0n 11/1, a period of intense rainfall commenced within the Wivenhoe Dam catchment area. By 08:00 model results estimate the Wivenhoe Dam will peak at 74.5 (excluding forecast) and 75.1 (including forecast). A decision is then made to transition to Strategy W4 and the Dam Safety Regulator, Seqwater CEO and the Councils are advised of this decision. The Wivenhoe Lake level is 73.70.	Use Strategy W3 when the intent of Strategy2 cannot be met and the lake level is predicted to be between 68.50 and 74.00 m AHD [Maximum Release 4,000 m^3/s] The primary consideration is protecting urban areas from inundation however, the Manual also requires lower level objectives to still be considered when making decisions on water releases. Objectives are always considered in order of importance. The intent of Strategy W3 is to limit the flow in the Brisbane River at Moggill to less than 4000 m^3/s. After the naturally occurring peak at Moggill (excluding Wivenhoe Dam releases), the flow at Moggill is to be lowered to 4000 m^3/s as soon as possible. Use Strategy W4 when the Wivenhoe storage level is likely to exceed 74.00m AHD. [No limit on maximum release rate] The primary consideration of Strategy W4 is to protect the structural safety of the dam however, lower level objectives are still considered in order of importance when making decisions on water releases. Under Strategy W4, gates are opened until the storage level of Wivenhoe Dam begins to fall.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Tuesday 11 Jan 2011 08:00 (Lake level 73.70) Completed Thursday 13 Jan 2011 12:00 (Lake level 74.61)	Strategy W4	• On the basis of the information contained on the previous page, it was decided to transition to Strategy W4 at the commencement of this period. • The lake level at the start of this period was 73.70 and the release rate from the Dam was 2,753 m3/s. The Lake level at the end of this period was 74.61 and the release rate from the Dam was 2534 m3/s. During this period at 19:00 on 11 January 2011, the Lake level peaked at 74.97 and the release rate peaked at 7464 m3/s. • The lake level stabilised at 20:00 on 11 January 2011and then dropped slightly at 21:00. A decision was made at 21:00 to commence closing down the gates as quickly as possible to reduce urban flood impacts. This decision required gate openings to be below minimum recommended settings and was made in an attempt to minimise urban damage below Moggill, which is an objective that must be considered under Strategy W4. Gates would have been re-opened if further lake level rises were experienced. • Following a decision to close down the gates, it was calculated that reducing to a discharge of 2,547 m^3/s from Wivenhoe Dam would: o Not increase the downstream flood peak; o Not cause the water level in Wivenhoe Dam to rise and; o Allow the dam to be drained back to FSL in seven days in accordance with the Manual. And on this basis, this target release rate was adopted. • At the end of this period it was apparent the flood peak had passed and so the operational strategy transitioned to the drain down phase.	Use Strategy W4 when the Wivenhoe storage level is likely to exceed 74.00m AHD. [No limit on maximum release rate] The primary consideration of Strategy W4 is to protect the structural safety of the dam however, lower level objectives are still considered in order of importance when making decisions on water releases. Under Strategy W4, gates are opened until the storage level of Wivenhoe Dam begins to fall. Drain down operations require stored floodwaters to be emptied from the dams within seven days of the flood event peak passing through the dams.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Thursday 13 Jan 2011 08:00 (Lake level 74.61) Completed Wednesday 19 Jan 2011 12:00 (Lake level 66.89)	Drain-down	• On the basis of the information contained on the previous page, it was decided to transition to the drain down phase at the start of this period. • The Lake level at the start of this period was 74.61 and the release rate from the Dam was 2,534 m3/s. The Lake level at the end of this period was 66.89 and only operational water supply releases were being made from the dam. • Considerations that impacted the duration and timing of the drain down phase in this instance included: o Causing no renewed increases in river levels below the Dam (except where they were unavoidable due to tidal influences. o Maintaining an adequate release rate to ensure the temporary pumps providing water supplies to the Lowood area could continue to operate; o Minimising bank slumping impacts along the river, particularly in key areas such as Coronation Drive (as requested from the Brisbane City Council); o Re-opening the Brisbane Valley Highway and key rural bridges as quickly as possible; o Achieving Full Supply Levels in the dams at the conclusion of the event. • The flood event was concluded on Wednesday 19 Jan 2011 at 12:00.	Drain-down operations require stored floodwaters to be emptied from the dams within seven days of the flood event peak passing through the dams.

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10.4 Somerset Dam – Manual Compliance

The table that commences on the following page summarises the Strategies that were used in the operation of Wivenhoe Dam during the January 2011 Flood Event and provides explanations of how the use of these strategies complies with the Manual.

A graph showing the track of the Wivenhoe/Somerset Operating Target Line over the course of the event is shown at the end of the table. The dam levels tracked very close to and on the line, in the hours leading up to and following the event peak at 19:00 on 11 January 2011. This is demonstrated in the following table.

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DATE	ACTUAL DAM LEVELS COORDINATES		INTERACTION LINE COORDINATES		COMMENTS
10/01/2011 23:00	103.39	73.22	103.39	73.18	Moved above interaction line.
11/01/2011 00:00	103.37	73.26	103.37	73.16	
11/01/2011 01:00	103.36	73.31	103.36	73.15	
11/01/2011 02:00	103.31	73.35	103.31	73.09	
11/01/2011 03:00	103.27	73.38	103.27	73.05	
11/01/2011 04:00	103.23	73.40	103.23	73.01	
11/01/2011 05:00	103.28	73.46	103.28	73.06	
11/01/2011 06:00	103.34	73.51	103.34	73.12	
11/01/2011 07:00	103.40	73.61	103.40	73.19	
11/01/2011 08:00	103.46	73.70	103.46	73.25	
11/01/2011 09:00	103.50	73.81	103.50	73.30	
11/01/2011 10:00	103.54	73.95	103.54	73.34	
11/01/2011 11:00	103.61	74.10	103.61	73.42	
11/01/2011 12:00	103.68	74.27	103.68	73.49	
11/01/2011 13:00	103.83	74.39	103.83	73.65	
11/01/2011 14:00	103.96	74.57	103.96	73.79	
11/01/2011 15:00	104.12	74.71	104.12	73.97	
11/01/2011 16:00	104.31	74.81	104.31	74.17	
11/01/2011 17:00	104.41	74.89	104.41	74.28	
11/01/2011 18:00	104.51	74.95	104.51	74.39	
11/01/2011 19:00	104.60	74.97	104.60	74.49	Event Peak.
11/01/2011 20:00	104.70	74.97	104.70	74.59	
11/01/2011 21:00	104.78	74.95	104.78	74.68	
11/01/2011 22:00	104.85	74.95	104.85	74.76	
11/01/2011 23:00	104.90	74.92	104.90	74.81	
12/01/2011 00:00	104.98	74.91	104.98	74.90	
12/01/2011 01:00	105.00	74.87	105.00	74.92	Moved below interaction line.

PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Thursday 06 Jan 2011 07:42 (Lake level 99.34) Completed Friday 07 Jan 2011 17:00 (Lake level 100.06)	Strategy S2	• During this nine hour period, the Wivenhoe Dam level was rising (67.31 at the start of the period, rising to 68.03 by the end of the period) and the Somerset Dam level was below 100.45. • In accordance with Strategy S2, the crest gates at Somerset Dam were raised at the start of the Event to enable uncontrolled discharge, and the low level sluices were kept closed. Some regulator releases continued from December as part of previous event drain down, (in the order of 35 m^3/s) and these continued during this period.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is below EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are **generally** kept closed.
Commenced Thursday 07 Jan 2011 17:00 (Lake level 100.06) Completed Friday 08 Jan 2011 07:00 (Lake level 100.44)	Strategy S2	• During this fifteen hour period, the Wivenhoe Dam level was rising (68.03 at the start of the period, rising to 68.48 by the end of the period) and the Somerset Dam level was below 100.45. • At 17:00 it was apparent that unless releases were commenced at Somerset Dam, the Somerset Lake level would exceed 100.45 within 12 hours. Accordingly, one sluice gate was opened during this period to allow dam levels to move towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is below EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are **generally** kept closed.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Friday 08 Jan 2011 07:00 (Lake level 100.06) Completed Friday 08 Jan 2011 13:00 (Lake level 100.45)	Strategy S2	• During this six hour, period the Wivenhoe Dam level was rising (68.48 at the start of the period, rising to 68.61 by the end of the period) and the Somerset Dam level moved above 100.45 (this occurred between 07:00 and 08:00 on 8 January 2011) and then stayed above 100.45 for the remainder of the period. • A second sluice was opened during this period to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** allow the Wivenhoe/Somerset Operating Target Line to be followed.
Commenced Friday 08 Jan 2011 13:00 (Lake level 100.45) Completed Friday 08 Jan 2011 17:00 (Lake level 100.40)	Strategy S2	• During this four hour period, the Wivenhoe Dam level was rising (68.61 at the start of the period, rising to 68.65 by the end of the period) and the Somerset level moved just below 100.45 (this occurred between 13:00 and 14:00 on 8 January 2011) and then stayed below 100.45 for the remainder of the period. • At the beginning of this period it was apparent the Somerset Lake level would exceed 100.45 within four hours. Accordingly two sluices remained open during this period to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is below EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are **generally** kept closed.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Friday 08 Jan 2011 17:00 (Lake level 100.40) Completed Saturday 09 Jan 2011 10:00 (Lake level 100.31)	Strategy S2	• During this seventeen hour period, the Wivenhoe Dam level was falling (68.65 at the start of the period, falling to 68.53 by the end of the period) and the Somerset level remained below 100.45. • Strategy S2 does not provide specific guidance for this situation however, Strategy S2 intends to maximise the benefits of the flood storage capabilities of the dams. Accordingly two sluices remained open during this period and a third sluice was opened near the end of the period as modelling results indicated rapidly increasing inflows into Somerset Dam occurring soon after the end of the period and continuing. Increasing the sluice gate release would ultimately allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. Strategy S2 intends to maximise the benefits of the flood storage capabilities of the dams.
Commenced Saturday 09 Jan 2011 10:00 (Lake level 100.31) Completed Saturday 09 Jan 2011 13:00 (Lake level 100.43)	Strategy S2	• During this three hour period, the Wivenhoe Dam level was rising (68.53 at the start of the period, rising to 68.56 by the end of the period) and the Somerset Dam level remained below 100.45, but rose rapidly. • Three sluices remained open during this period and a forth sluice was opened near the end of the period to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is below EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are **generally** kept closed.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Saturday 09 Jan 2011 13:00 (Lake level 100.43) Completed Tuesday 11 Jan 2011 04:00 (Lake level 103.23)	Strategy S2	• During this sixty-three hour period, the Wivenhoe Dam level was rising (68.56 at the start of the period, rising to 73.40 by the end of the period) and the Somerset Dam level moved above 100.45 (this occurred between 13:00 and 14:00 on 9 January 2011) and then stayed above 100.45 for the remainder of the period. • Four sluices remained open during this period and a fifth sluice was opened near the beginning of the period to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** allow the Wivenhoe/Somerset Operating Target Line to be followed.
Commenced Tuesday 11 Jan 2011 04:00 (Lake level 103.23) Completed Tuesday 11 Jan 2011 09:00 (Lake level 103.50)	Strategy S2	• During this five hour period, the Wivenhoe Dam level was rising (73.40 at the start of the period, rising to 73.81 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period all sluice gates were closed to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and limit rises in Wivenhoe Dam.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** allow the Wivenhoe/Somerset Operating Target Line to be followed.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Tuesday 11 Jan 2011 09:00 (Lake level 103.50) Completed Tuesday 11 Jan 2011 19:00 (Lake level 104.60)	Strategy S2	• During this ten hour period, the Wivenhoe Dam level was rising (73.81 at the start of the period, rising to 74.97 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period all sluice gates remained closed to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and limit rises in Wivenhoe Dam.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is rising and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** allow the Wivenhoe/Somerset Operating Target Line to be followed.
Commenced Tuesday 11 Jan 2011 19:00 (Lake level 104.60) Completed Wednesday 12 Jan 2011 10:00 (Lake level 105.09)	Strategy S2	• During this fifteen hour period, the Wivenhoe Dam level was falling (74.97 at the start of the period, falling to 74.78 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period all sluice gates remained closed to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and limit rises in Wivenhoe Dam.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is falling and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** not cause Wivenhoe Dam to rise significantly.

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PERIOD	STRATEGIES USED DURING THE PERIOD	EXPLAINATION OF STRATEGIES USED DURING THE PERIOD	MANUAL REQUIREMENTS
Commenced Wednesday 12 Jan 2011 10:00 (Lake level 105.09) Completed Thursday 13 Jan 2011 12:00 (Lake level 103.96)	Strategy S2	• During this twenty-six hour period, the Wivenhoe Dam level was falling (74.78 at the start of the period, falling to 74.61 by the end of the period) and the Somerset Dam level remained above 100.45. • During this period two sluice gates were opened to allow dam levels to track towards the Wivenhoe/Somerset Operating Target Line and the timing of these openings was calculated to ensure that the Wivenhoe Lake level did not rise. • At the end of this period it was apparent that the flood peak had passed and so the operational strategy transitioned to the drain down phase.	Use Strategy S2 when the Somerset Dam level is expected to exceed EL 99.0 and the Wivenhoe Dam level is expected to exceed EL 67.0 but not exceed EL 75.5 (fuse plug initiation) during the course of the event. If Wivenhoe Dam is falling and the Somerset Dam level is above EL 100.45, Strategy S2 requires the crest gates to be raised and the low level regulators and sluices are used to **generally** not cause Wivenhoe Dam to rise significantly. Drain down operations require stored floodwaters to be emptied from the dams within seven days of the flood event peak passing through the dams.
Commenced Thursday 13 Jan 2011 08:00 (Lake level 103.96) Completed Wednesday 19 Jan 2011 12:00 (Lake level 99.02)	Drain-down	• On the basis of the information contained in the table row above, it was decided to transition to the drain down phase at the commencement of this period. • Considerations that impacted on the duration and timing of the drain down phase in this instance included: o Causing no renewed increases in the Wivenhoe Dam lake level. o Re-opening the D'Aguilar Highway and other impacted rural bridges as quickly as possible; o Achieving Full Supply Levels in the dams at the conclusion of the event. • The flood event was concluded on Wednesday 19 Jan 2011 at 12:00.	Drain-down operations require stored floodwaters to be emptied from the dams within seven days of the flood event peak passing through the dams.

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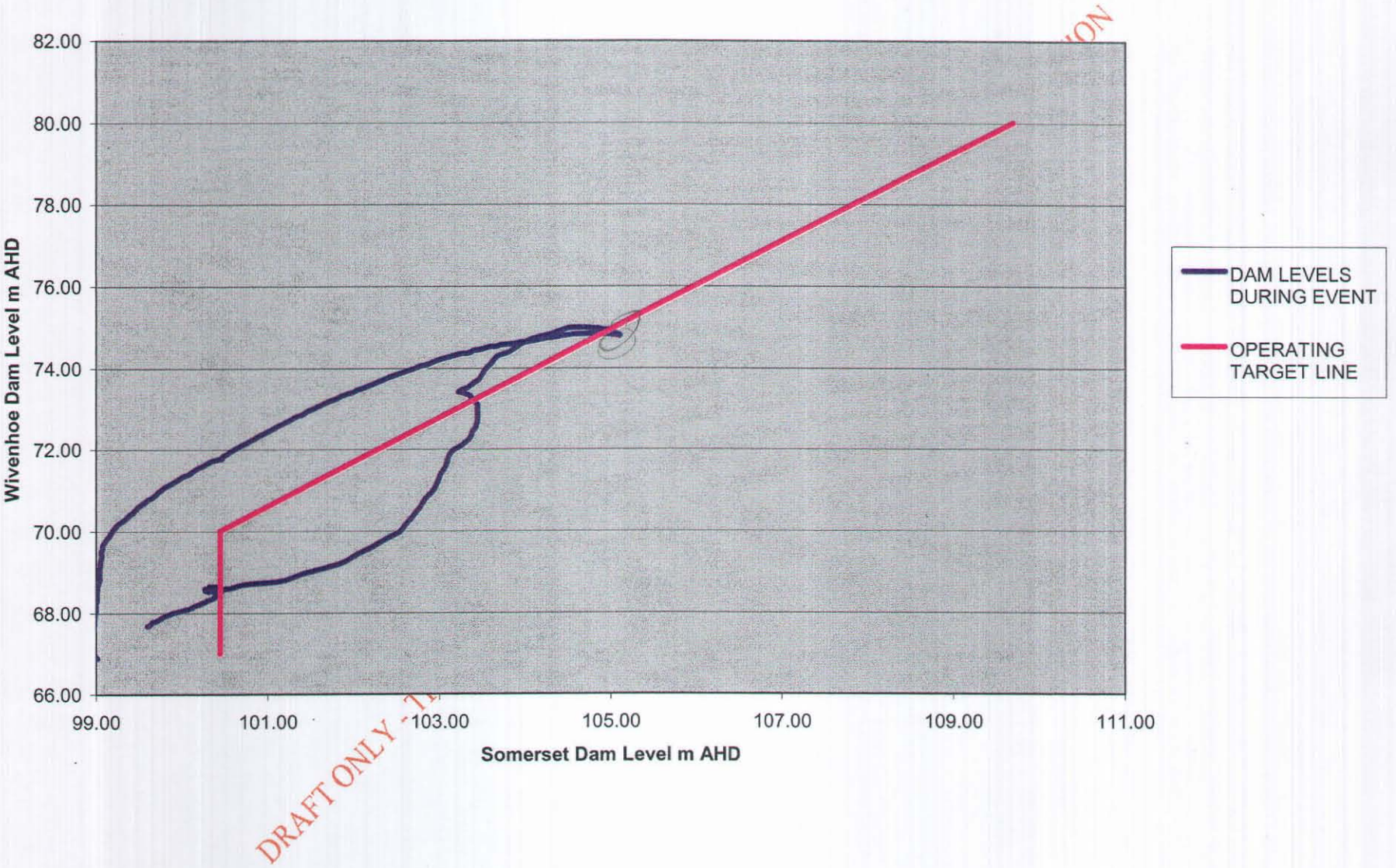
TRACK OF DAM LEVELS AGAINST TARGET OPERATING LINE



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APPENDIX A

Model Results

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The following table and associated graphs represent a summary of the Model results that were used to support operational decision making during the event. Only model runs at the critical times corresponding to the Flood Event Summary contained in Section 2 of this report are included in the summary, however model runs between these times are also available. Model run numbers have been edited to provide a sequential list and an indication of the number of additional runs that are available between individually presented runs can be determined by examining these model run numbers.

During the event some model runs were over-written. This occurred because new model runs are generally created by using the most recent model run as a base. If the run being used as a base is not explicitly saved it will be lost. This does not present a problem from an operational sense because historical model runs have little bearing on operational decision making as they do not consider the effects of rainfall that has fallen between the time of the decision and the time the historical run was created.

For the purposes of this report, any over-written model runs have been re-created. This is possible at any time from when the model run was initially created to the future because all model runs are based on actual rainfall recorded in the relevant rain gauges at the time the model run was created. This information is contained in a data archive and this data can also be obtained separately and independently from BoM for verification purposes if required. In the case of model runs containing forecast rainfall, the forecast rainfall used was based on the BoM Catchment Average Quantitative Precipitation Forecasts contained in Appendix C.

When examining the model results, it should be noted that the forecast rainfall model results apply the full 24 hour catchment average rainfall forecast from the BoM Quantitative Precipitation Forecasts to the model run, regardless of the model run time in relation to the issue time of the forecast and regardless of the rain that has fallen since the forecast was issued. In effect, this provides a "worst case" 24-hour scenario.

Finally, the values and graphs contained in this Appendix are obtained from the flood modelling spreadsheets. Similar to the modelling runs, the creation of saved spreadsheets in this Appendix corresponds to the critical times contained in the Flood Event Summary. During the event, the spreadsheets were updated continuously with both updated model results and hourly manual water level readings from the dams, with a single "live" spreadsheet always being available to be used as the basis of flood operations decision making. During the event, spreadsheets were not necessarily explicitly saved at times corresponding to the Flood Event Summary and in a similar manner to the re-creation of model runs, where this has not occurred spreadsheets have been re-created from archived data.

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Summary of Operational Runs

Without forecast rainfall

RUN DATE	RUN	SOMERSET				WIVENHOE						Total Inflow Volume	Lockyer		Bremer		With Wivenhoe				Without Wivenhoe			
		Current	Predicted			Current	Predicted										Lowood		Moggill		Lowood		Moggill	
		Level	Peak Flow	Inflow Vol	Predicted Peak	Level	Peak Flow	Inflow Vol	Predicted Peak	Predicted Peak Outflow			Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted
		m AHD	m3/s	ML	m AHD	m AHD	m3/s	ML	m AHD	m3/s	dd/mm hh	ML	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh
Fri 07/01/2011 02:00	5	99.59	280	46,000	99.7	67.52	1,110	158,000	68.2	1,220	08/01 23	204,000	470	07/01 19	200	07/01 07	1,430	09/01 01	1,460	09/01 14	470	07/01 22	550	08/01 06
Fri 07/01/2011 09:00	7	99.63	280	56,000	99.8	67.75	1,270	186,000	68.2	1,220	08/01 15	242,000	470	07/01 19	230	07/01 10	1,510	08/01 17	1,550	09/01 06	470	07/01 22	570	08/01 06
Fri 07/01/2011 15:00	8	99.94	790	86,000	100.3	68.03	1,790	260,000	68.4	1,240	08/01 13	346,000	530	07/01 21	250	07/01 15	1,610	08/01 17	1,660	09/01 06	530	08/01 00	660	08/01 08
Sat 08/01/2011 14:00	10	100.44	1,110	111,000	100.5	68.61	1,910	309,000	68.7	1,480	10/01 01	420,000	530	07/01 21	410	07/01 16	1,620	08/01 17	1,720	09/01 06	530	08/01 00	770	08/01 05
Sun 09/01/2011 01:00	12	100.32	1,110	128,000	100.5	68.63	1,890	329,000	68.7	1,480	10/01 01	457,000	530	07/01 21	410	07/01 16	1,620	08/01 17	1,720	09/01 06	530	08/01 00	770	08/01 05
Sun 09/01/2011 08:00	14	100.28	1,110	173,000	100.5	68.55	1,930	396,000	68.7	1,500	10/01 01	569,000	530	07/01 21	410	07/01 16	1,620	08/01 17	1,720	09/01 06	530	08/01 00	770	08/01 05
Sun 09/01/2011 14:00	17	100.47	1,700	243,000	100.7	68.58	2,860	561,000	70.0	1,490	10/01 22	804,000	530	07/01 21	410	07/01 16	1,680	11/01 03	1,850	09/01 21	530	08/01 00	770	08/01 05
Sun 09/01/2011 19:00	21	101.43	3,800	387,000	102.3	68.86	6,960	886,000	72.1	2,880	11/01 08	1,272,000	530	07/01 21	410	07/01 16	3,240	11/01 11	3,300	12/01 00	530	08/01 00	770	08/01 05
Mon 10/01/2011 01:00	23	102.51	3,910	448,000	102.9	69.97	8,050	1,020,000	72.9	2,700	11/01 07	1,468,000	620	10/01 04	410	07/01 16	3,180	11/01 08	3,240	11/01 21	620	10/01 07	820	10/01 16
Mon 10/01/2011 09:00	26	103.08	3,910	485,000	103.1	71.56	8,180	1,046,000	72.9	2,690	11/01 06	1,531,000	630	10/01 07	470	10/01 16	3,240	11/01 02	3,420	11/01 12	630	10/01 10	1,090	10/01 16
Mon 10/01/2011 15:00	28	103.43	3,910	530,000	103.4	72.54	8,180	1,178,000	73.6	2,750	11/01 12	1,708,000	780	10/01 23	870	10/01 20	3,490	11/01 02	3,910	11/01 13	780	11/01 02	1,500	10/01 20
Mon 10/01/2011 20:00	31	103.46	3,950	544,000	103.5	73.06	8,180	1,187,000	73.6	2,760	11/01 14	1,731,000	780	10/01 23	870	10/01 20	3,490	11/01 02	3,930	11/01 13	780	11/01 02	1,500	10/01 20
Tue 11/01/2011 04:00	35	103.28	3,950	570,000	103.5	73.40	8,180	1,446,000	74.1	2,970	12/01 14	2,016,000	780	11/01 21	870	10/01 20	3,570	12/01 01	4,040	11/01 14	780	12/01 00	1,500	10/01 20
Tue 11/01/2011 08:00	37	103.46	3,910	628,000	103.9	73.70	8,180	1,582,000	74.5	3,700	12/01 06	2,210,000	1,750	11/01 15	870	10/01 20	5,430	12/01 04	5,870	12/01 06	1,750	11/01 18	2,320	12/01 02
Tue 11/01/2011 13:00	39	103.91	3,910	748,000	104.8	74.39	8,590	1,758,000	75.0	5,220	12/01 03	2,506,000	3,000	11/01 16	2,120	11/01 18	8,130	11/01 19	9,180	12/01 07	3,000	11/01 19	4,410	12/01 03
Tue 11/01/2011 19:00	41	104.60	3,910	801,000	105.2	74.97	8,830	1,858,000	75.0	5,480	11/01 22	2,659,000	3,540	11/01 18	2,790	11/01 21	11,000	11/01 22	12,260	12/01 11	3,540	11/01 21	5,530	12/01 04
Wed 12/01/2011 08:00	43	104.83	3,910	803,000	105.2	74.82	8,180	1,724,000	74.7	7,300	11/01 21	2,527,000	3,540	11/01 18	2,790	11/01 21	10,830	11/01 22	12,090	12/01 11	3,540	11/01 21	5,530	12/01 04

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With forecast rainfall

RUN DATE	RUN	SOMERSET				WIVENHOE						Total Inflow Volume	Lockyer		Bremer		With Wivenhoe				Without Wivenhoe			
		Current	Predicted			Current	Predicted										Lowood		Moggill		Lowood		Moggill	
		Level	Peak Flow	Inflow Vol	Predicted Peak	Level	Peak Flow	Inflow Vol	Predicted Peak	Predicted Peak Outflow			Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted	Peak Flow	Predicted
		m AHD	m3/s	ML	m AHD	m AHD	m3/s	ML	m AHD	m3/s	dd/mm hh	ML	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh	m3/s	dd/mm hh
Fri 07/01/2011 02:00	5	99.59	430	77,000	100.1	67.52	1,470	266,000	68.7	1,260	08/01 22	343,000	720	07/01 22	440	07/01 13	1,720	09/01 01	1,800	09/01 14	720	08/01 01	960	08/01 05
Fri 07/01/2011 09:00	7	99.63	500	87,000	100.2	67.75	1,650	293,000	68.5	1,250	08/01 14	380,000	670	07/01 21	390	07/01 21	1,830	08/01 17	1,960	09/01 06	670	08/01 00	970	08/01 08
Fri 07/01/2011 15:00	8	99.94	790	120,000	100.6	68.03	1,790	364,000	68.9	1,270	09/01 02	483,000	710	08/01 01	440	08/01 02	1,890	08/01 20	2,050	09/01 06	710	08/01 04	1,040	08/01 12
Sat 08/01/2011 14:00	10	100.44	1,110	165,000	100.6	68.61	1,910	497,000	69.1	1,540	10/01 01	662,000	530	07/01 21	540	09/01 04	1,940	10/01 04	2,220	09/01 15	530	08/01 00	940	09/01 10
Sun 09/01/2011 01:00	12	100.32	1,110	182,000	100.6	68.63	1,890	515,000	68.9	1,520	10/01 14	697,000	530	07/01 21	510	09/01 16	1,890	10/01 15	2,220	10/01 03	530	08/01 00	840	10/01 00
Sun 09/01/2011 08:00	14	100.28	1,110	227,000	101.0	68.55	2,320	586,000	69.3	1,560	11/01 00	814,000	530	07/01 21	490	10/01 04	1,900	11/01 00	2,220	10/01 10	530	08/01 00	780	10/01 07
Sun 09/01/2011 14:00	17	100.47	1,990	311,000	101.1	68.58	4,720	798,000	71.3	1,560	11/01 09	1,108,000	690	10/01 23	790	10/01 04	2,240	11/01 02	2,590	10/01 15	690	11/01 02	1,210	10/01 12
Sun 09/01/2011 19:00	21	101.43	3,940	482,000	103.0	68.86	8,810	1,231,000	73.9	3,070	11/01 13	1,712,000	1,250	11/01 00	1,100	10/01 09	4,160	11/01 11	4,400	12/01 00	1,250	11/01 03	1,940	10/01 17
Mon 10/01/2011 01:00	23	102.51	3,910	546,000	103.4	69.97	8,890	1,376,000	74.7	2,860	11/01 19	1,922,000	1,290	11/01 04	1,090	10/01 13	4,110	11/01 08	4,480	11/01 21	1,290	11/01 07	2,000	10/01 23
Mon 10/01/2011 09:00	26	103.08	3,910	583,000	103.5	71.56	8,180	1,401,000	74.5	2,840	12/01 04	1,985,000	1,220	11/01 12	1,310	10/01 20	4,020	11/01 15	4,680	11/01 12	1,220	11/01 15	2,090	11/01 07
Mon 10/01/2011 15:00	28	103.43	3,910	628,000	103.7	72.54	8,180	1,533,000	75.2	2,900	12/01 08	2,162,000	1,590	11/01 18	1,710	11/01 01	4,460	11/01 22	5,180	11/01 15	1,590	11/01 21	2,570	11/01 11
Mon 10/01/2011 20:00	31	103.46	3,950	601,000	103.5	73.06	8,180	1,381,000	74.3	2,820	12/01 06	1,982,000	1,060	11/01 21	1,120	11/01 06	3,870	12/01 01	4,470	11/01 15	1,060	12/01 00	1,840	11/01 12
Tue 11/01/2011 04:00	35	103.28	3,950	626,000	103.7	73.40	8,180	1,641,000	74.9	3,050	12/01 14	2,267,000	1,050	12/01 00	1,050	11/01 15	3,900	12/01 04	4,540	11/01 15	1,050	12/01 03	1,810	11/01 14
Tue 11/01/2011 08:00	37	103.46	3,910	684,000	104.2	73.70	8,180	1,776,000	75.1	3,760	12/01 11	2,460,000	2,130	12/01 04	1,210	11/01 20	5,870	12/01 07	6,540	12/01 07	2,130	12/01 07	3,000	12/01 04
Tue 11/01/2011 13:00	39	103.91	3,980	875,000	105.7	74.39	8,680	2,248,000	76.2	5,430	12/01 20	3,123,000	3,560	11/01 21	3,300	11/01 22	8,860	12/01 11	10,650	12/01 10	3,560	12/01 00	5,770	12/01 05
Tue 11/01/2011 19:00	41	104.60	3,910	928,000	105.9	74.97	8,830	2,362,000	75.1	7,520	12/01 15	3,289,000	4,020	12/01 04	3,530	12/01 02	11,530	12/01 07	13,470	12/01 11	4,020	12/01 07	6,910	12/01 04
Wed 12/01/2011 08:00	43	104.83				74.82																		

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RUN 5

DATE: FRIDAY, 7 JANUARY 2011

TIME: 02:00

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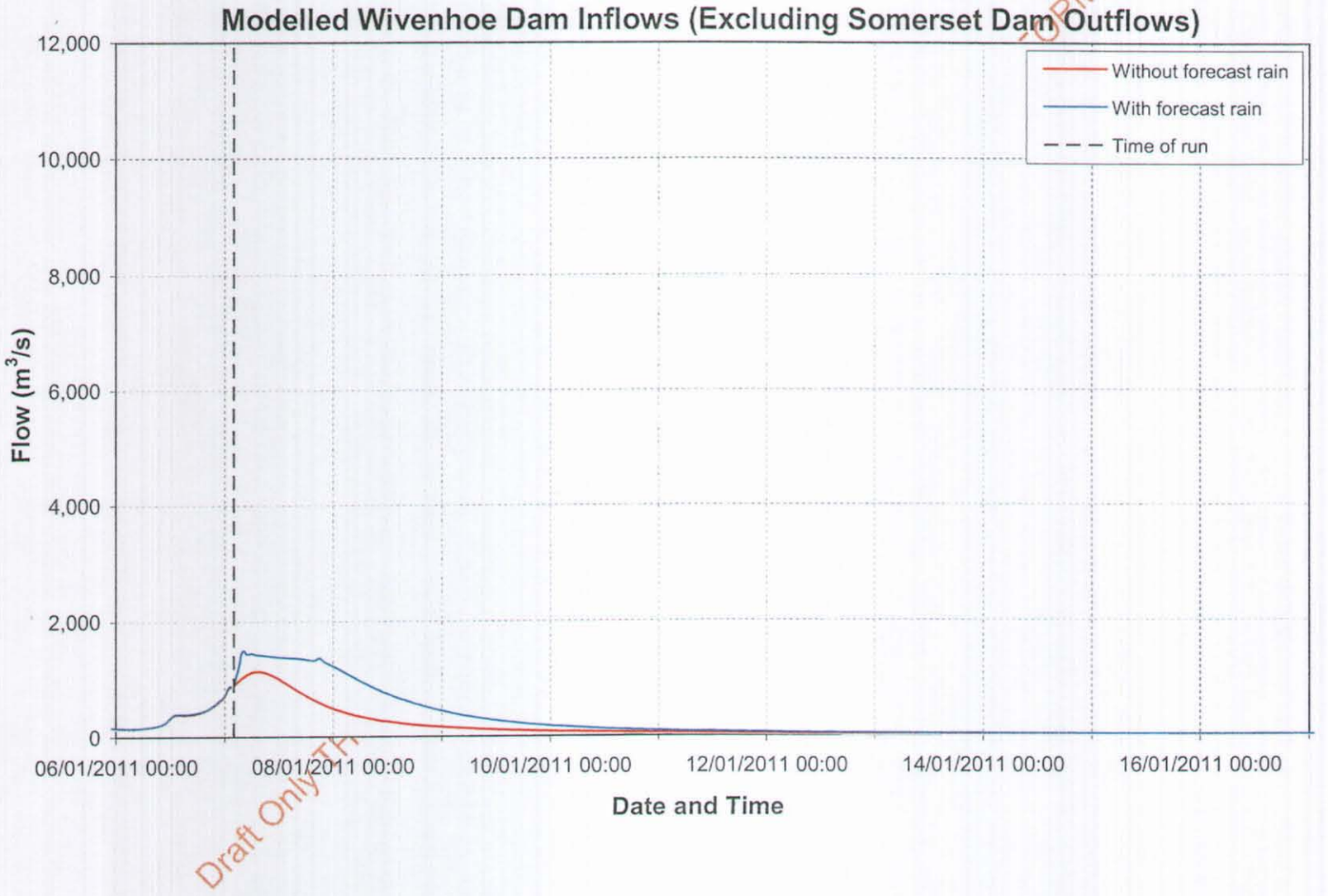

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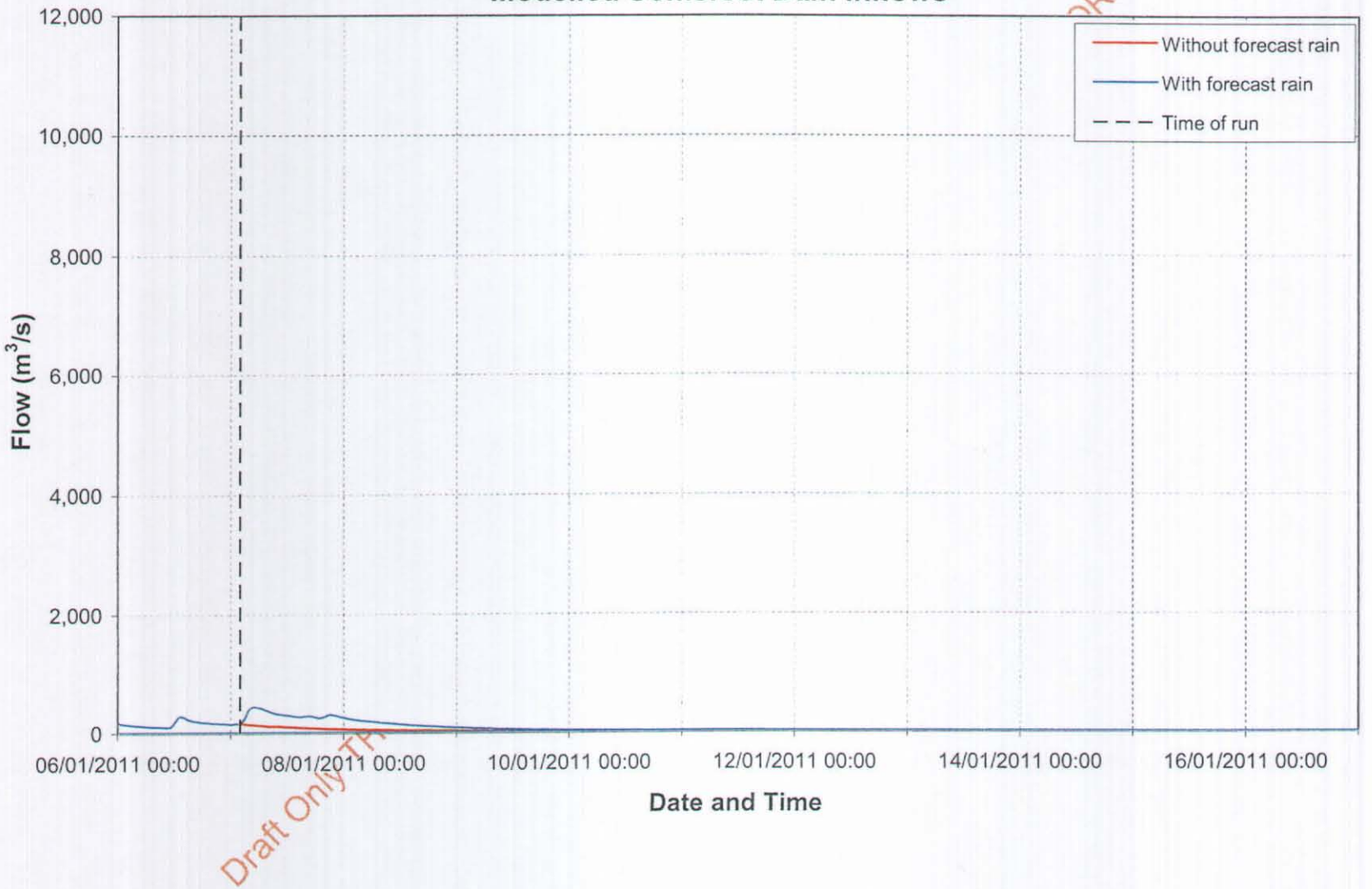

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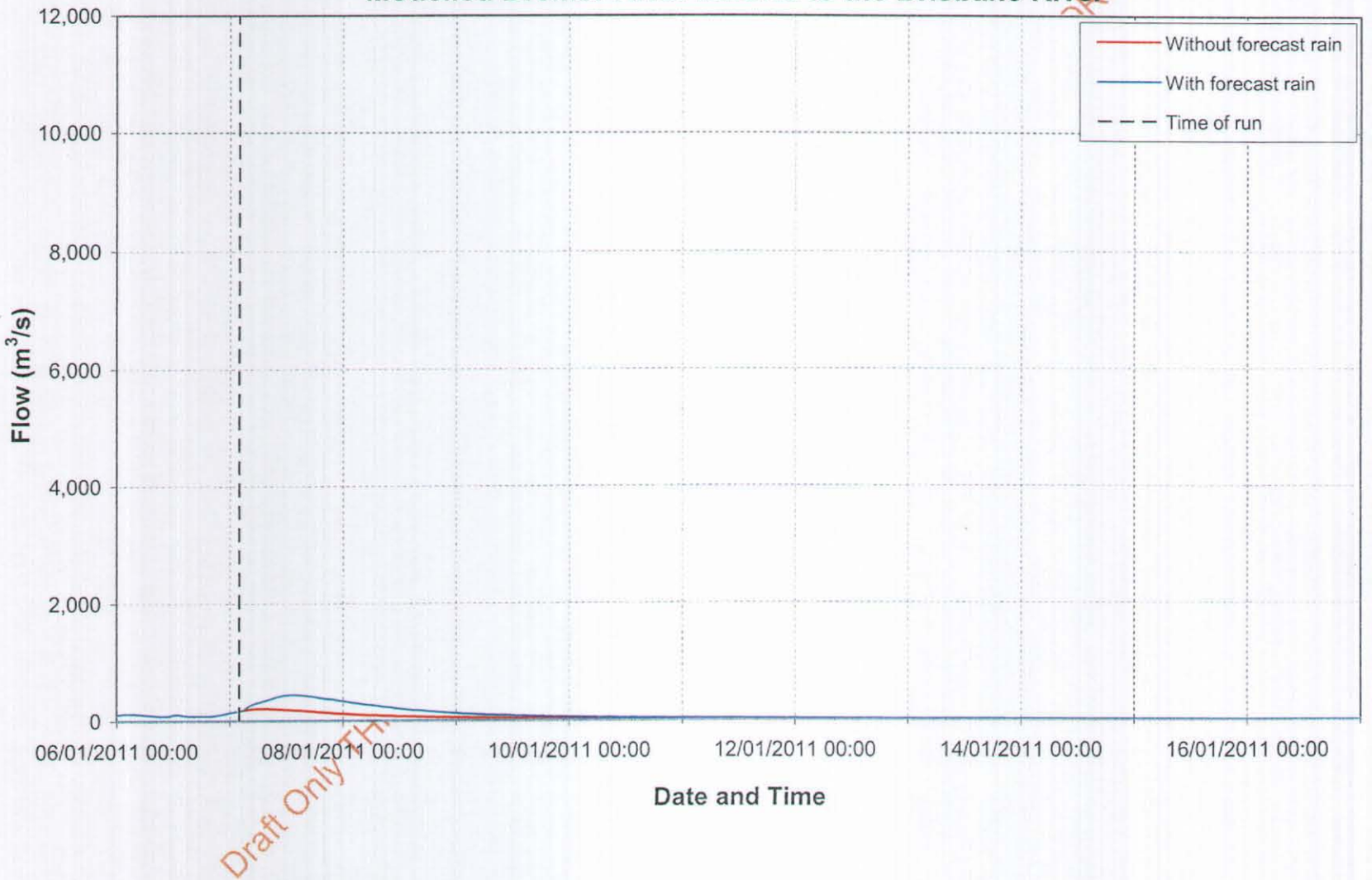

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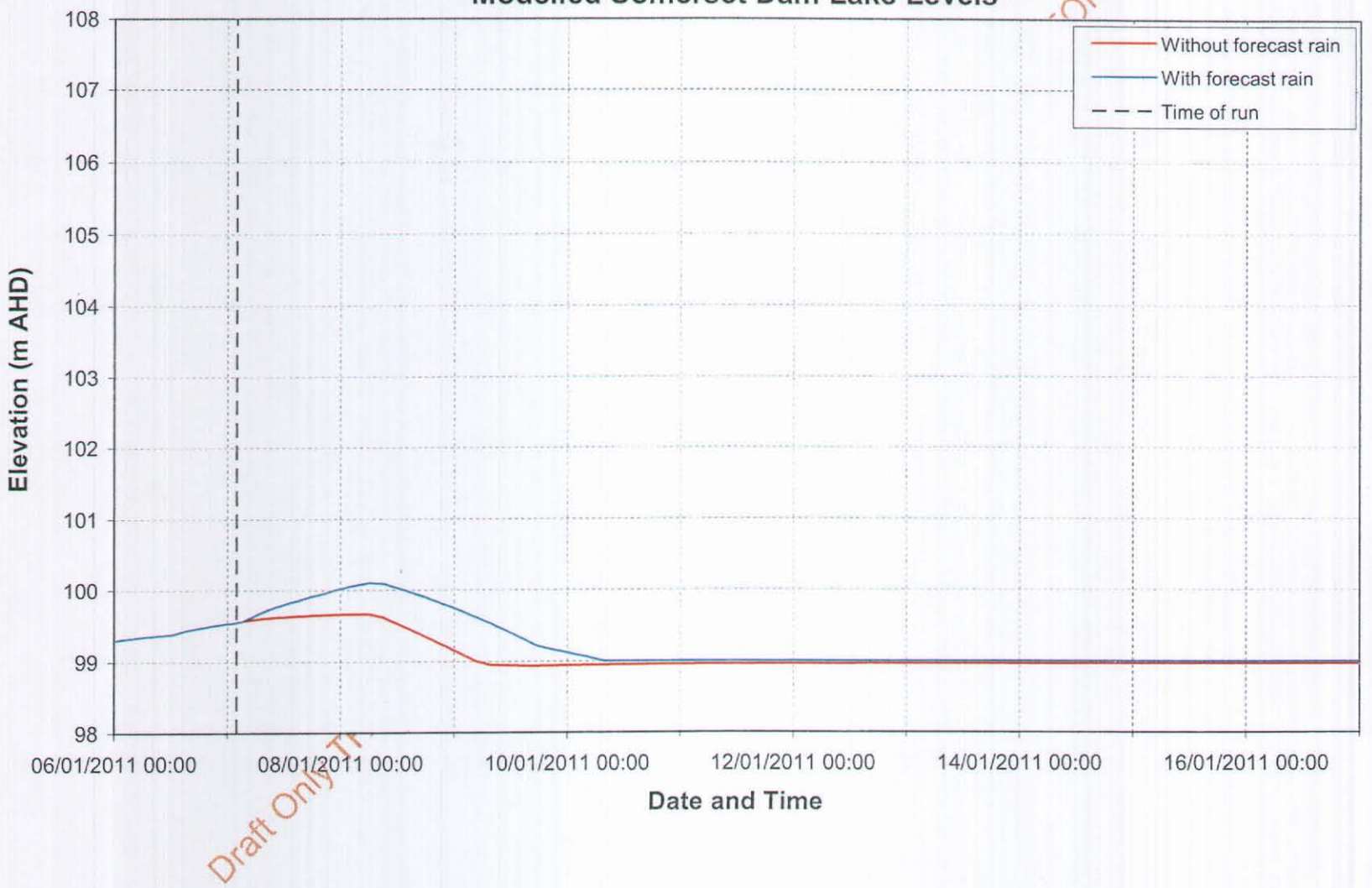

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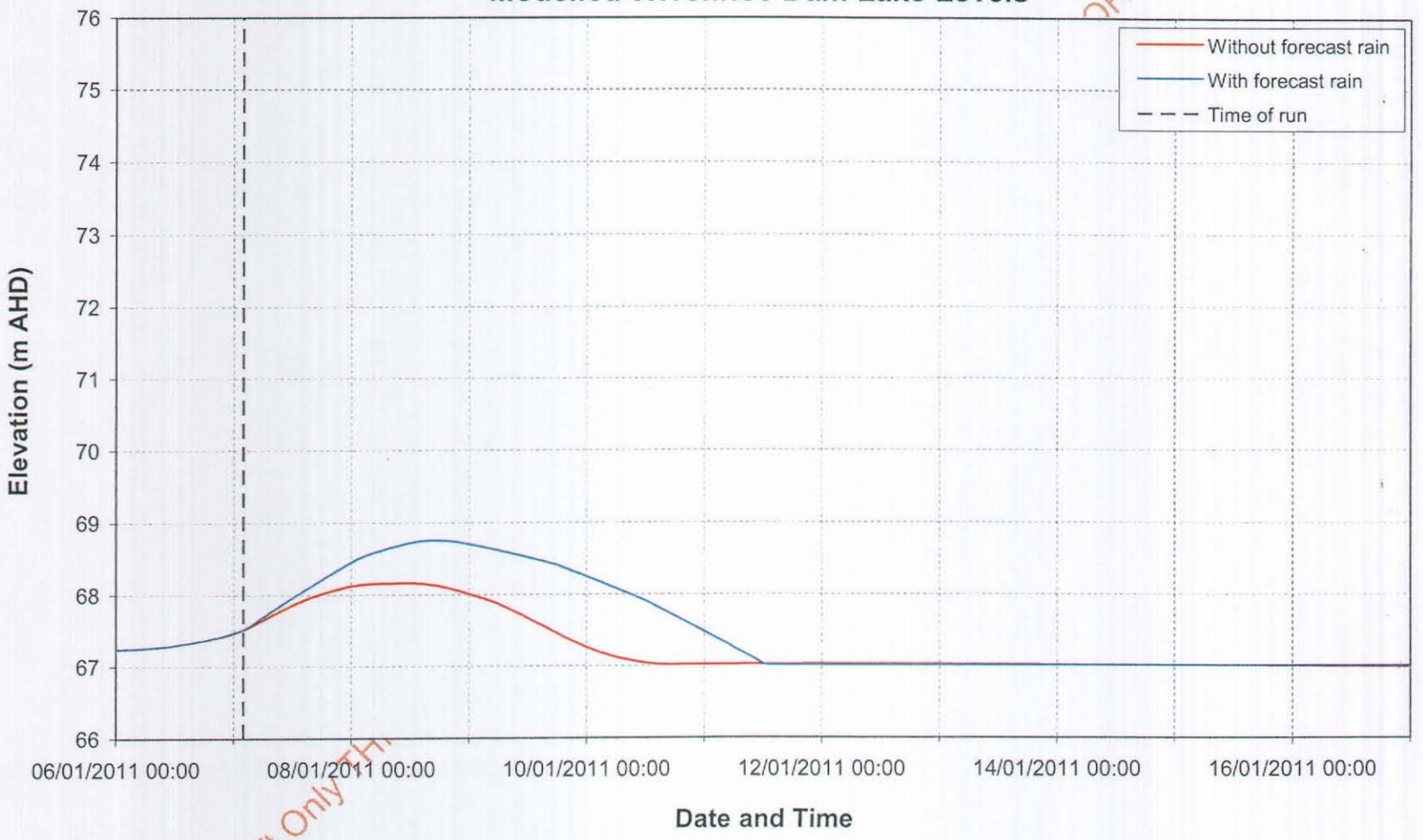

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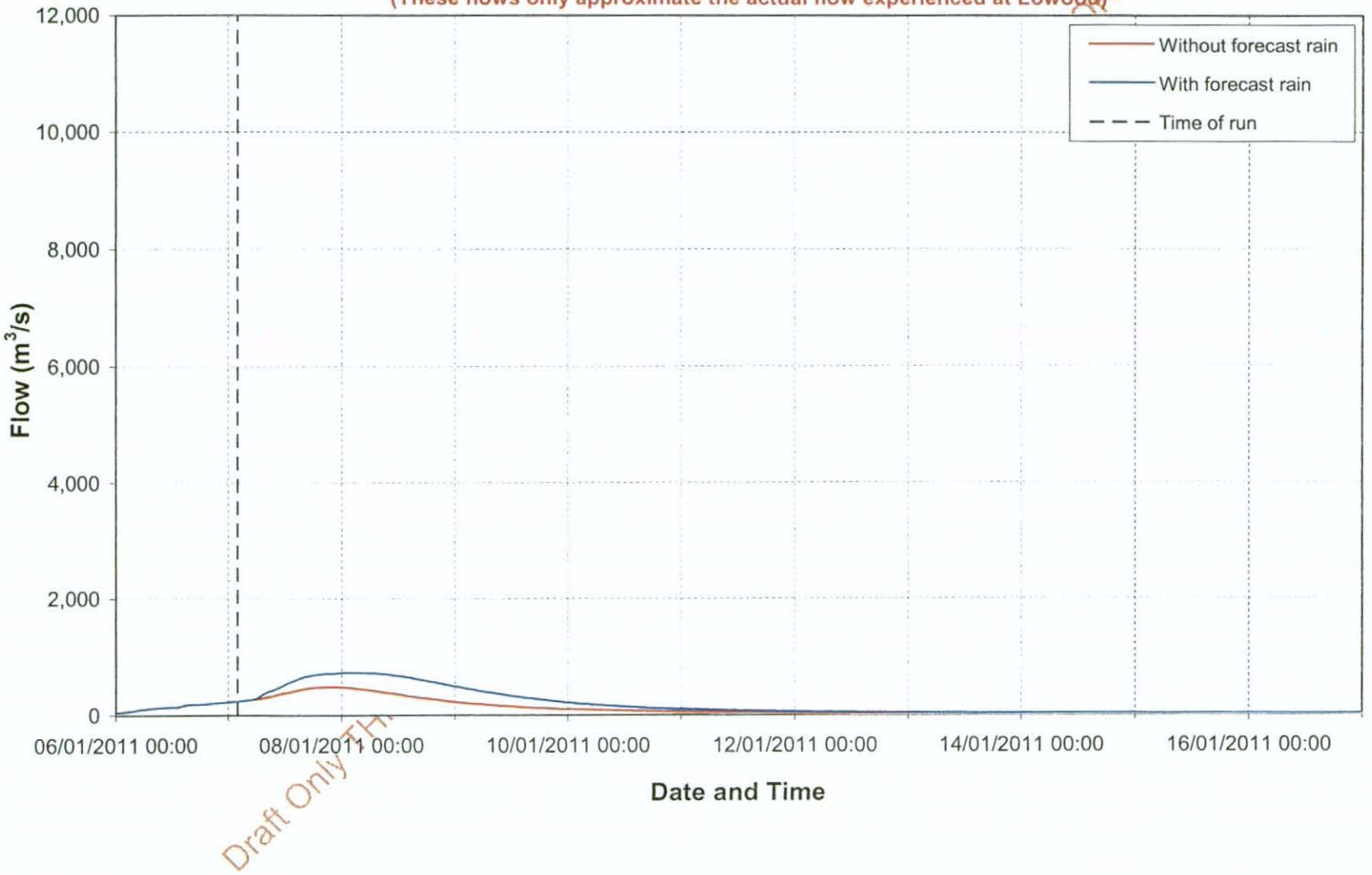
Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Lowood)



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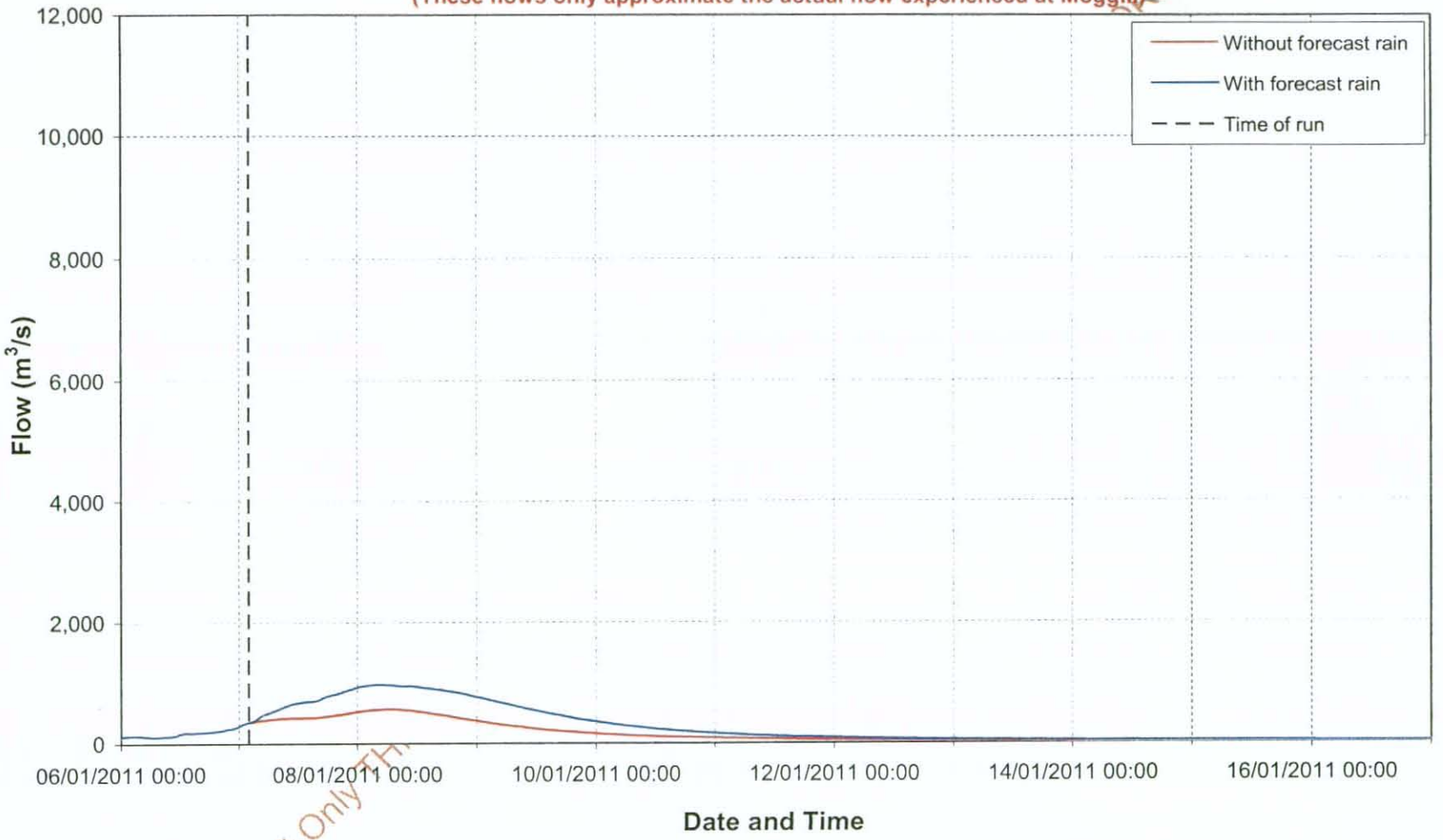
Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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RUN 7

DATE: FRIDAY, 7 JANUARY 2011

TIME: 09:00

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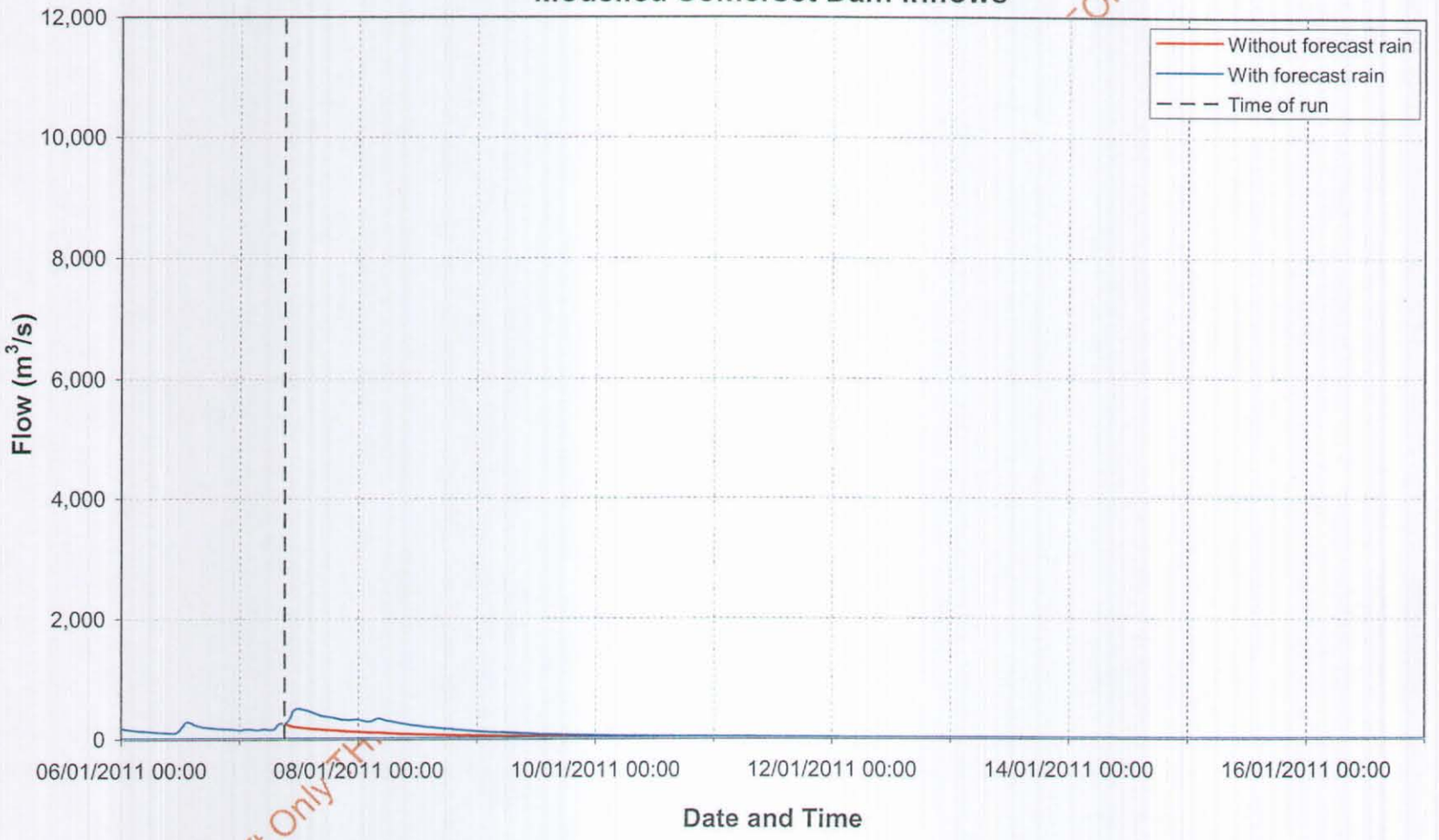
Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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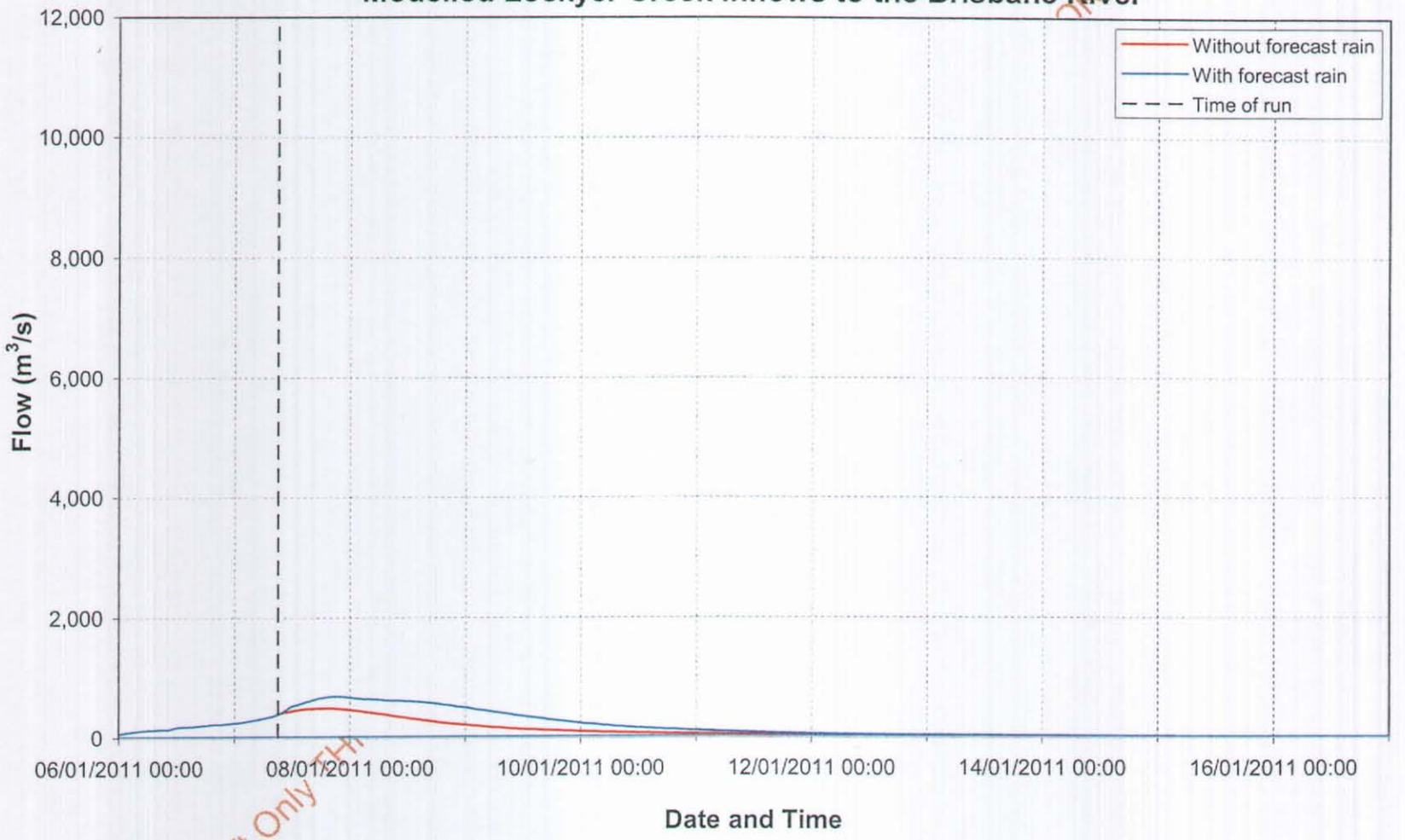
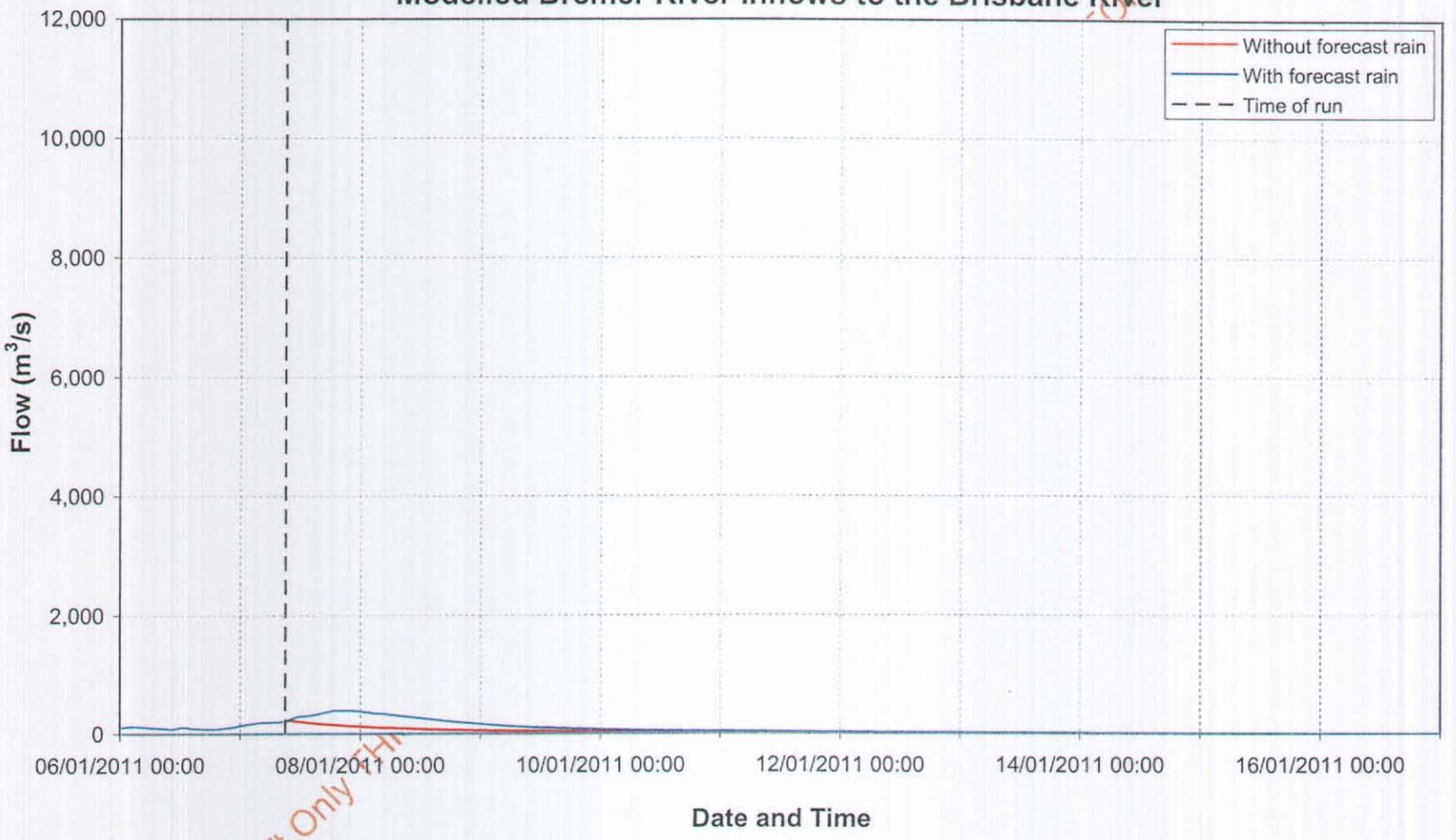


Draft Only - FH



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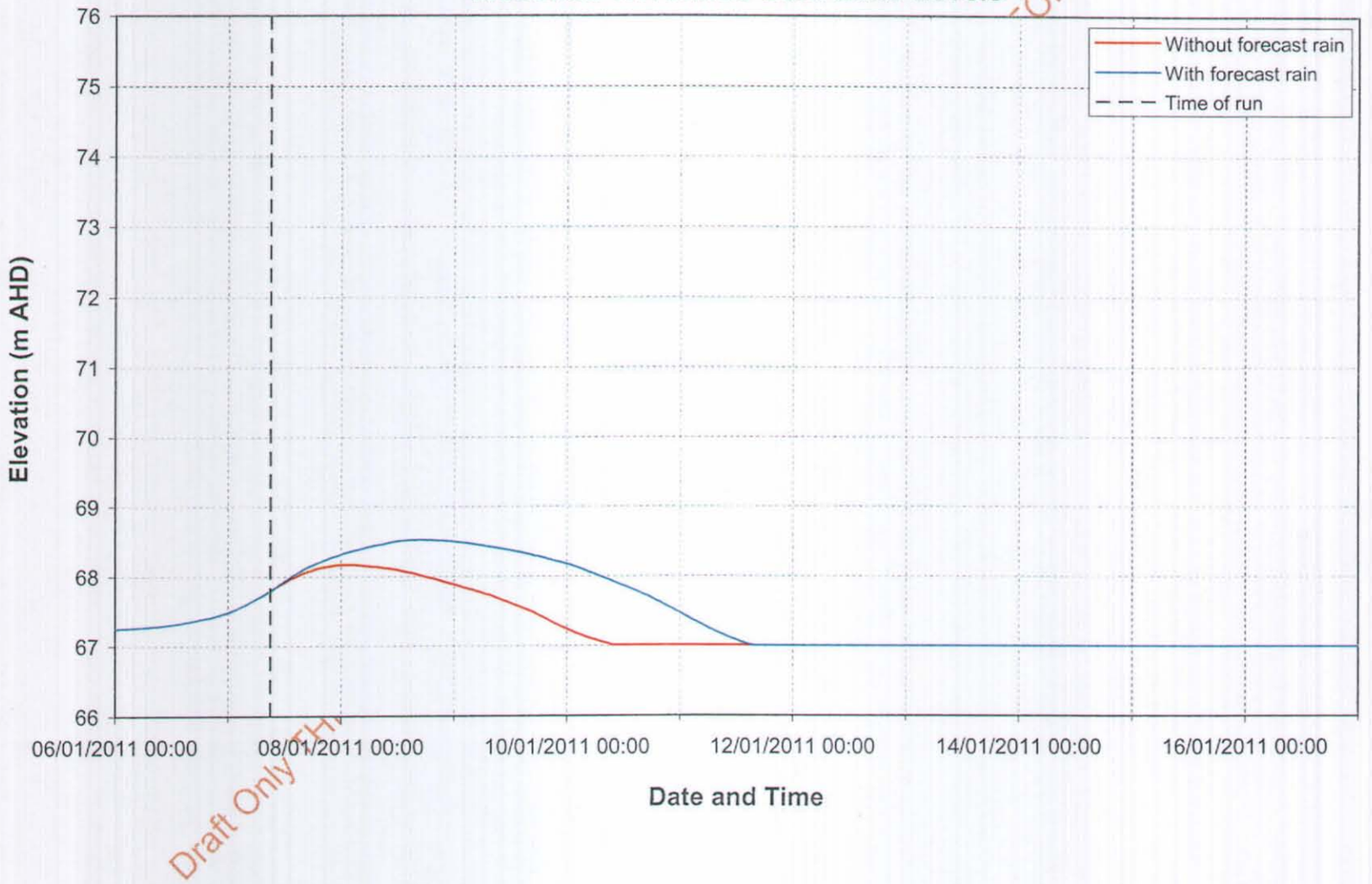

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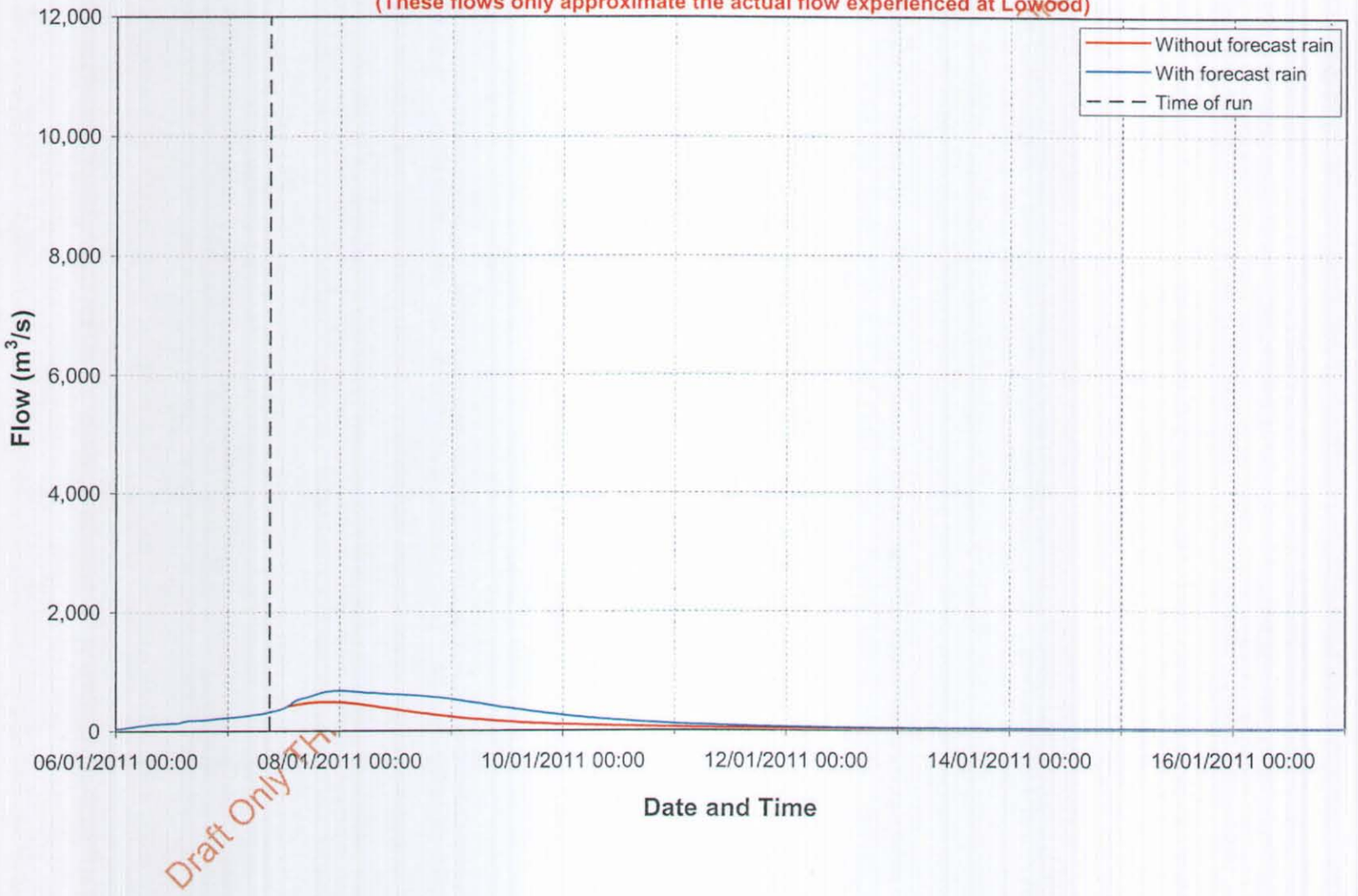
Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Lowood)



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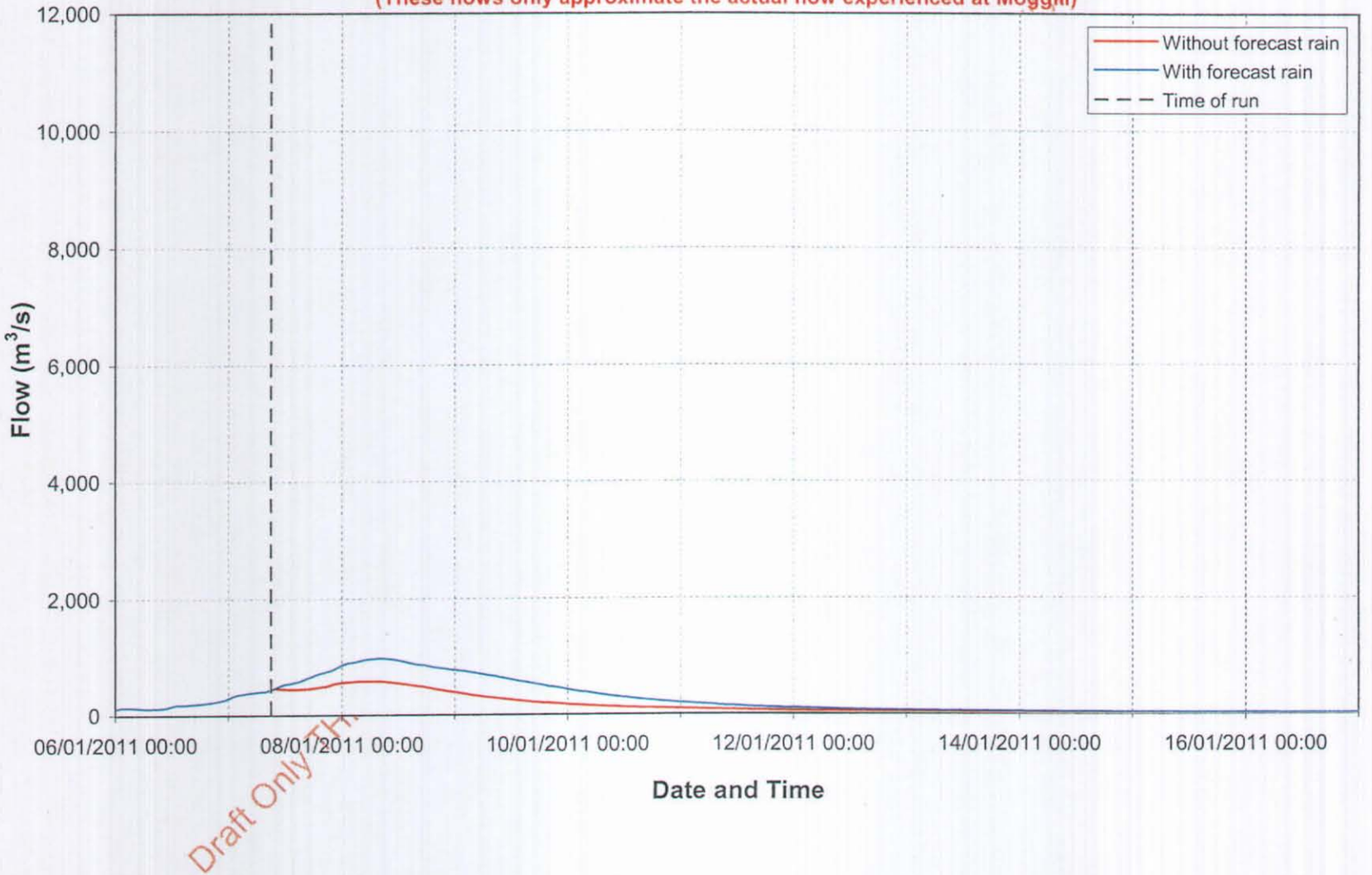
Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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RUN 8

DATE: FRIDAY, 7 JANUARY 2011

TIME: 15:00

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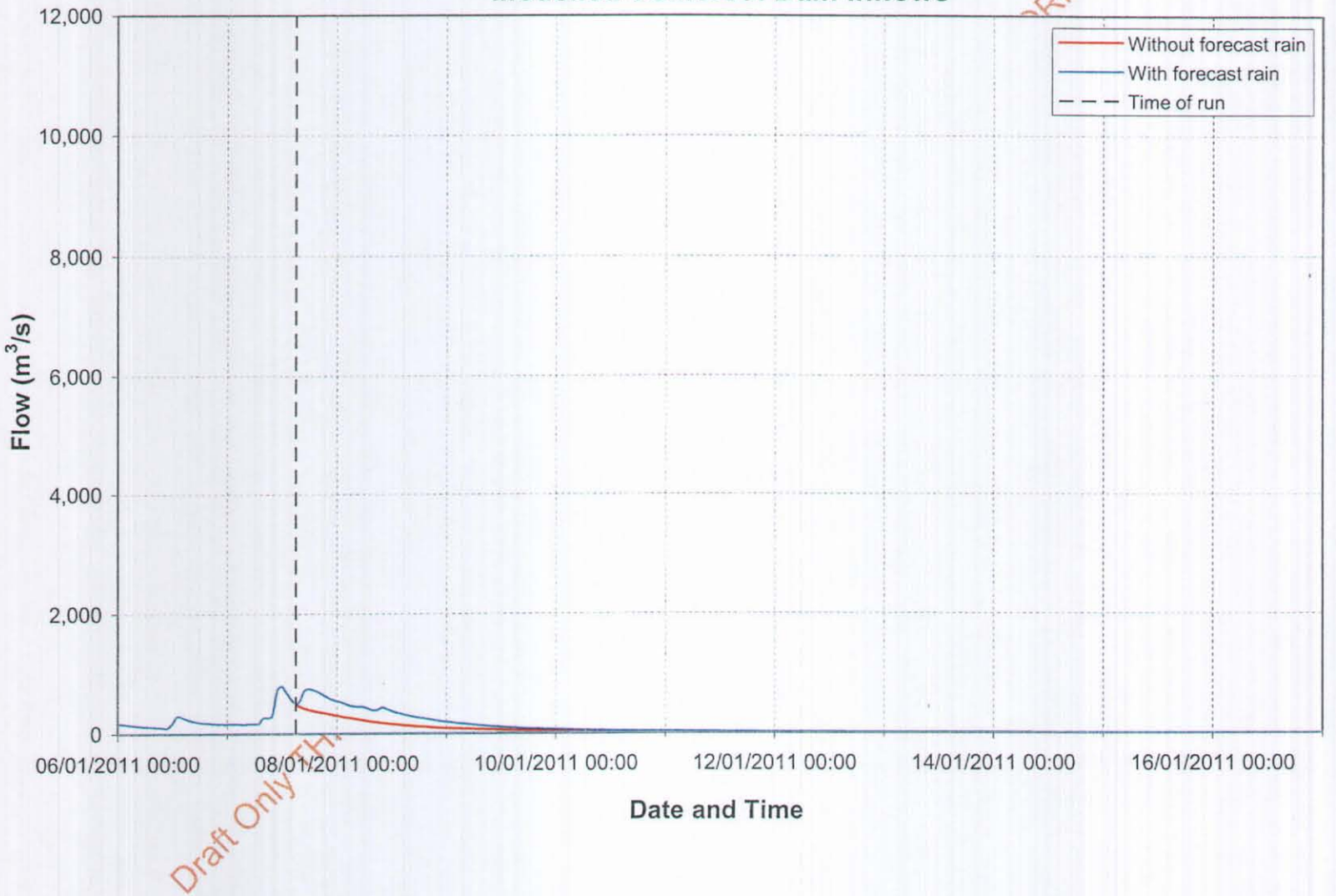
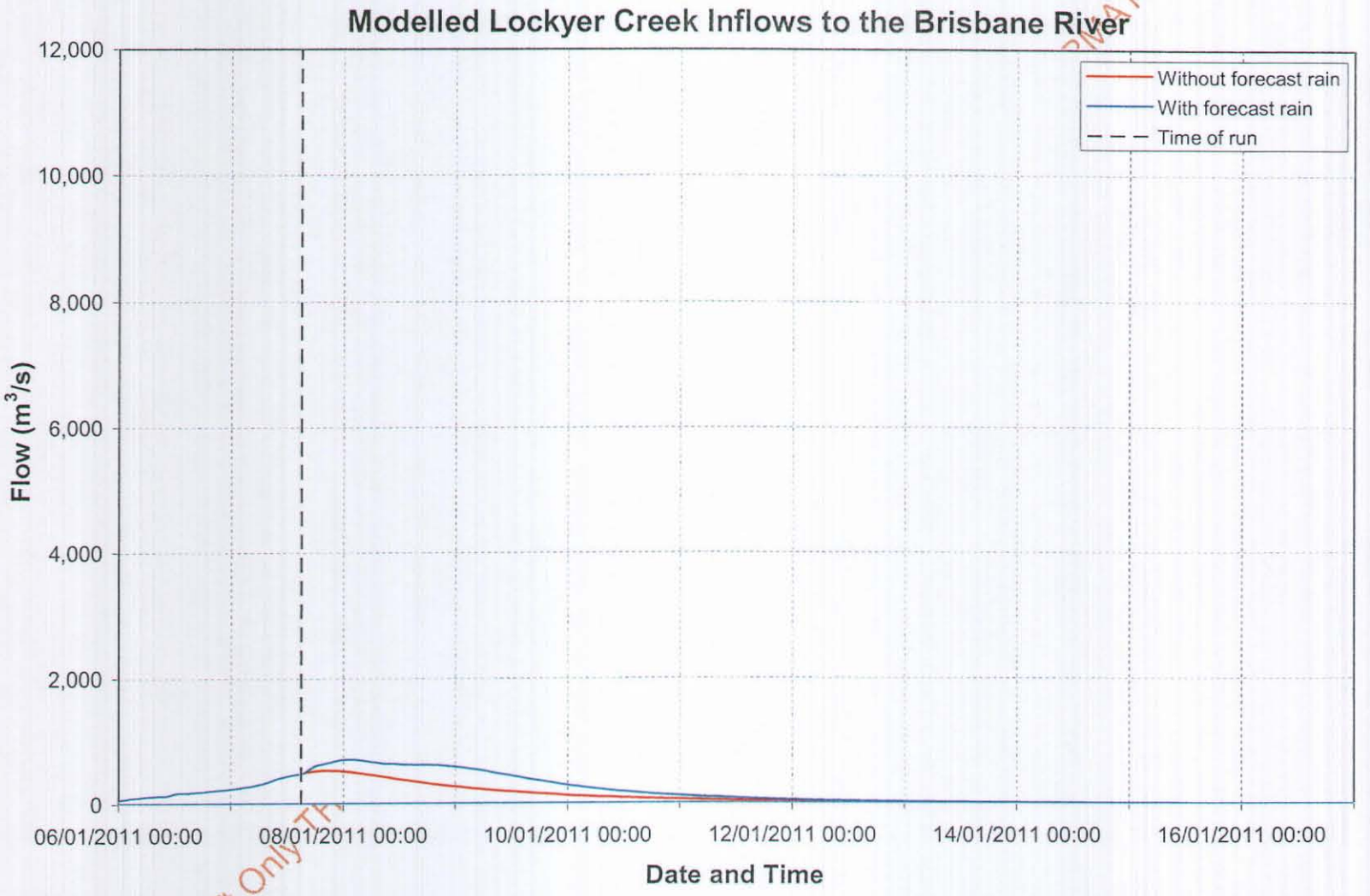
Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

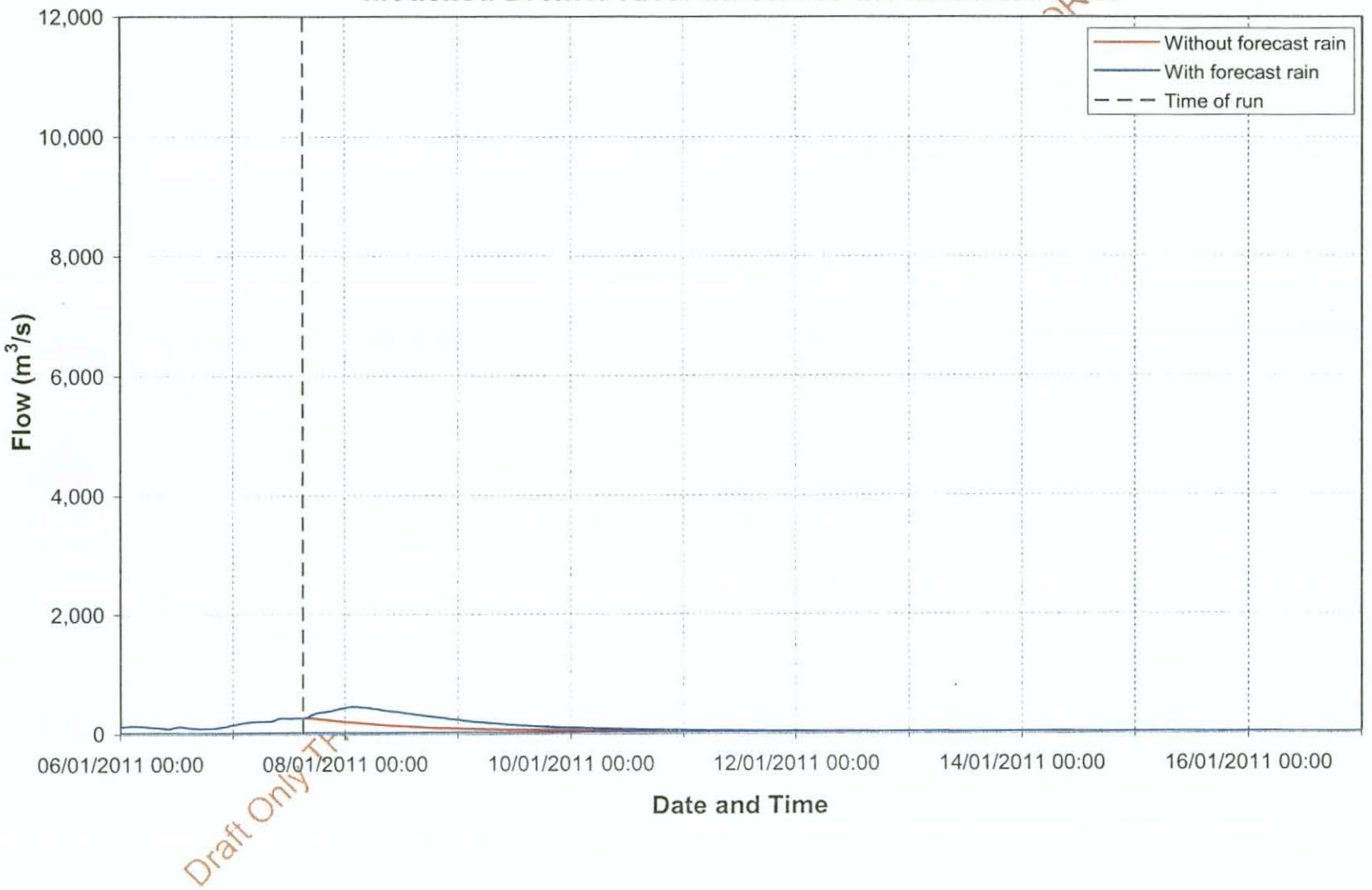
Draft Only


Modelled Somerset Dam Inflows
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

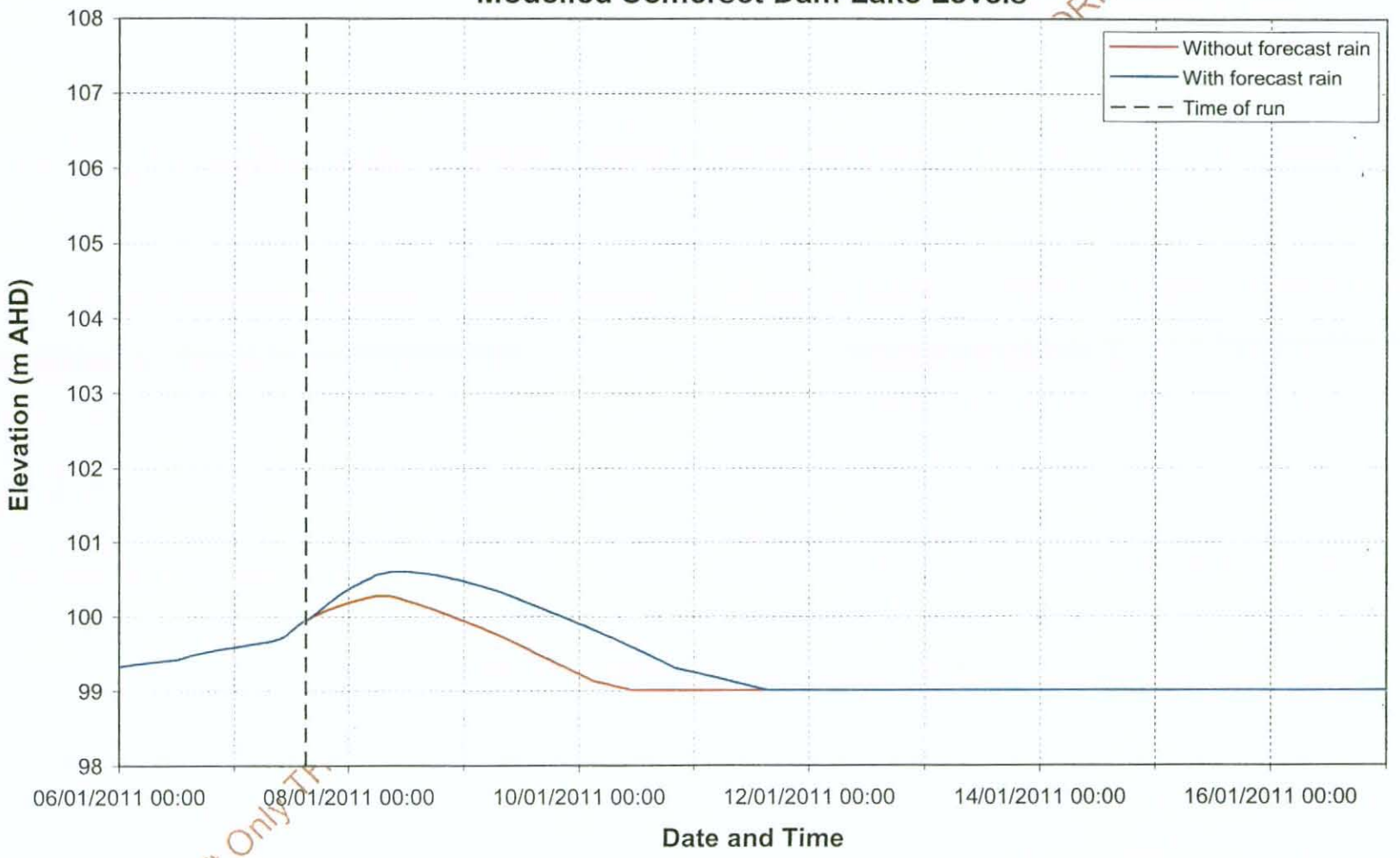
Draft Only



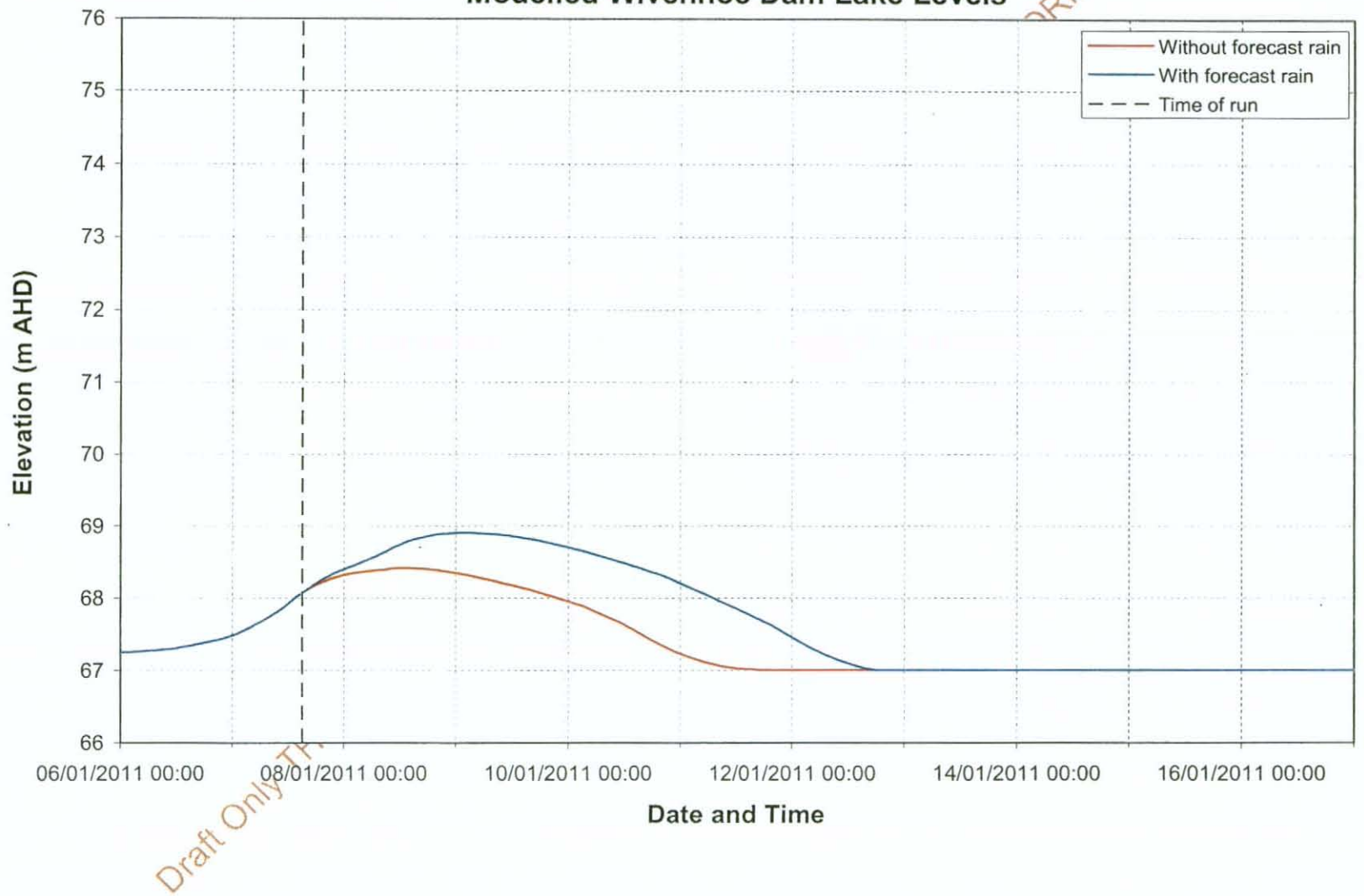
Draft Only TH



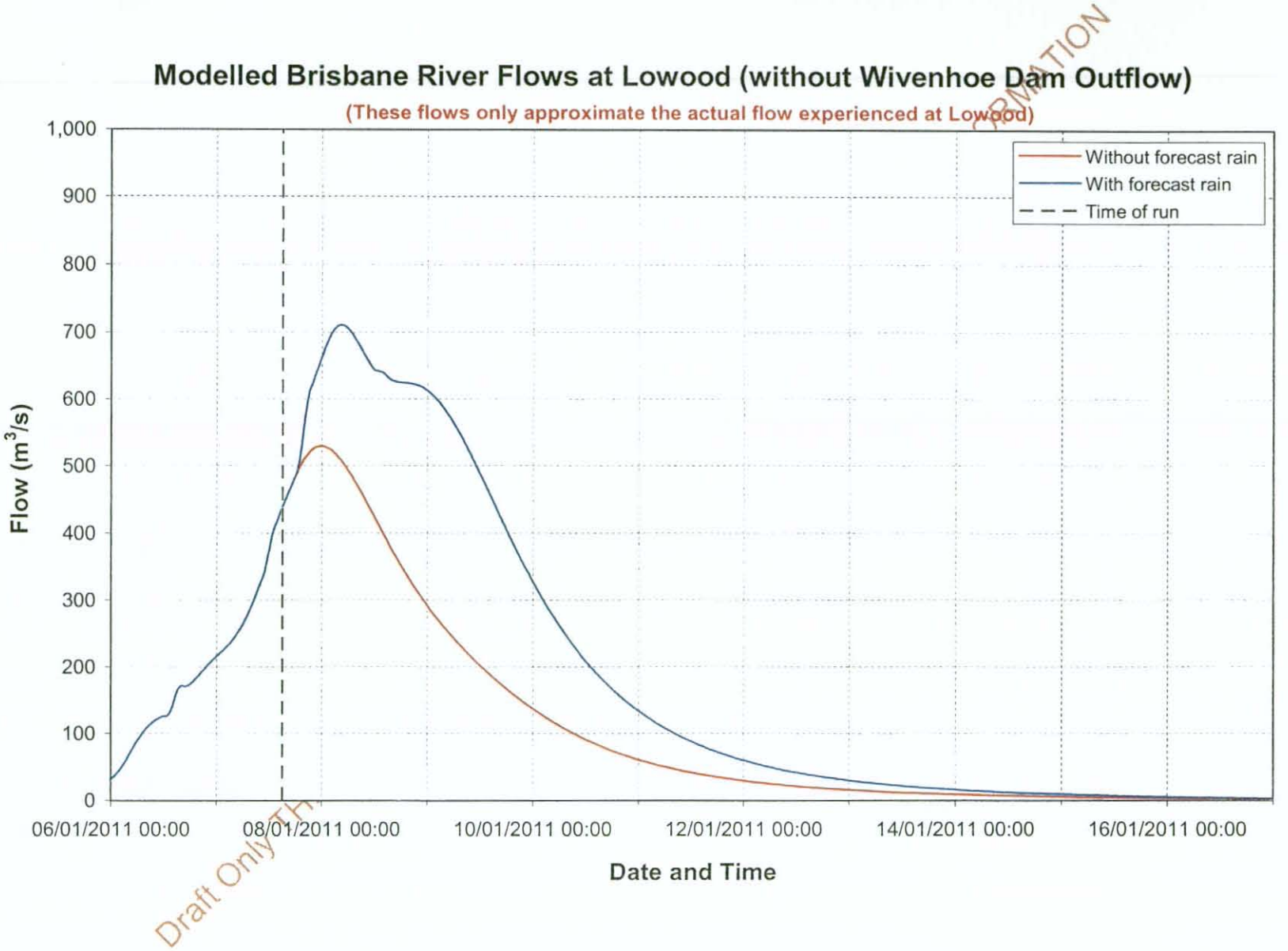
Draft Only TH

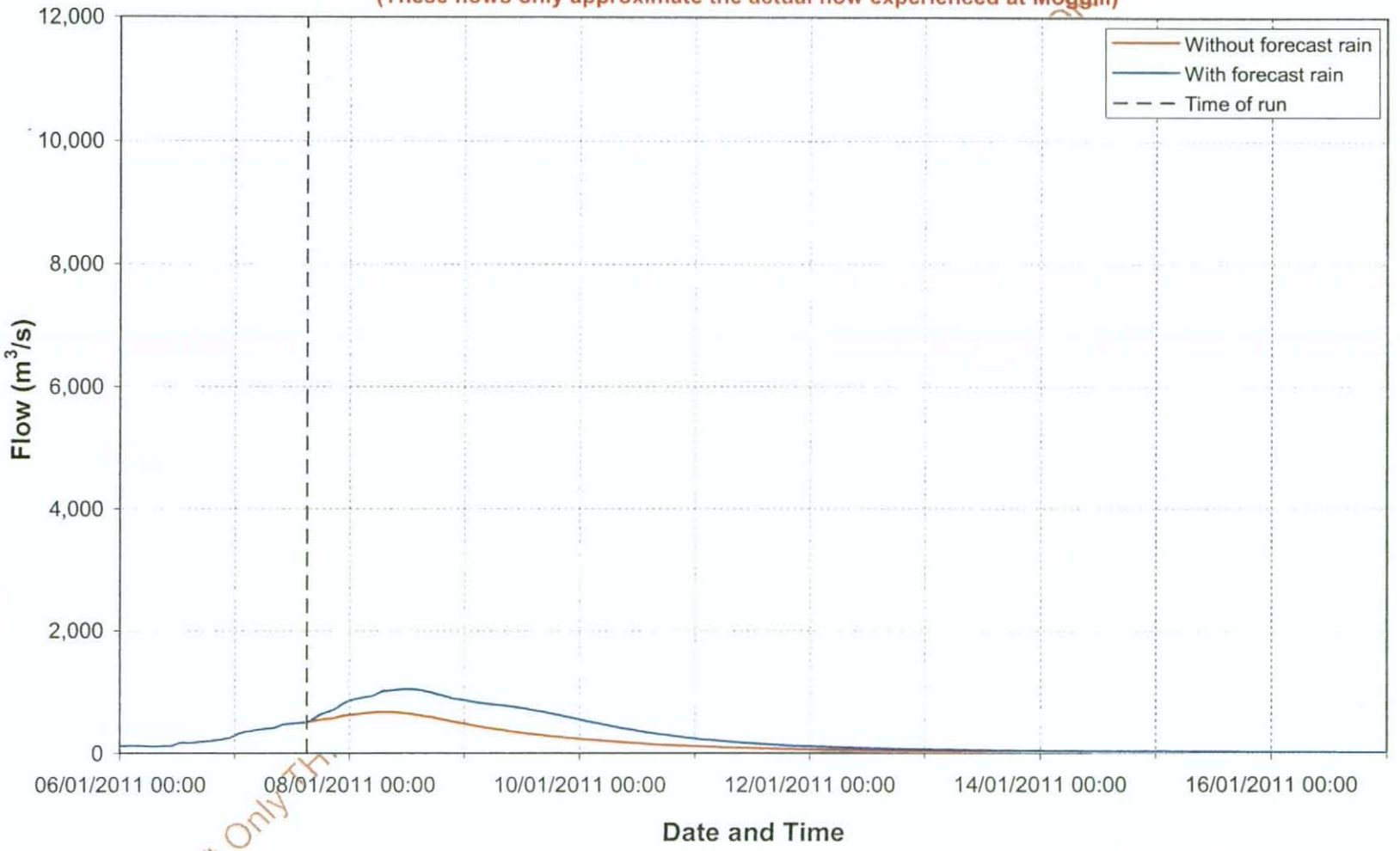


ORMATION
Draft Only TP


Modelled Wivenhoe Dam Lake Levels
Without forecast rain
With forecast rain
Time of run
Elevation (m AHD)
76
75
74
73
72
71
70
69
68
67
66
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only


Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)
(These flows only approximate the actual flow experienced at Lowood)
Without forecast rain
With forecast rain
Time of run
Flow (m³/s)
1,000
900
800
700
600
500
400
300
200
100
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time
Draft Only TH
ORMATION


Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)
(These flows only approximate the actual flow experienced at Moggill)
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

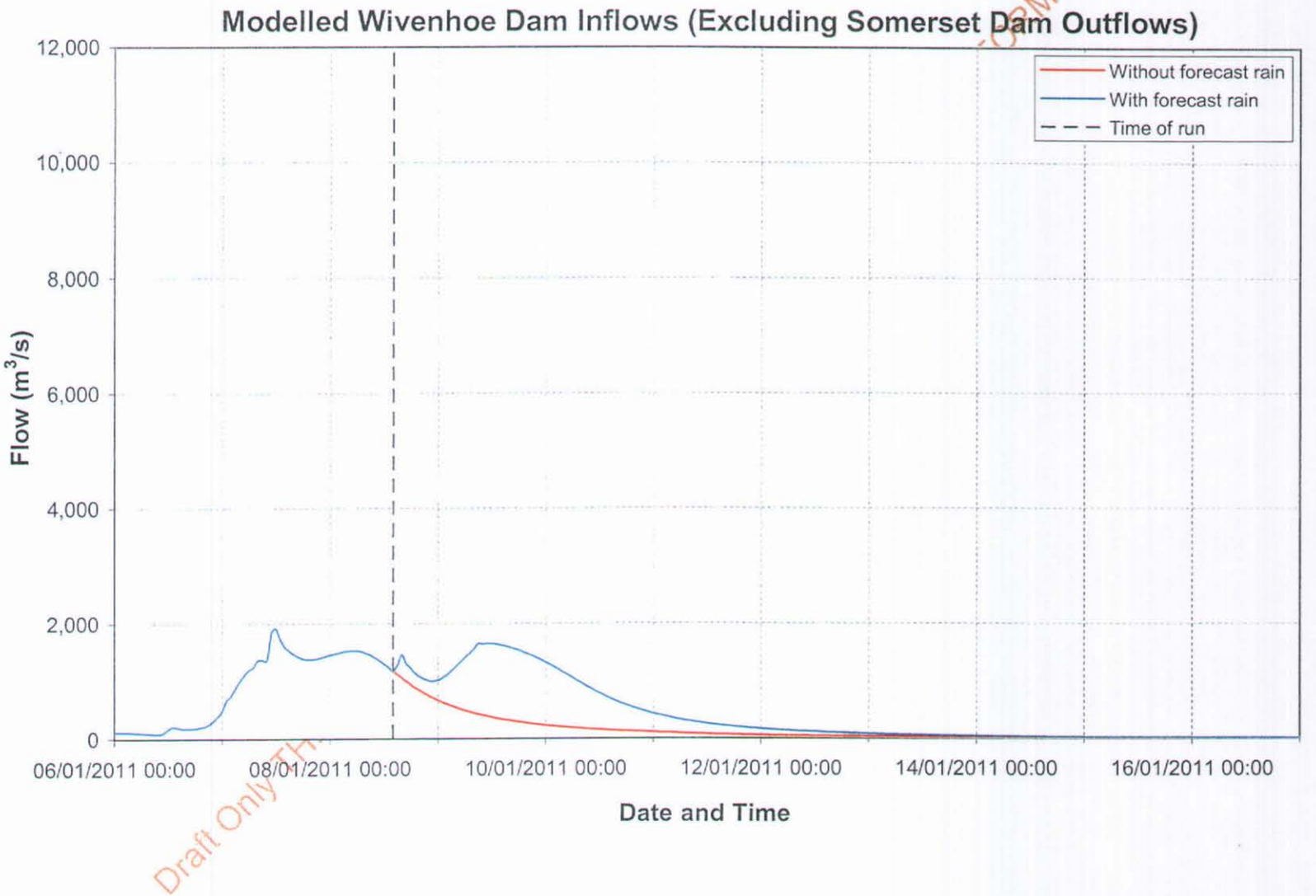
Draft Only

RUN 10

DATE: SATURDAY, 8 JANUARY 2011

TIME: 14:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



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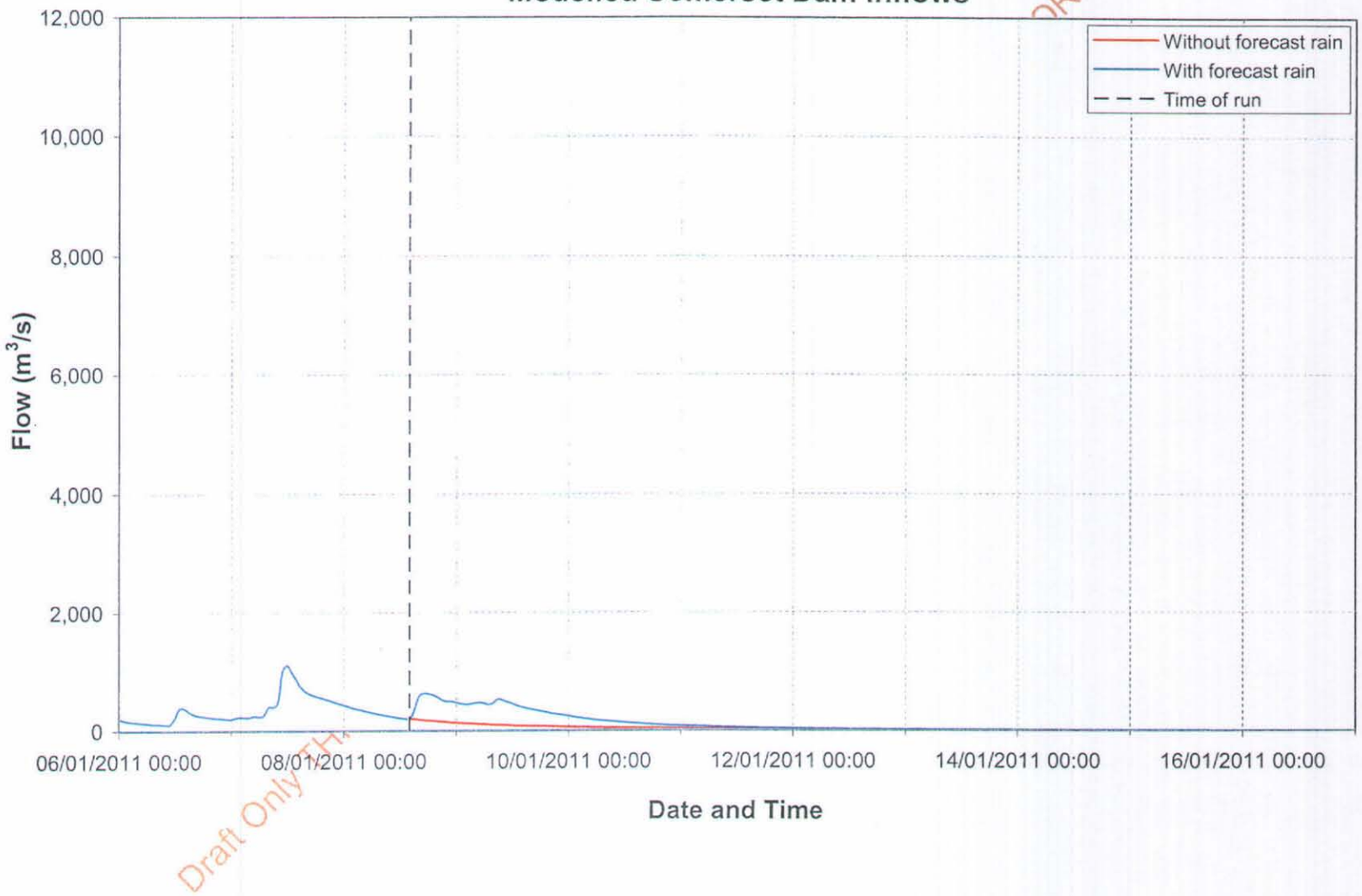

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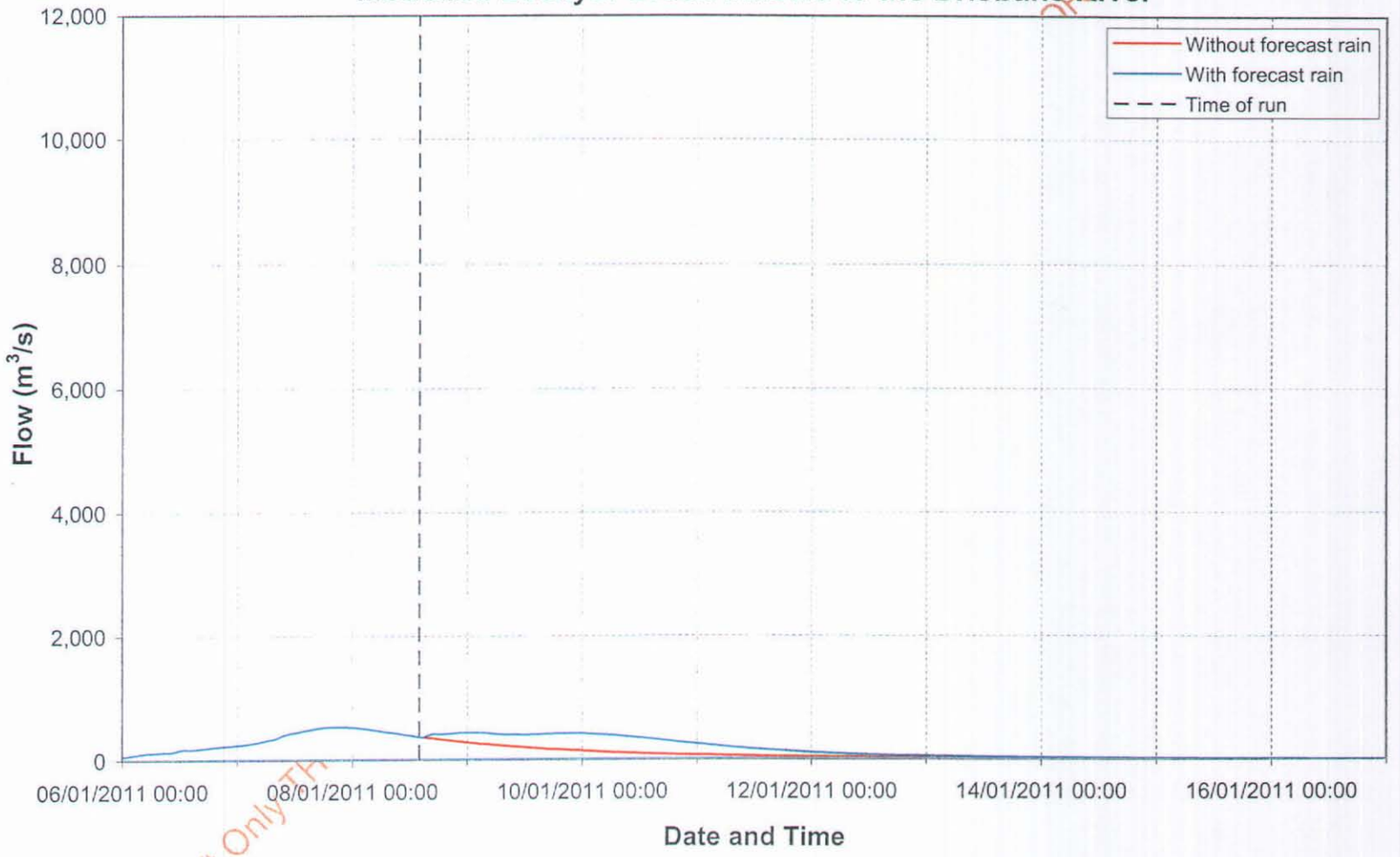
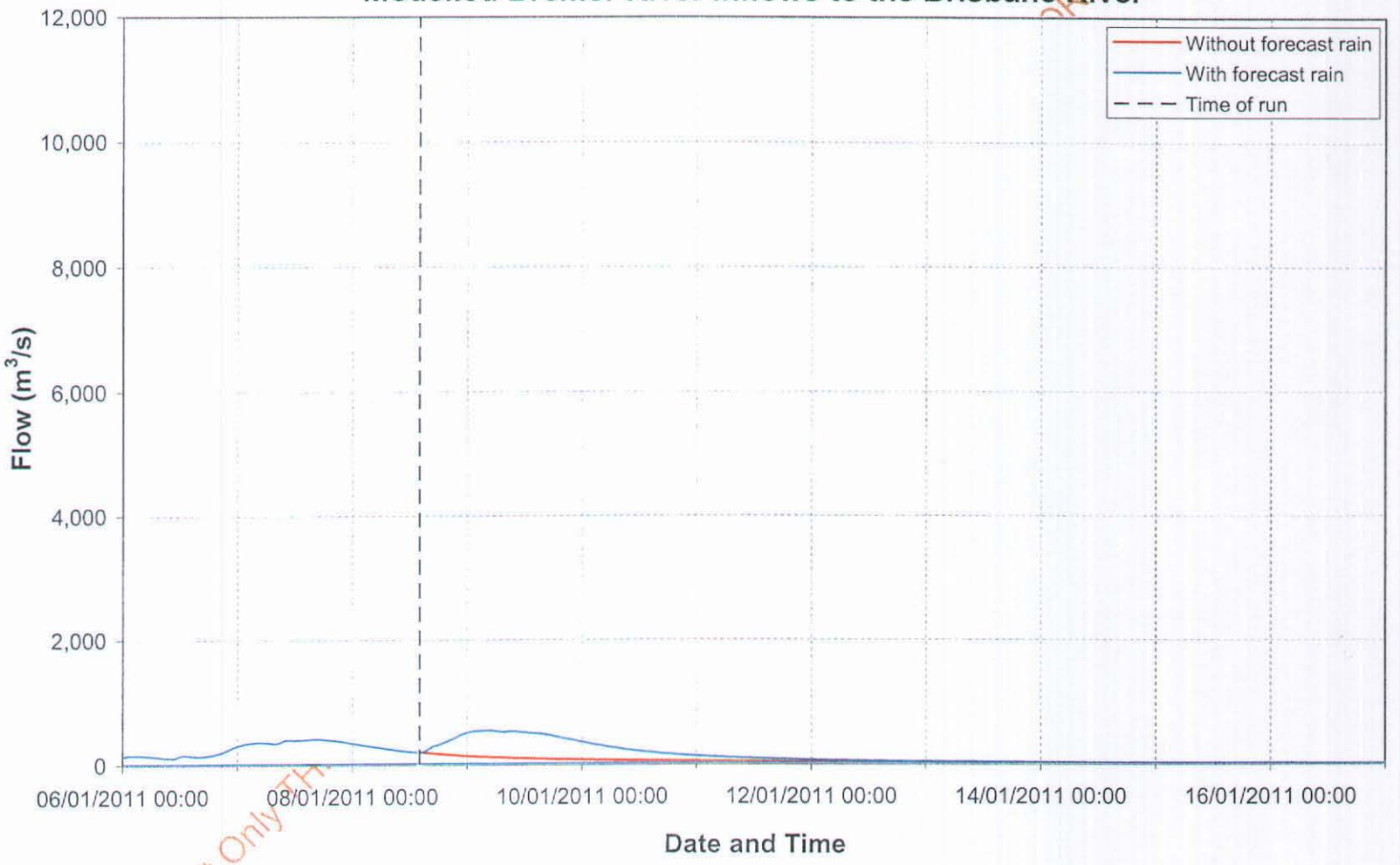
Draft Only FH



Draft Only TH



Draft Only TH



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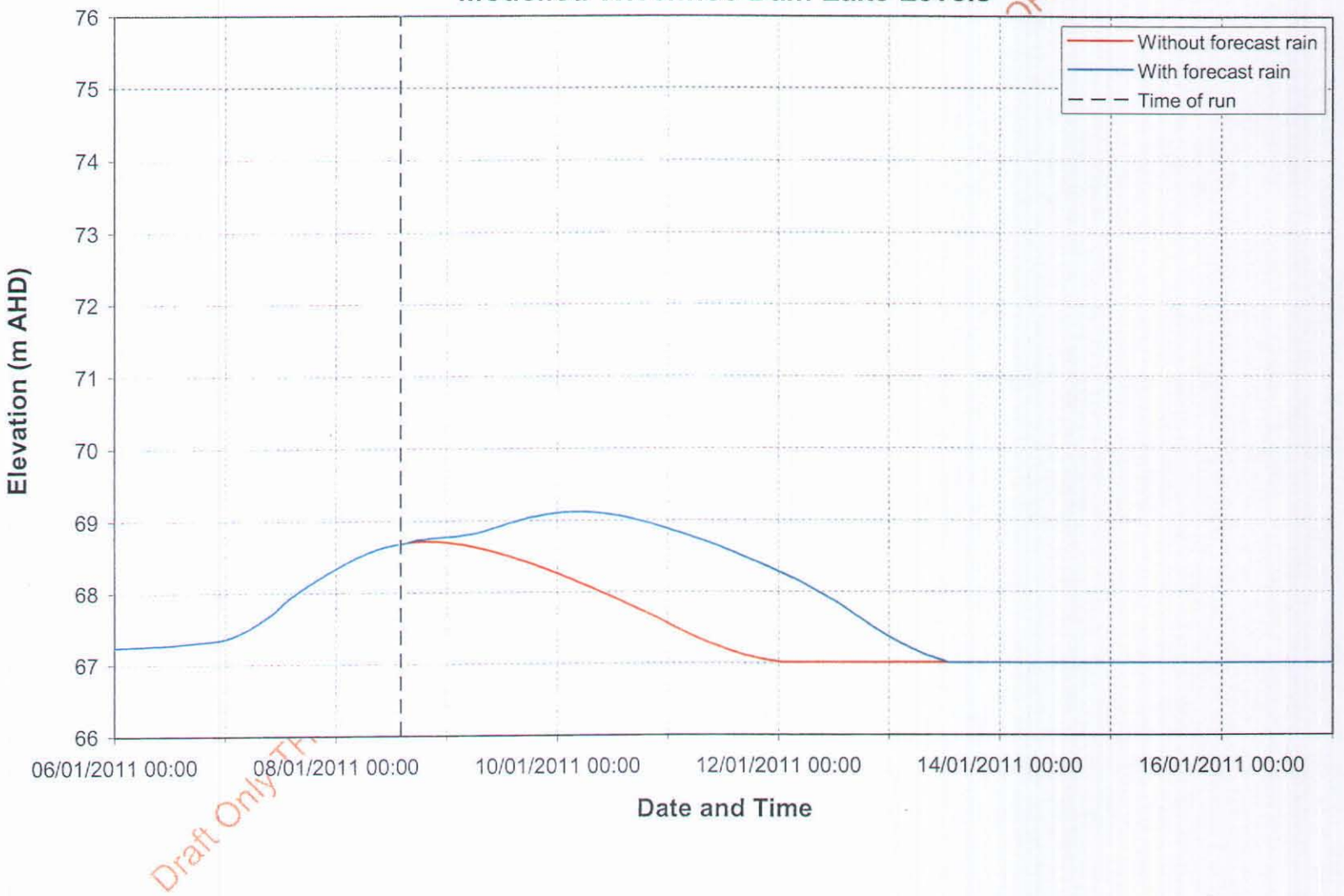
Draft Only TH



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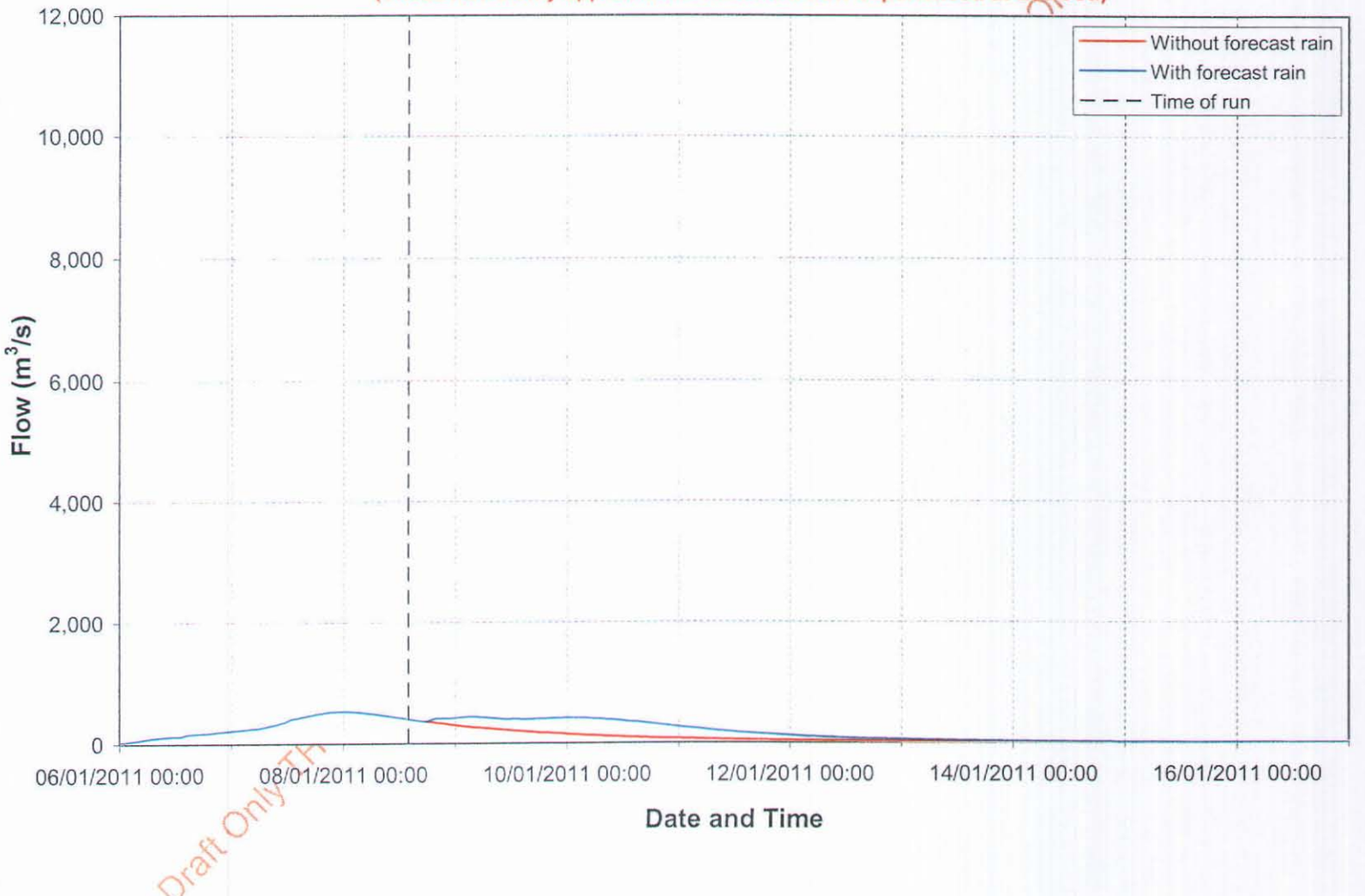
Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

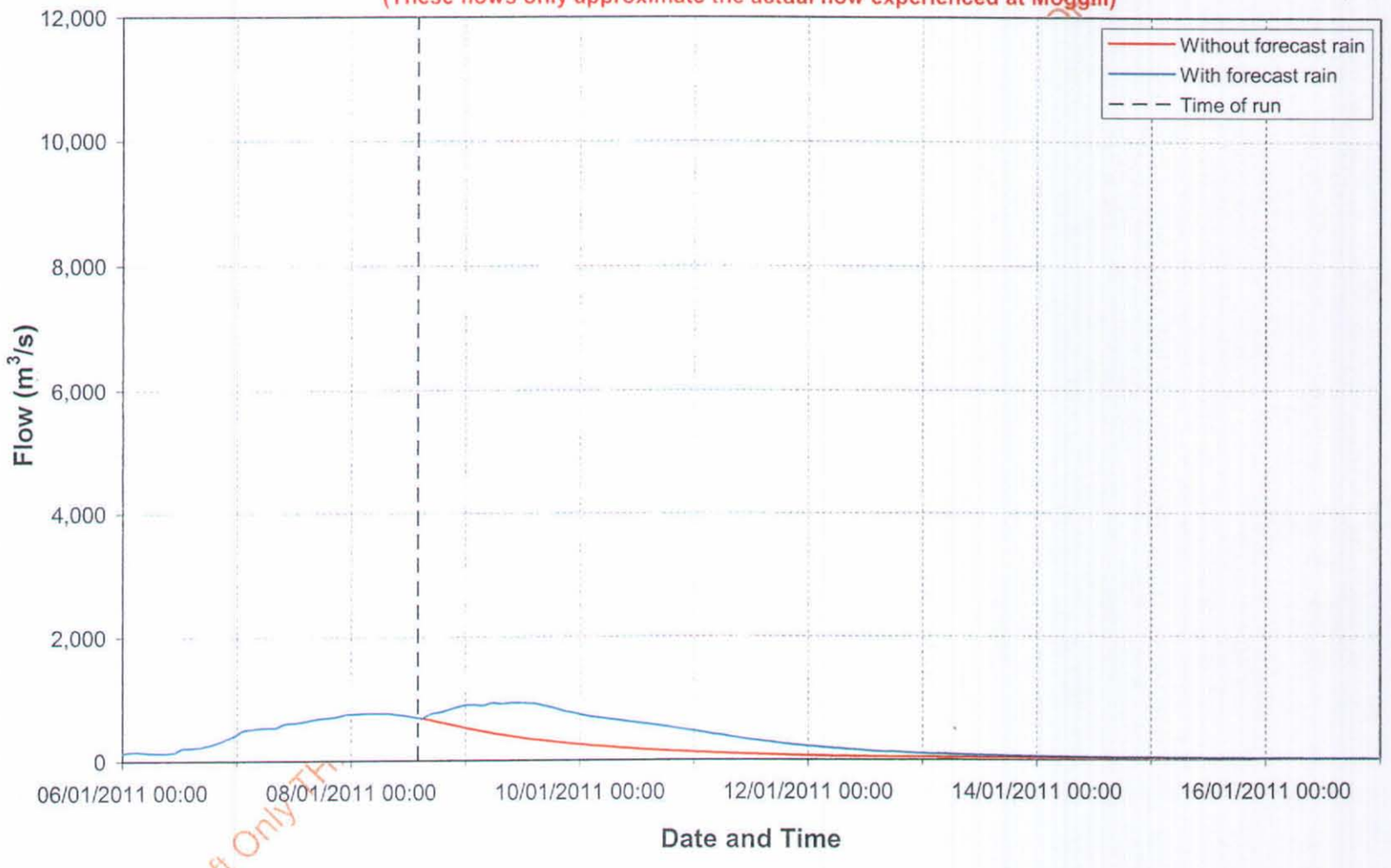
(These flows only approximate the actual flow experienced at Lowood)



Draft Only TH
ORMATION

Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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RUN 12

DATE: SUNDAY, 9 JANUARY 2011

TIME: 01:00

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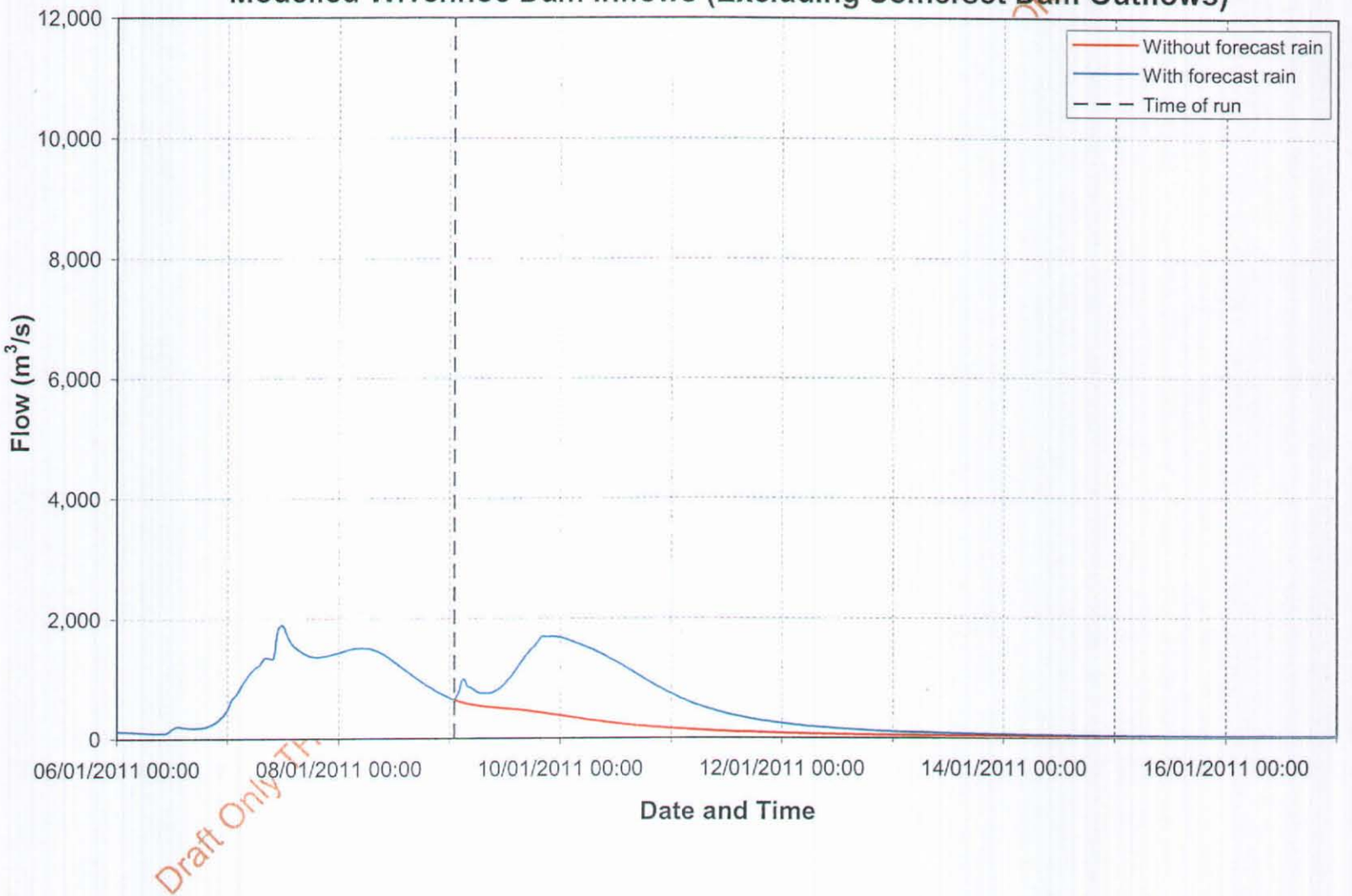
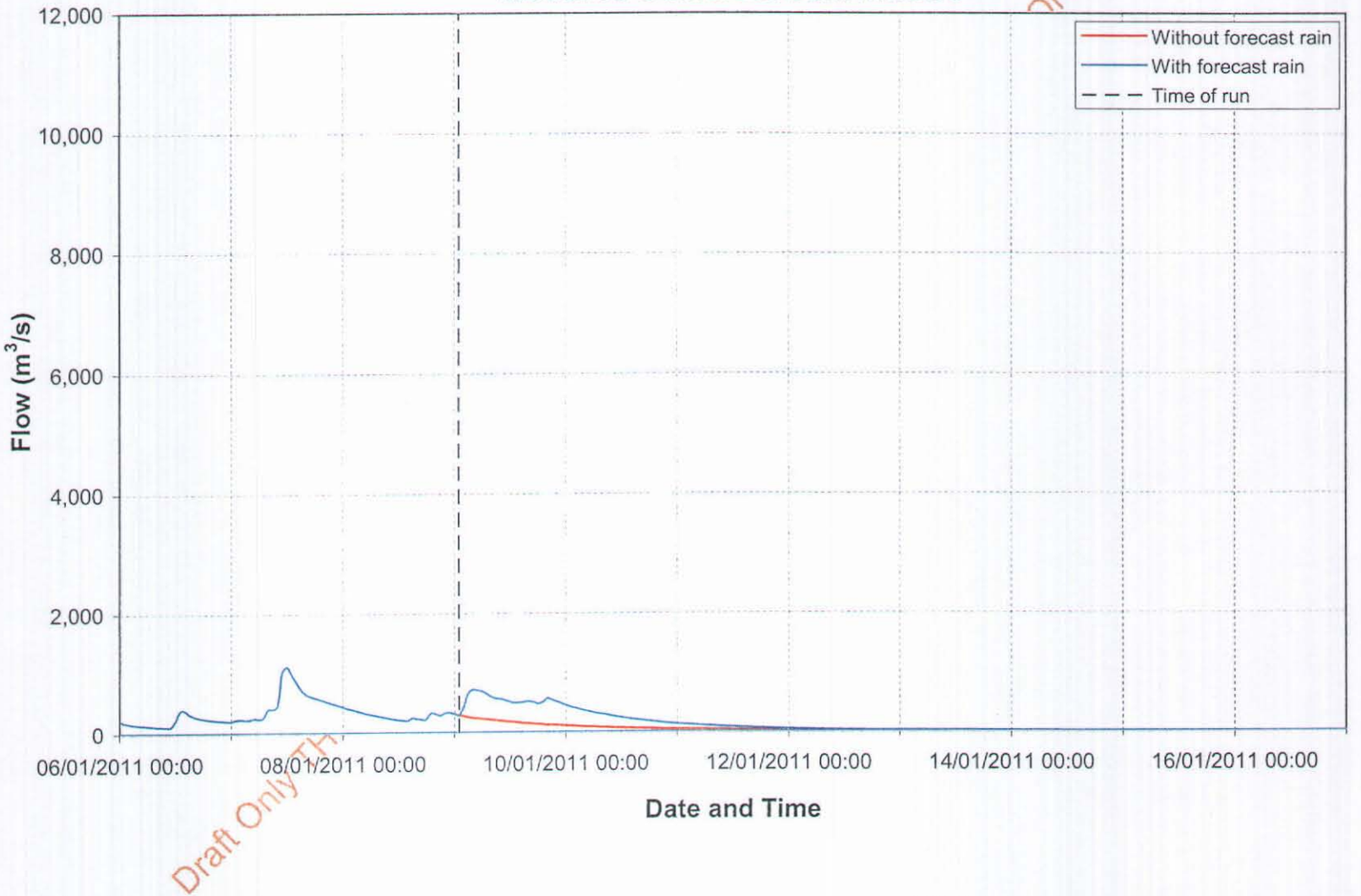
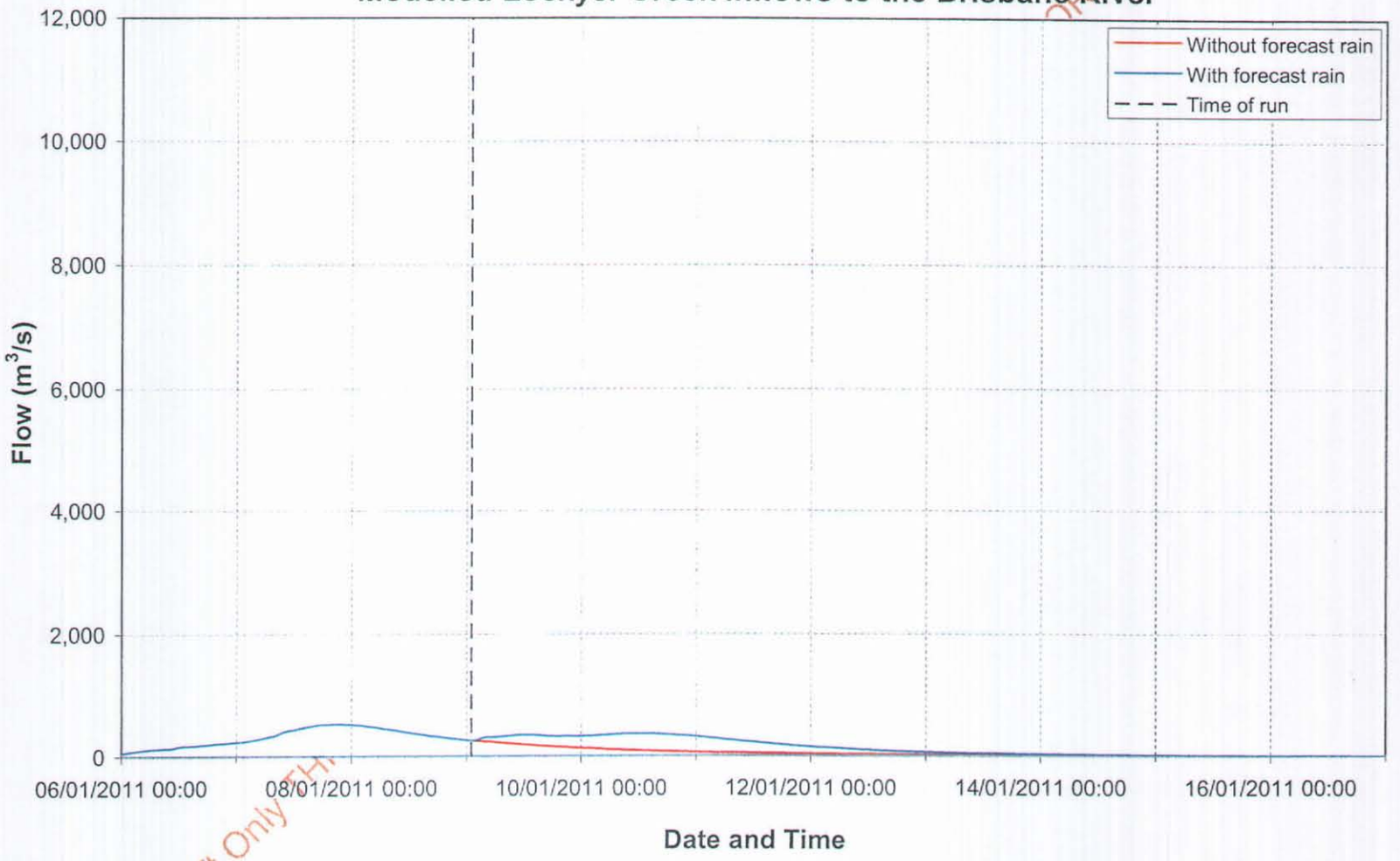

Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



ORMATION
Draft Only TH



Draft Only FH



Draft Only TH



ORMATION
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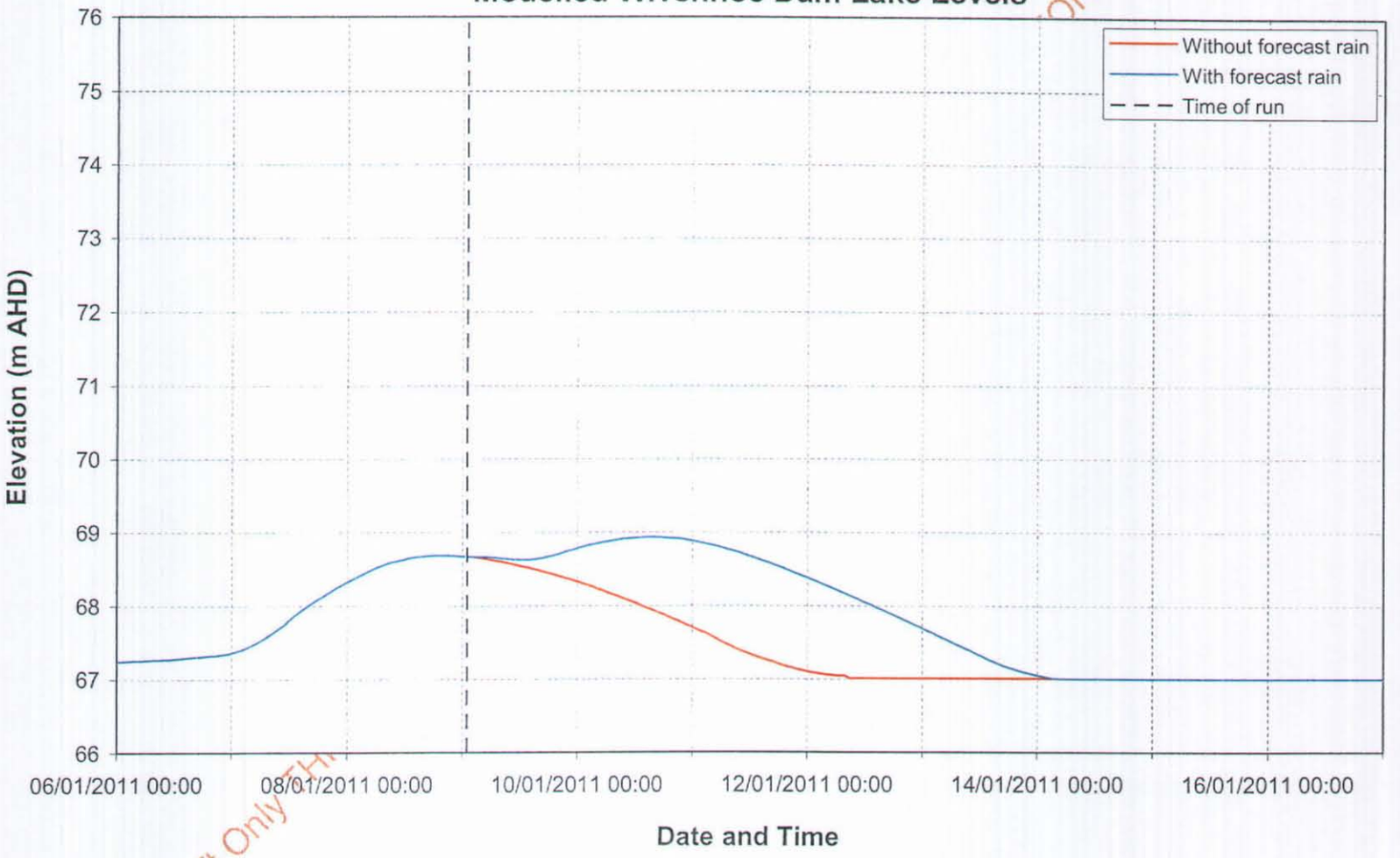
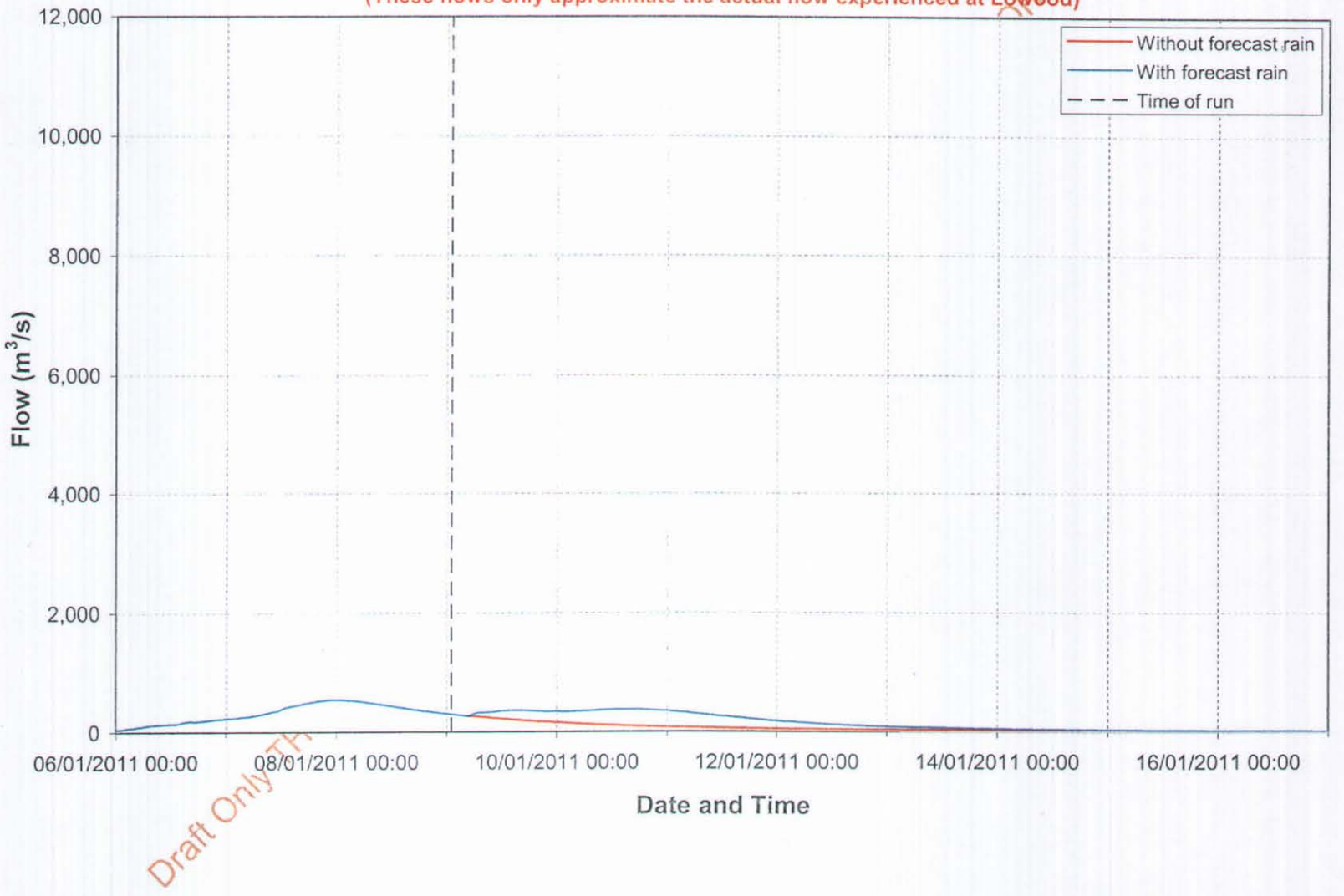


ORMATION
Draft Only

Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

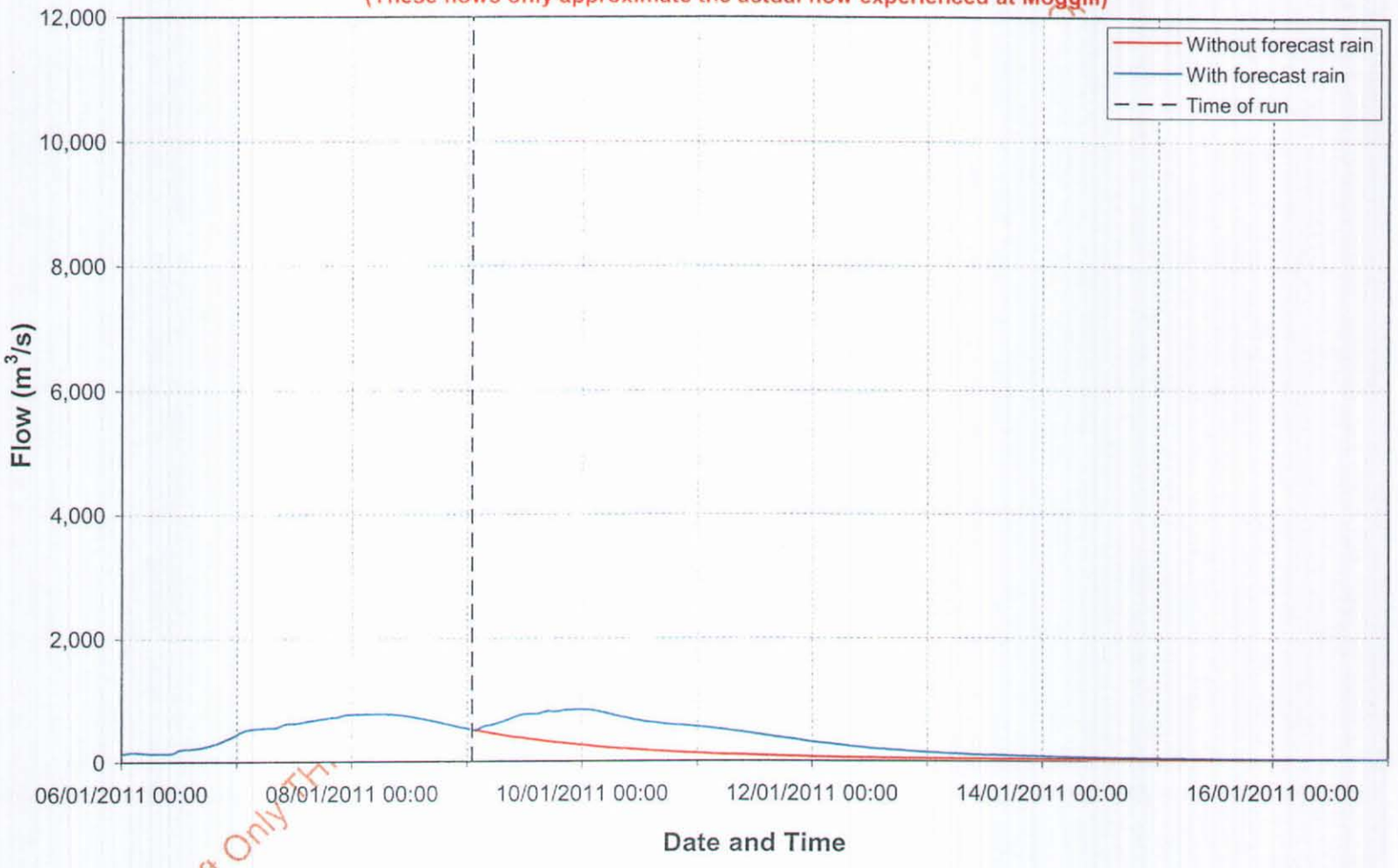
(These flows only approximate the actual flow experienced at Lowood)



Draft Only

Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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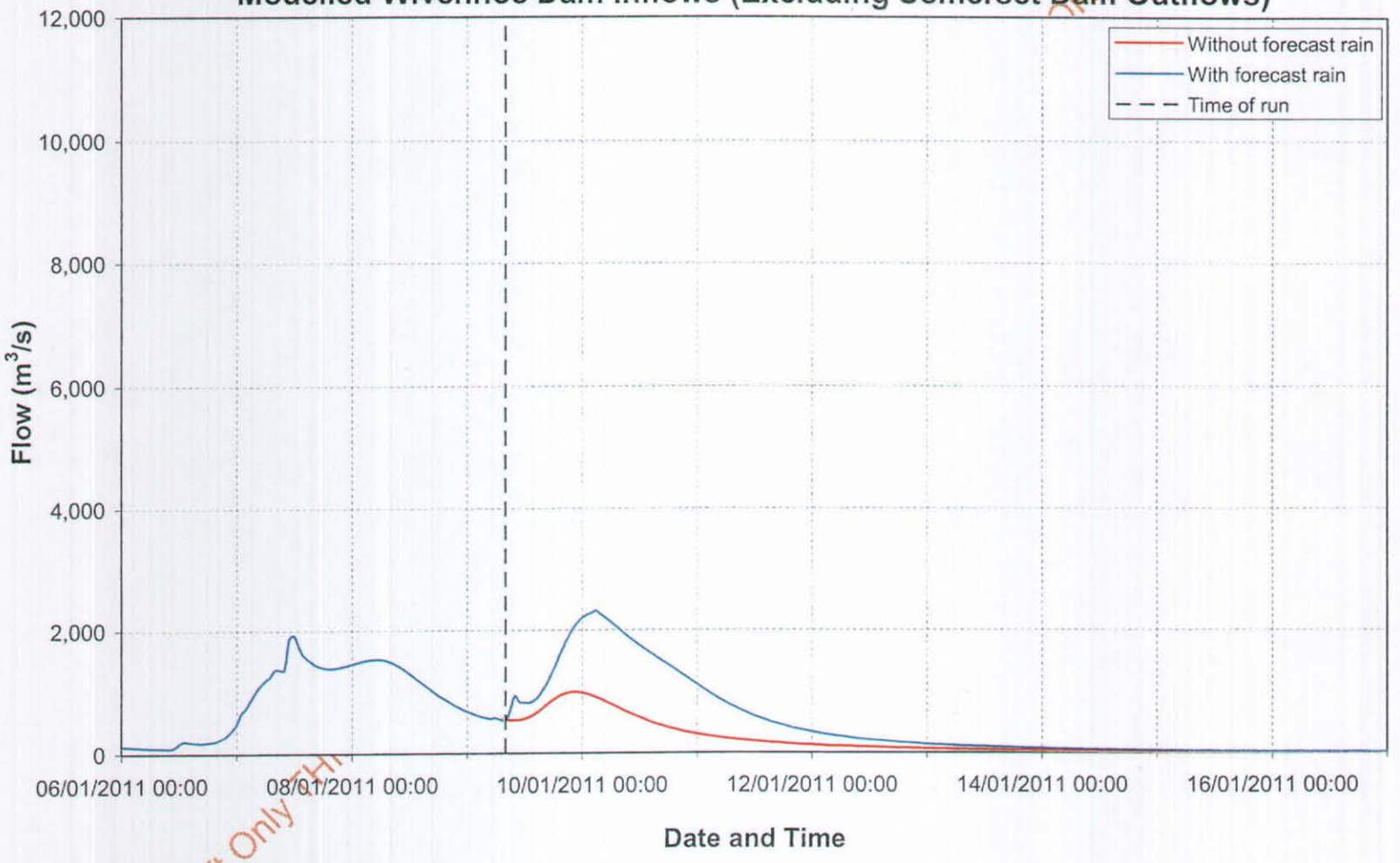
RUN 14

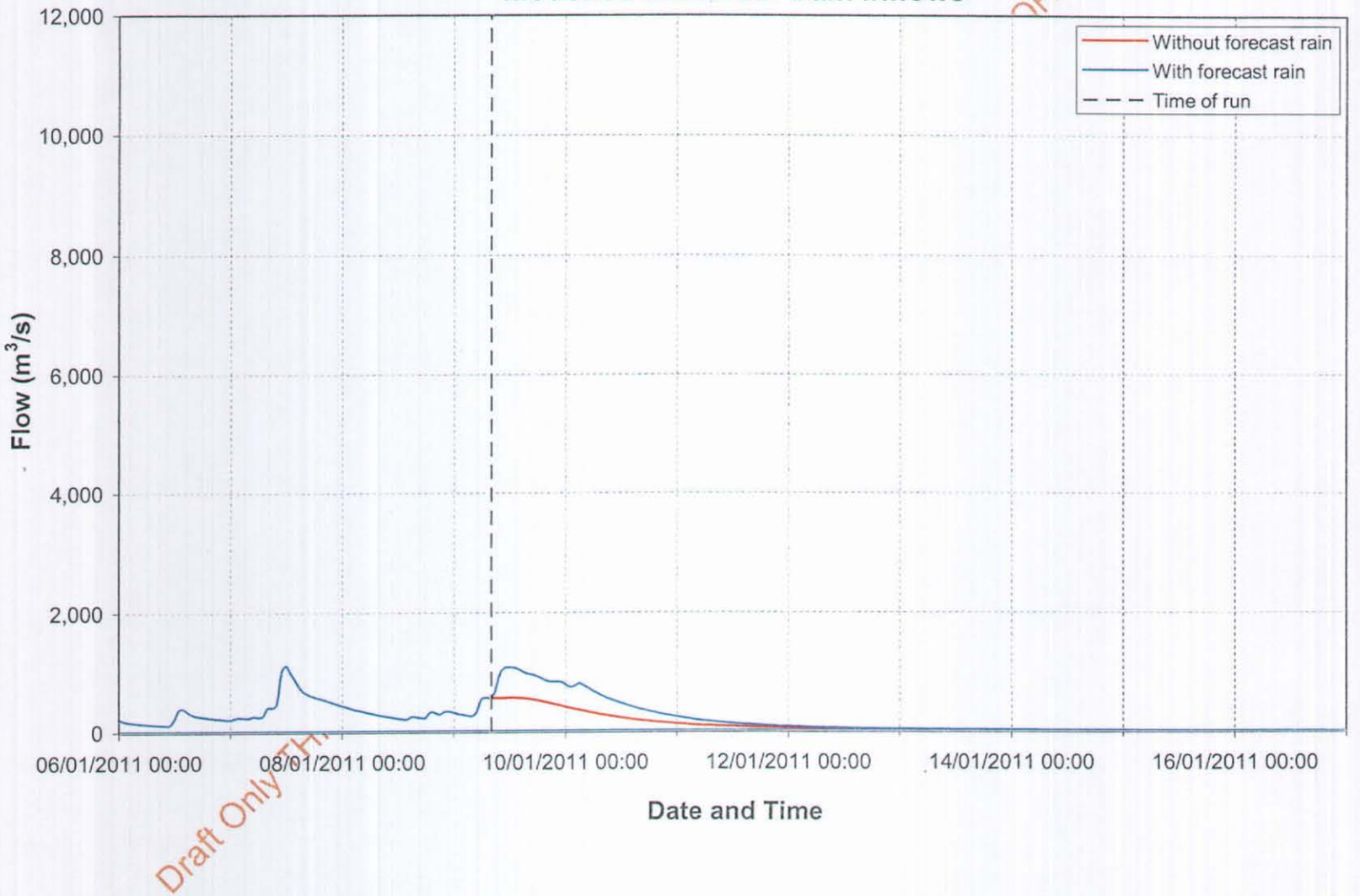
DATE: SUNDAY, 9 JANUARY 2011

TIME: 08:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION


Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



ORMATION
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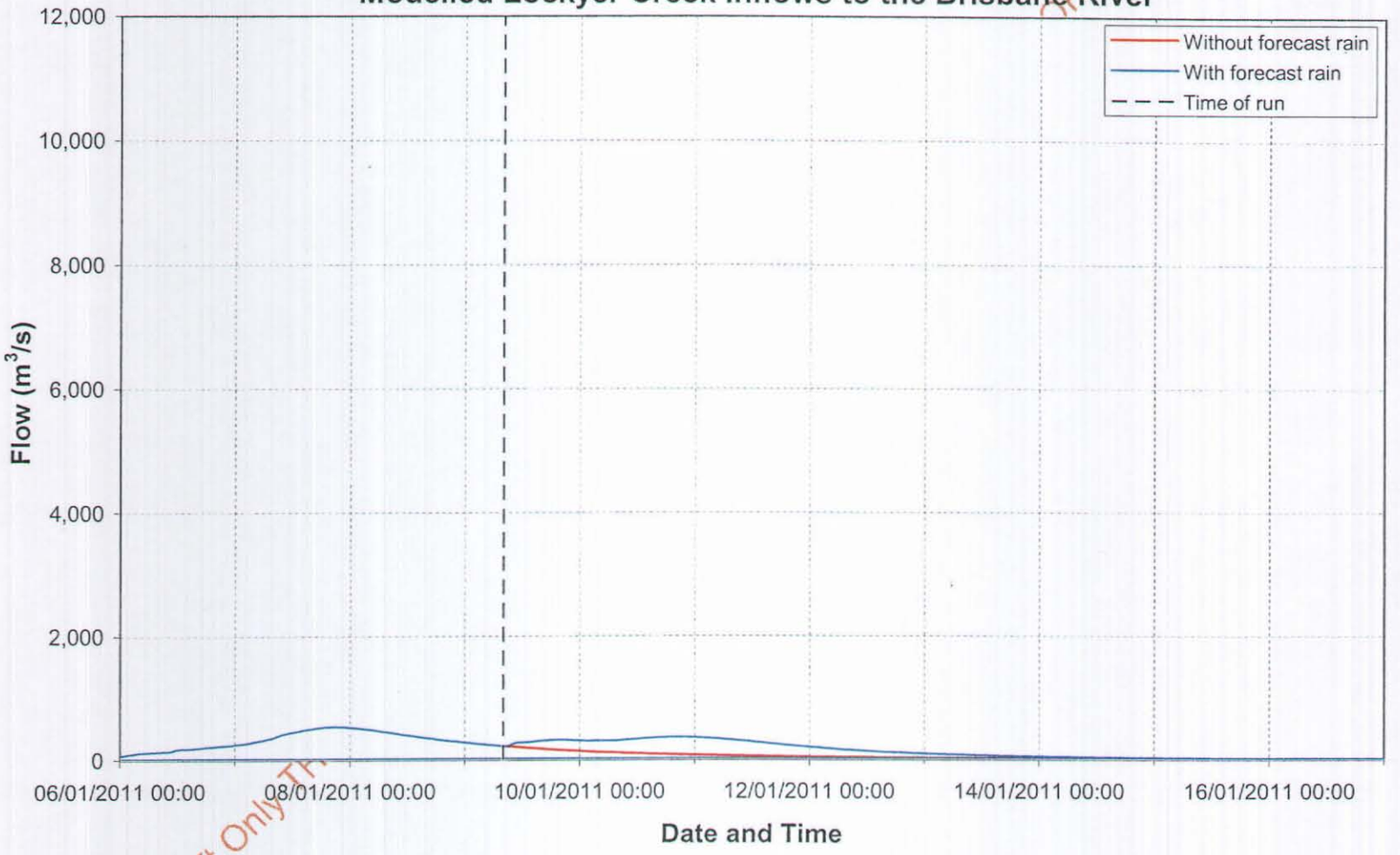
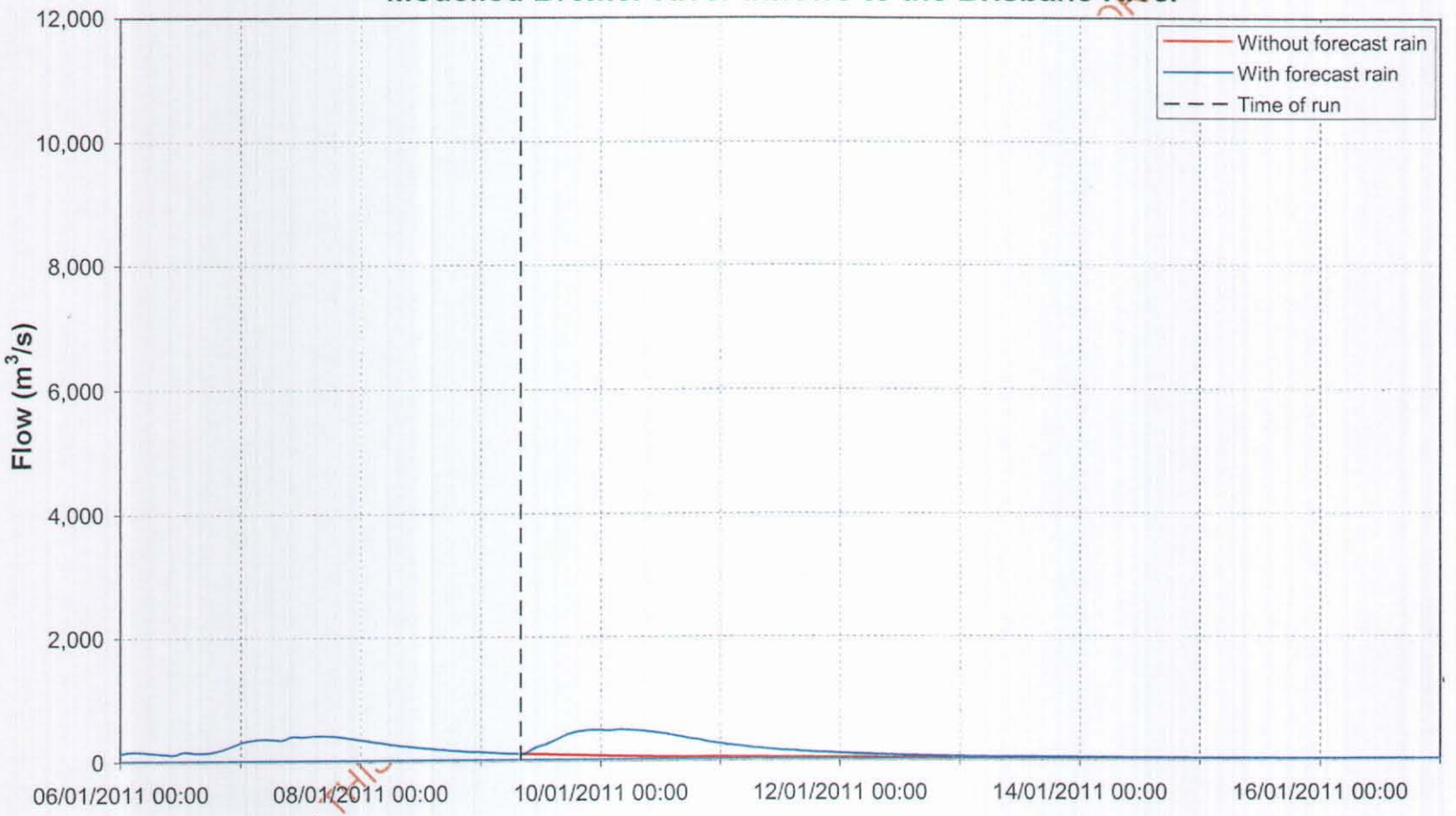


Draft Only TH
ORMATION


Modelled Bremer River Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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Draft Only



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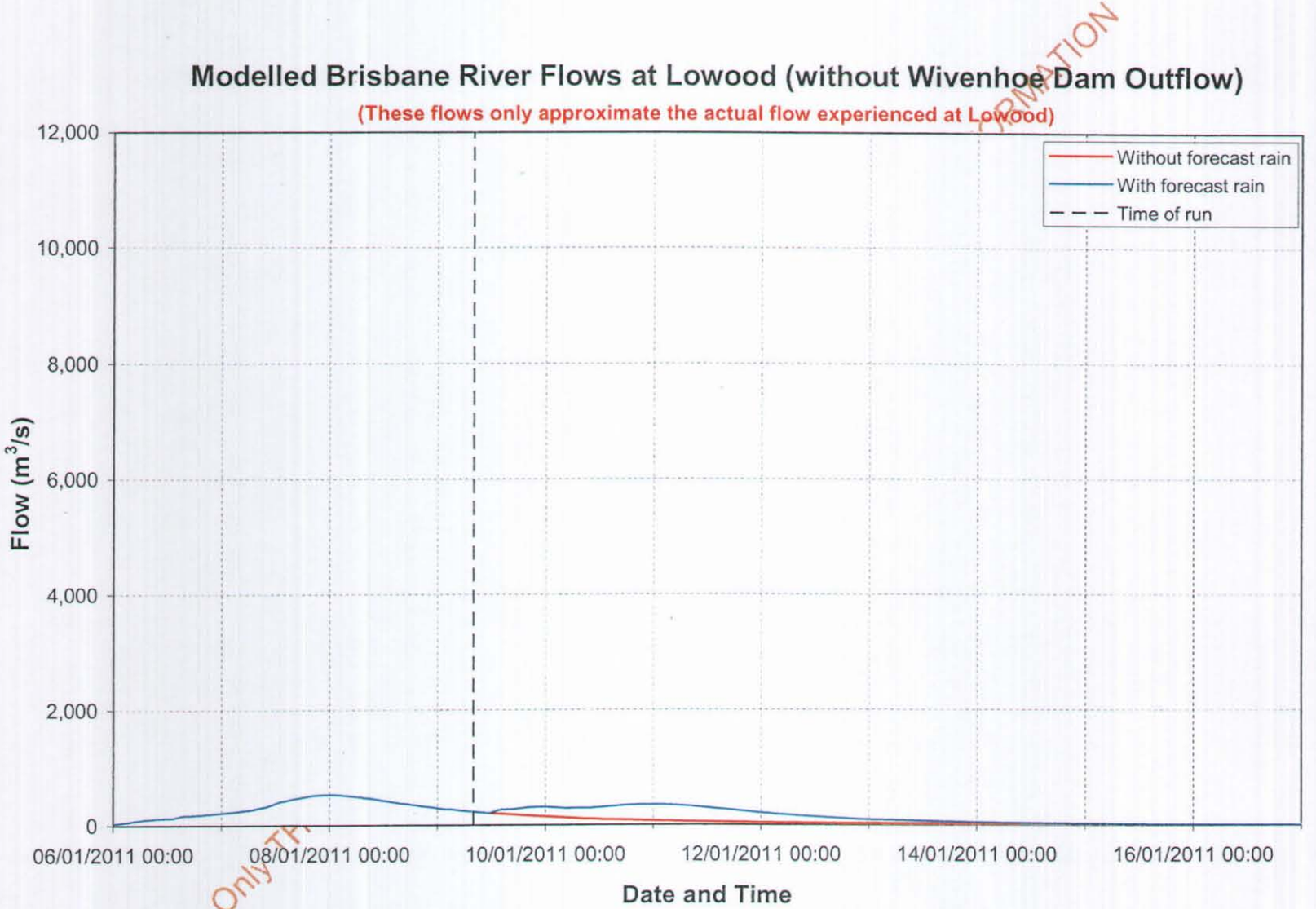
Draft Only - SEQH



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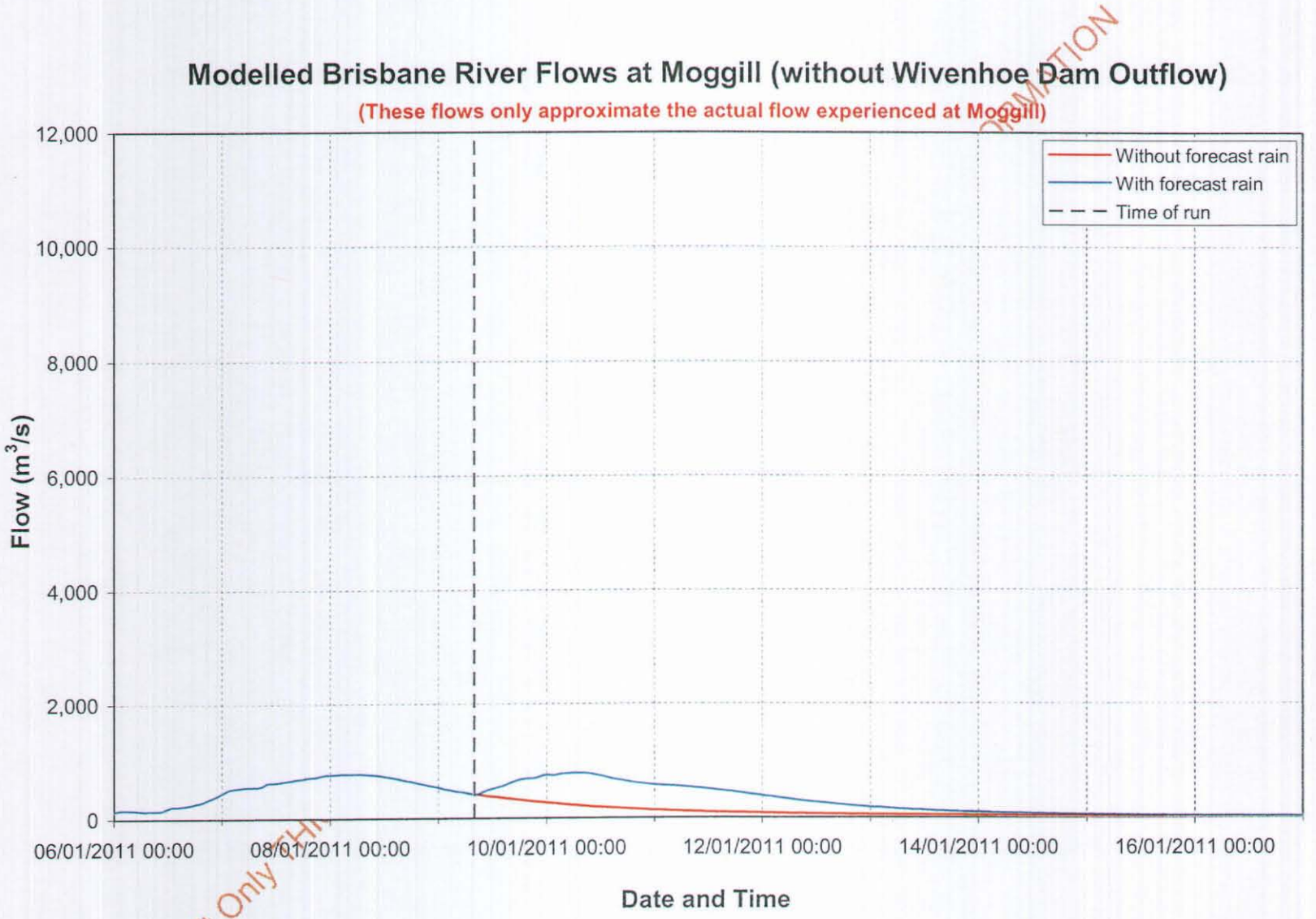

Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)
(These flows only approximate the actual flow experienced at Moggill)
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

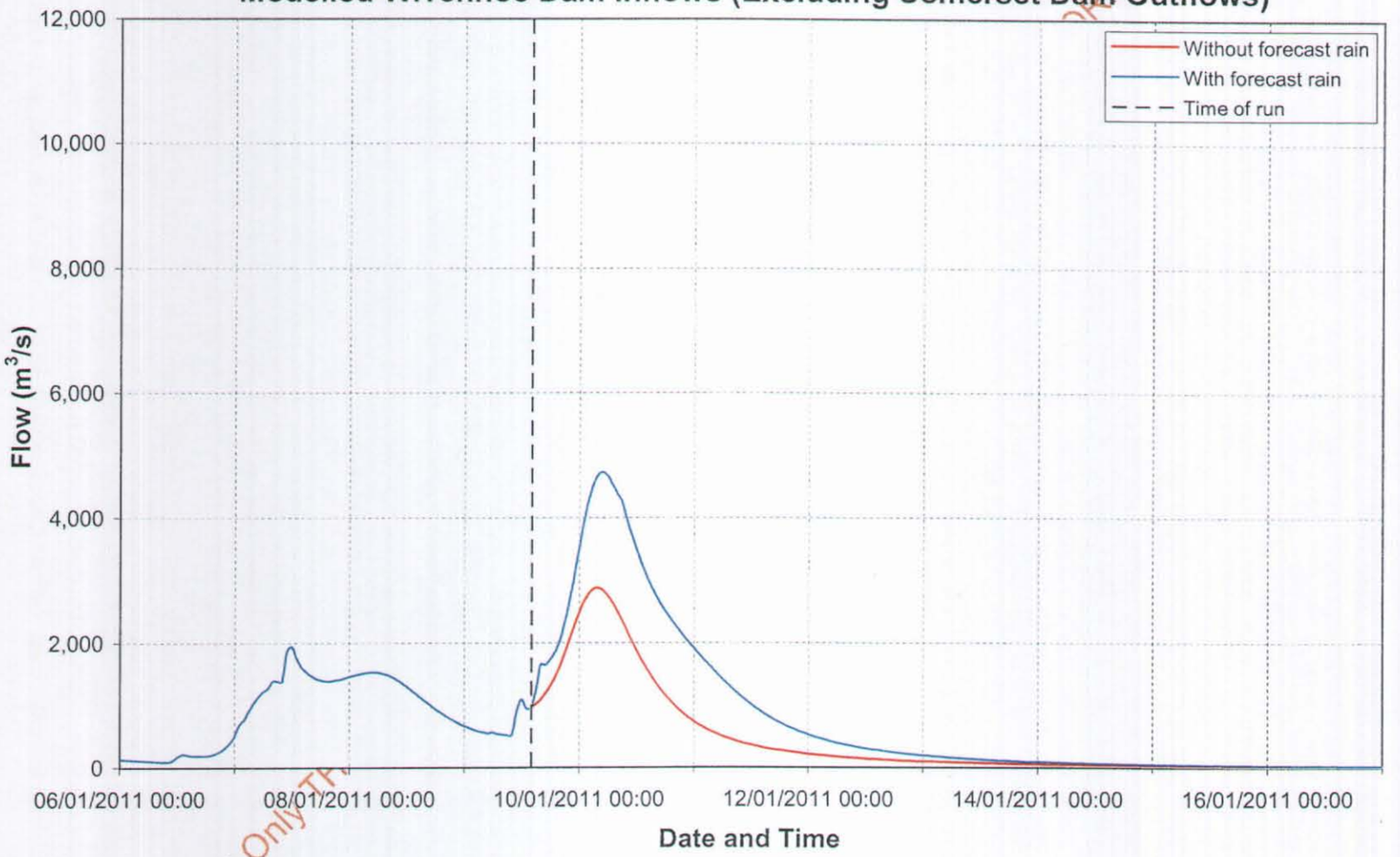
Draft Only

RUN 17

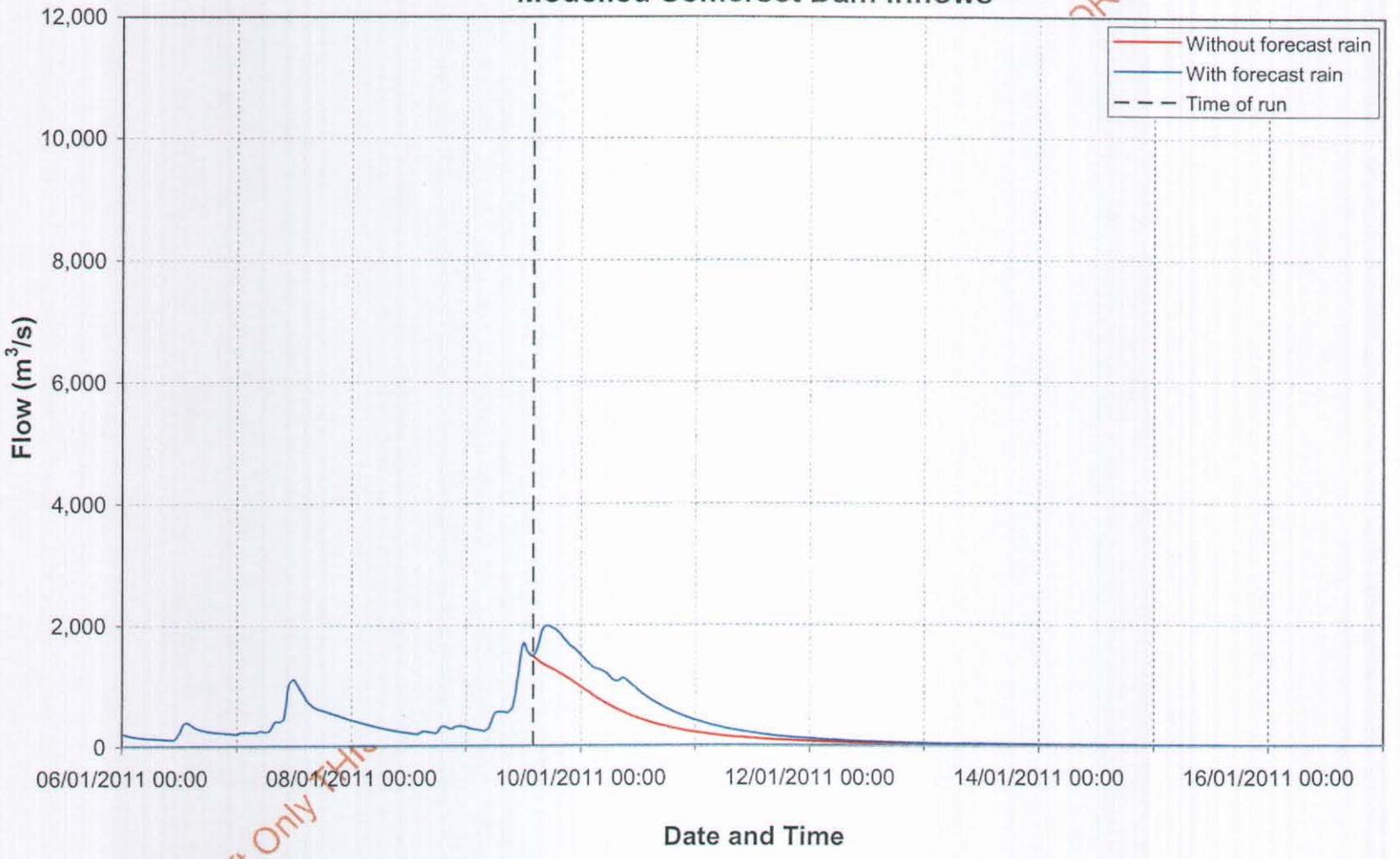
DATE: SUNDAY, 9 JANUARY 2011

TIME: 14:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION


Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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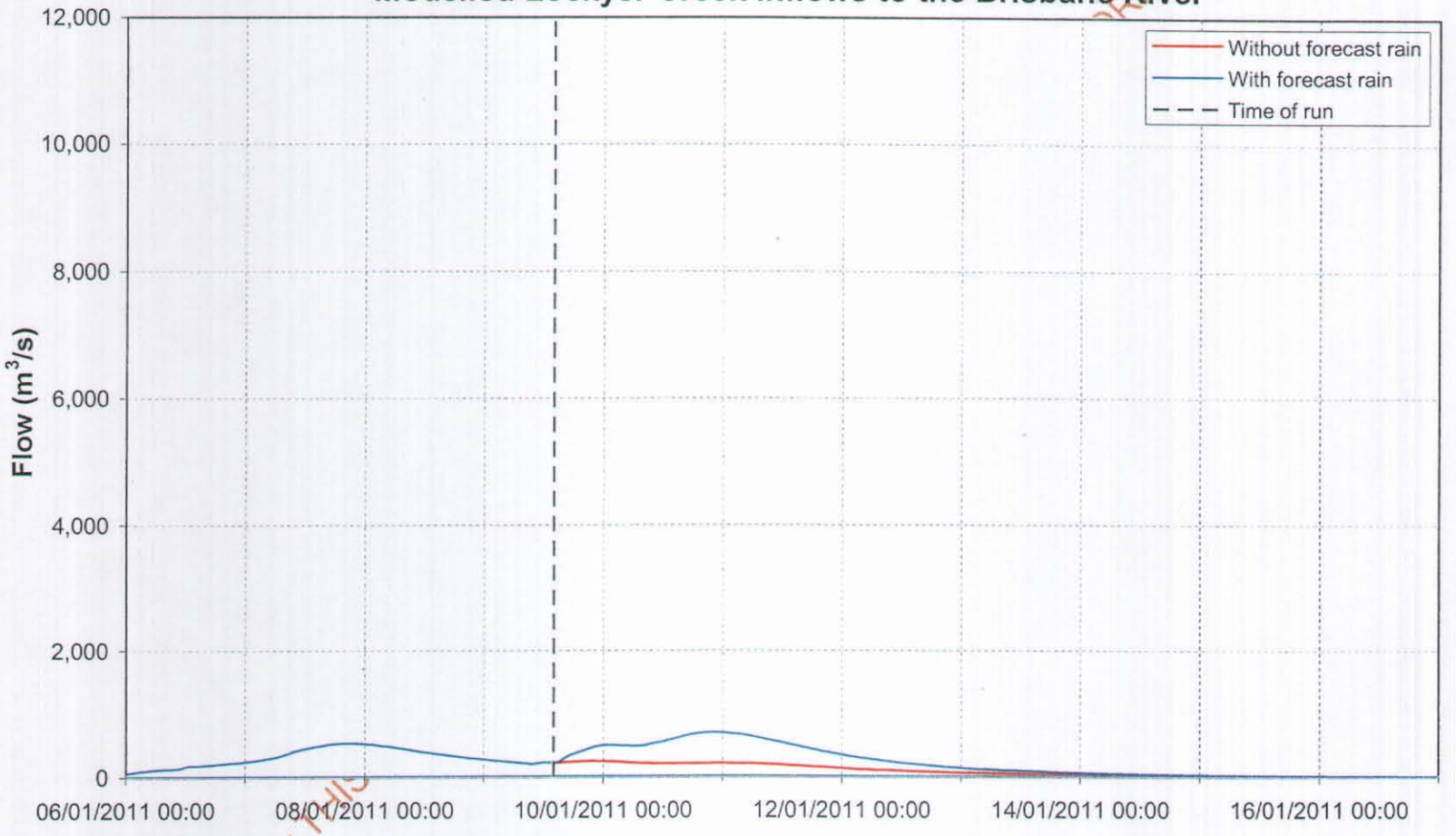
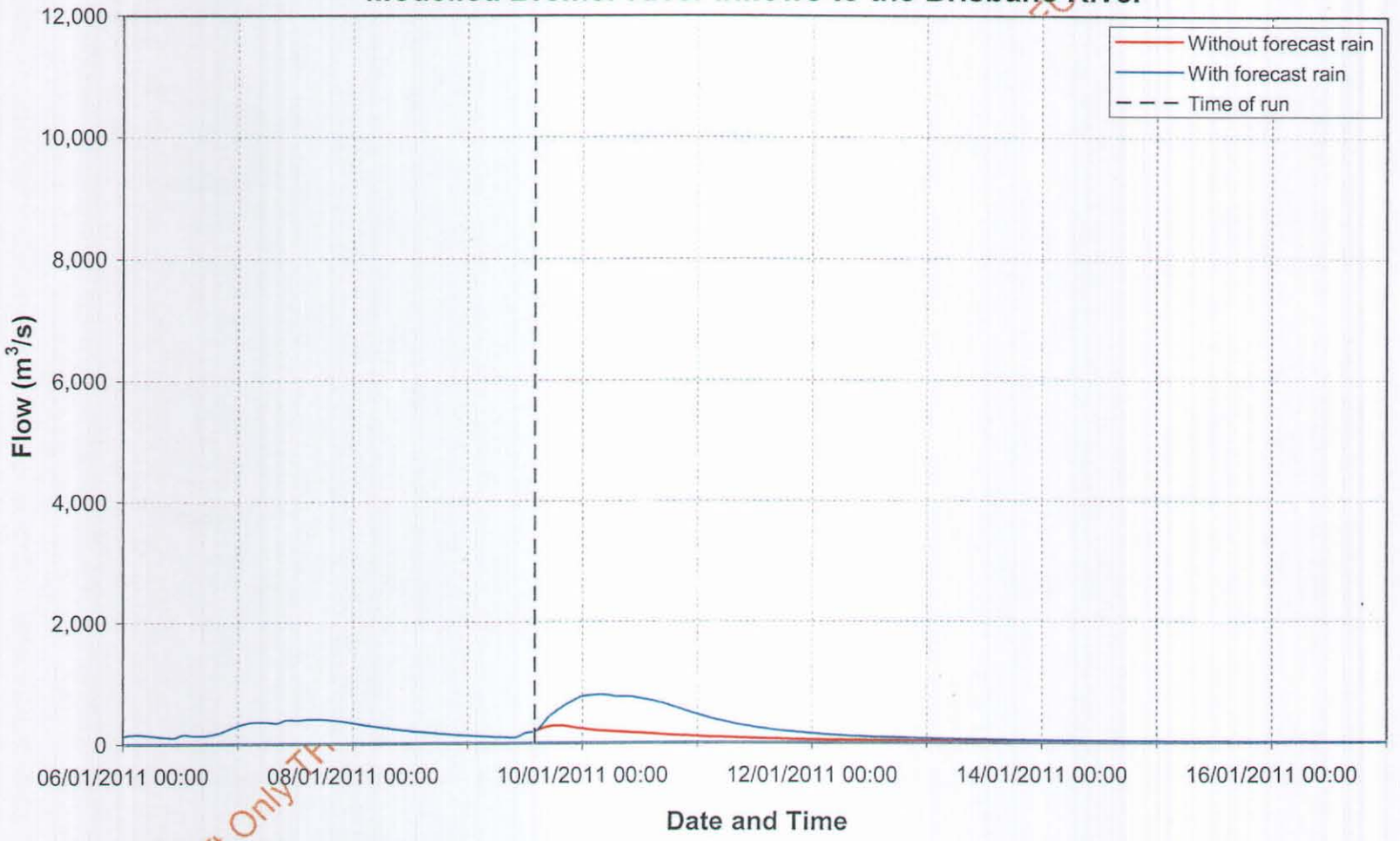

Modelled Lockyer Creek Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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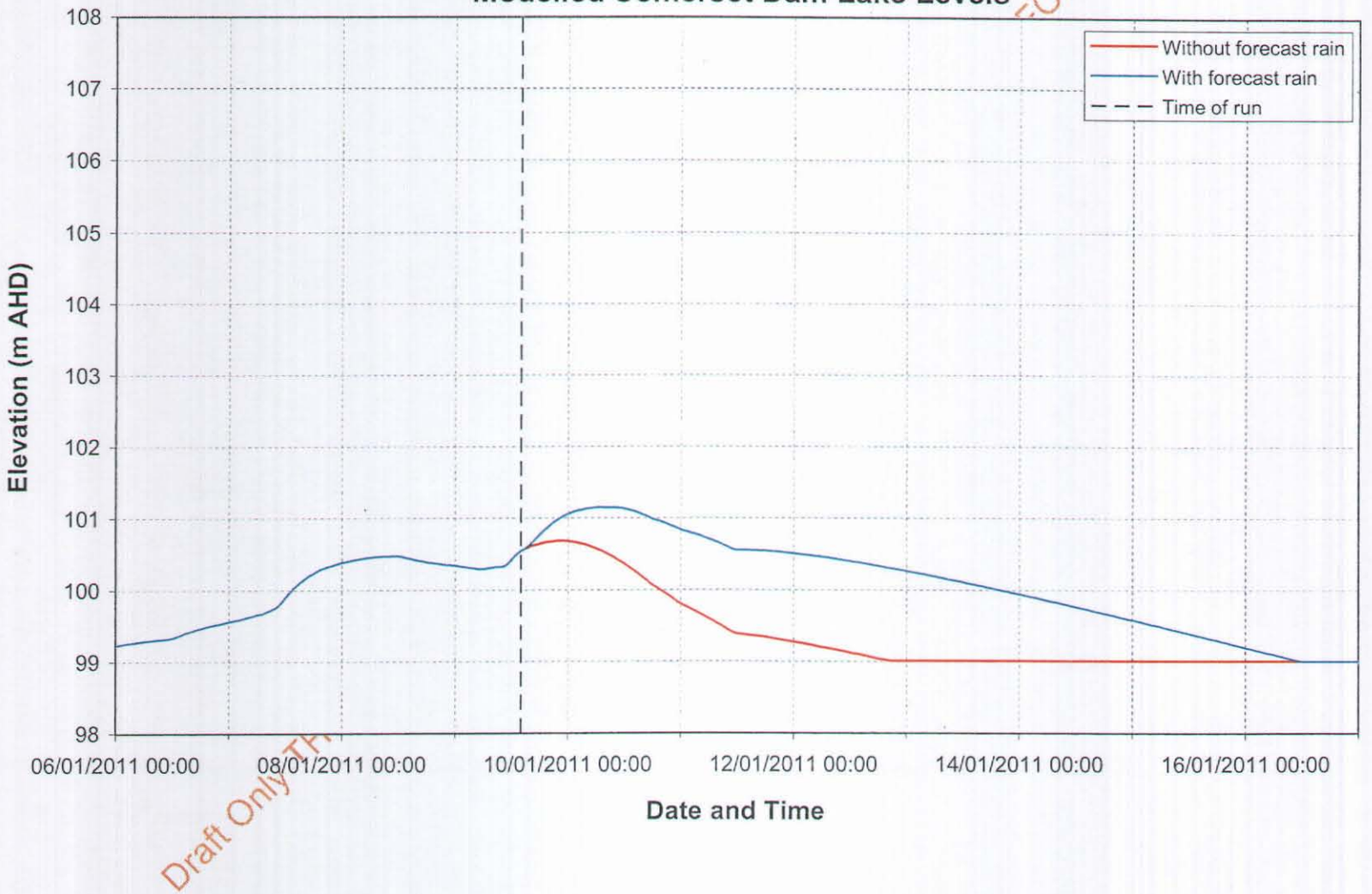
FORMATION

Modelled Somerset Dam Lake Levels



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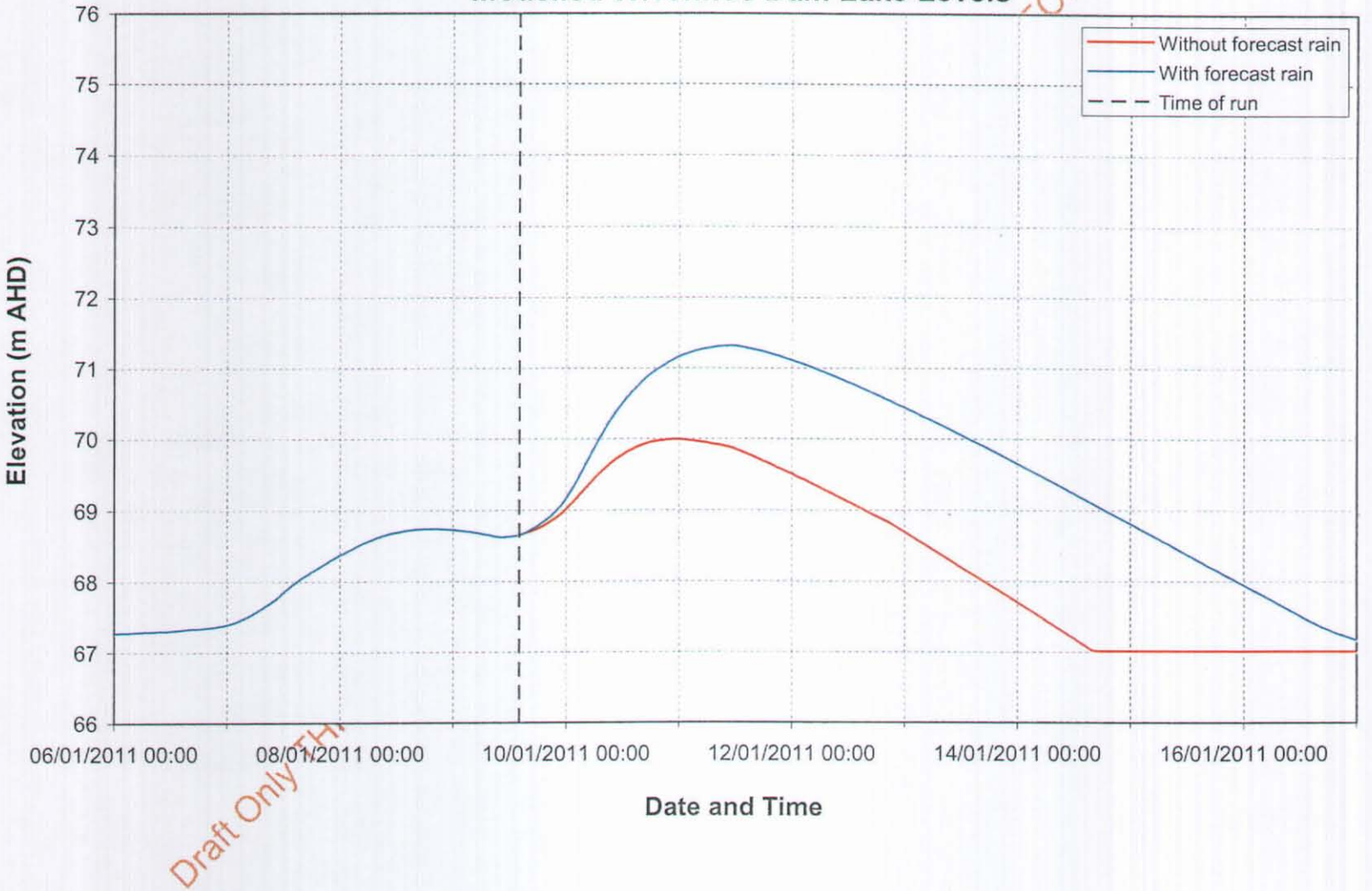
Modelled Wivenhoe Dam Lake Levels



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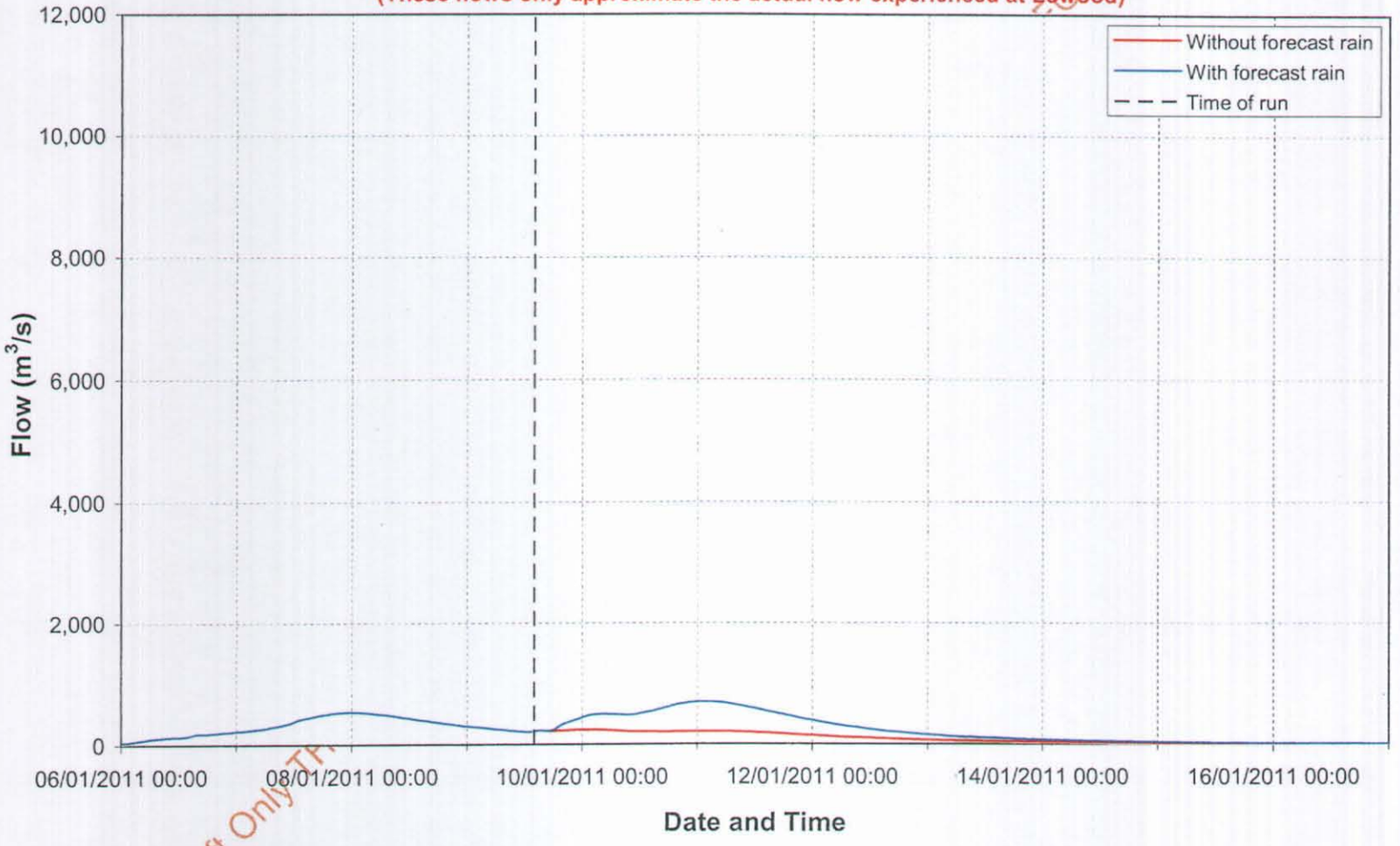
FOR INFORMATION

Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

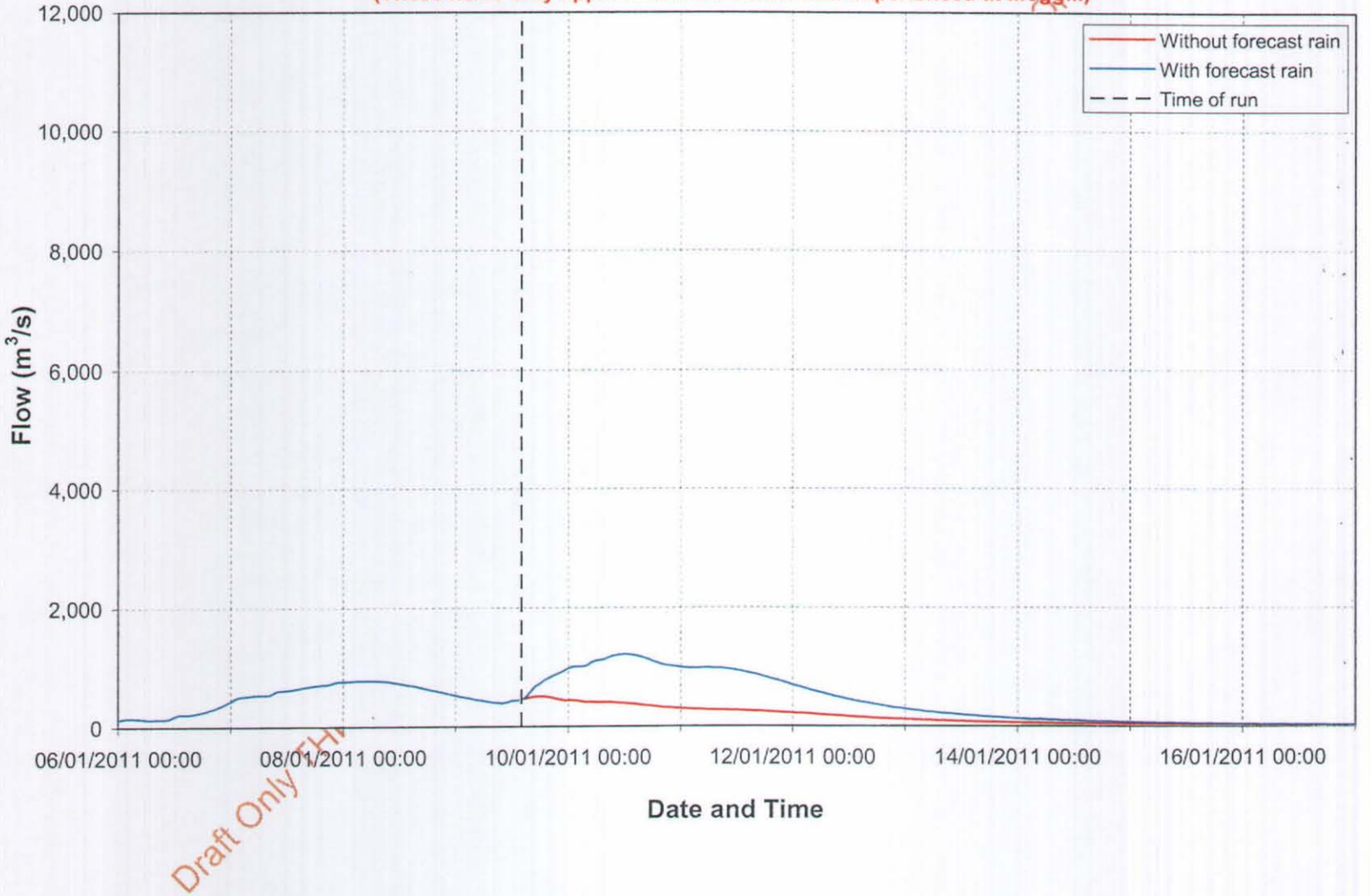
(These flows only approximate the actual flow experienced at Lowood)



Draft Only TR

Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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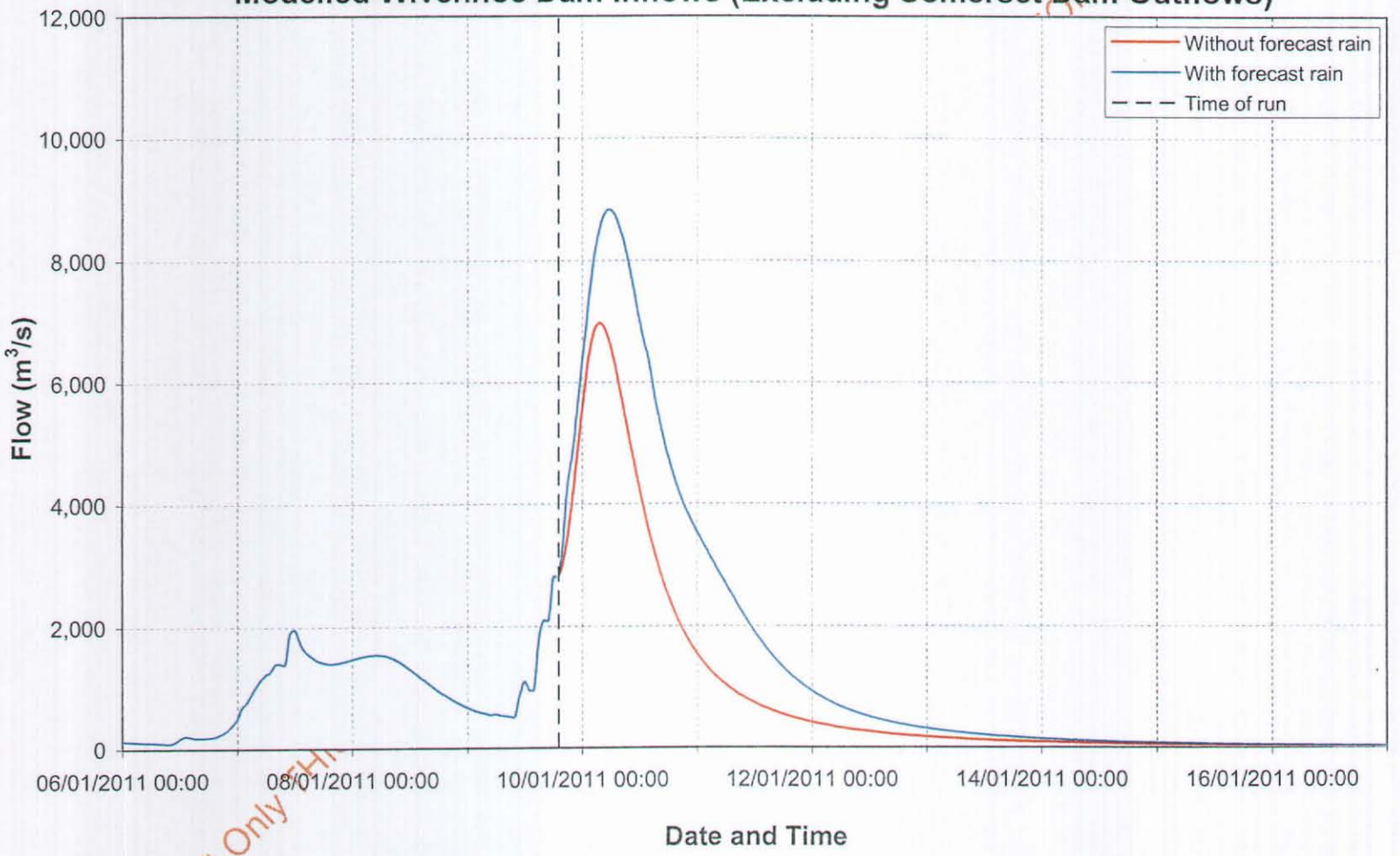
ORMATION

RUN 21

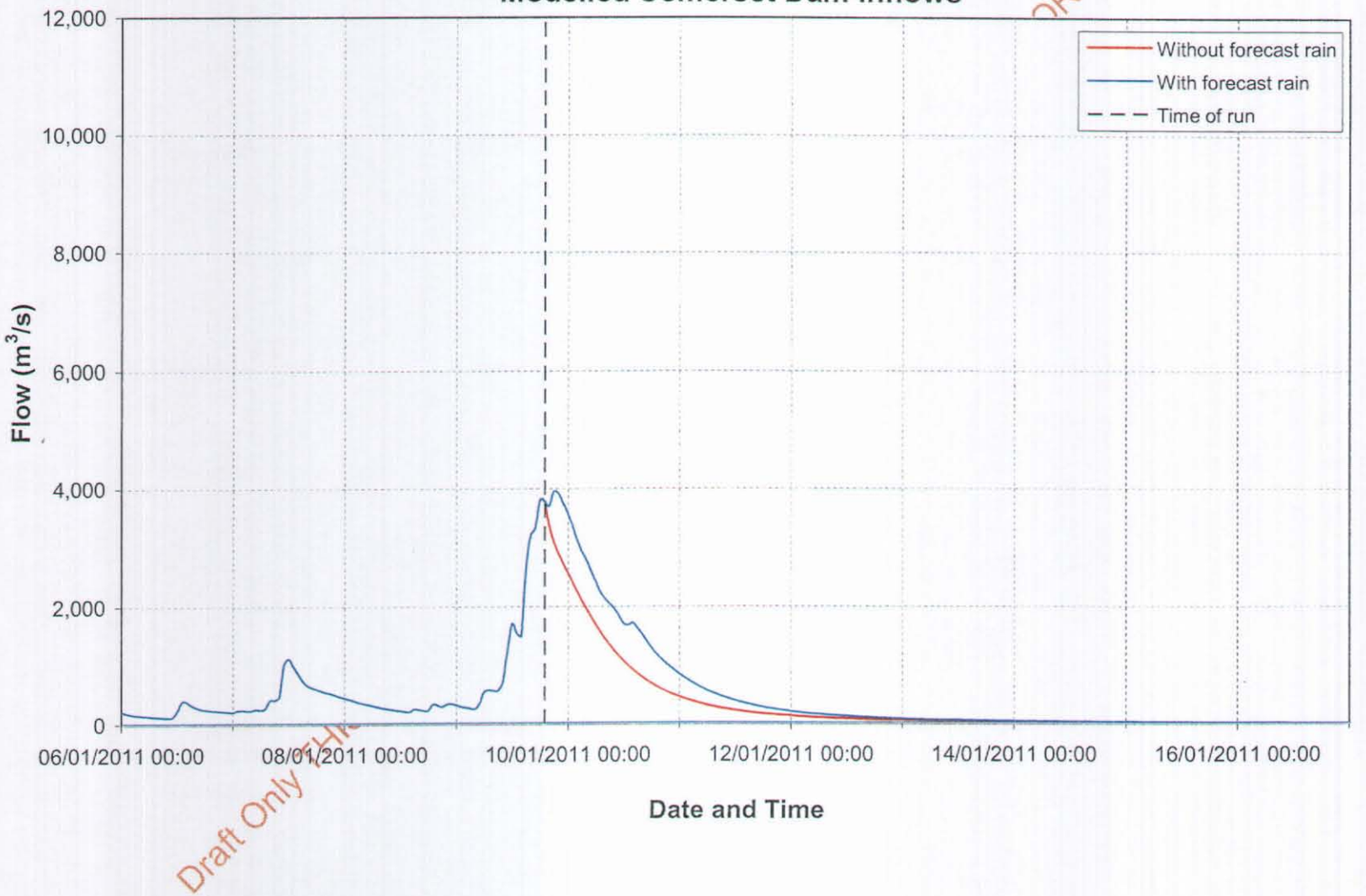
DATE: SUNDAY, 9 JANUARY 2011

TIME: 19:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



Draft Only - FHI



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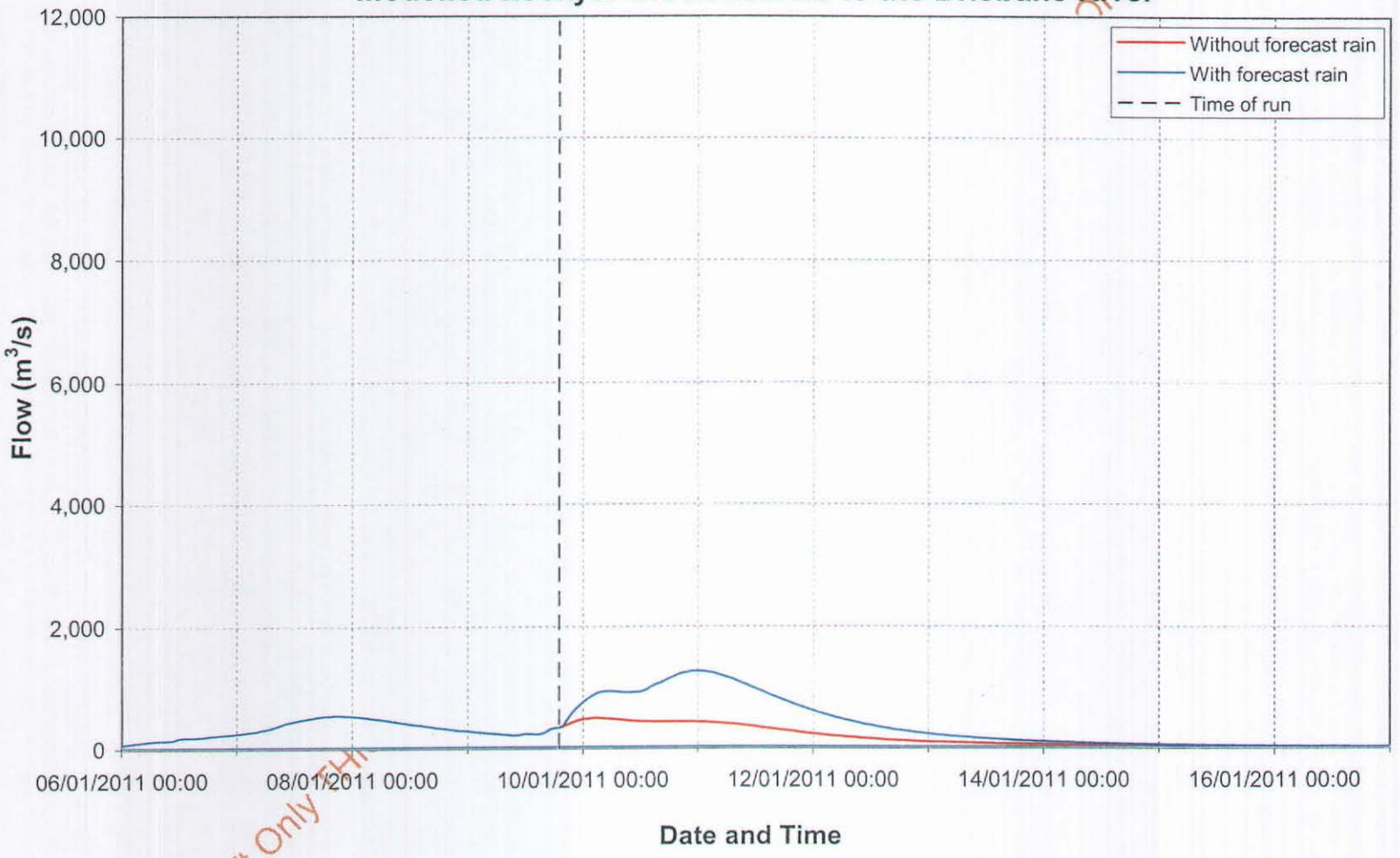
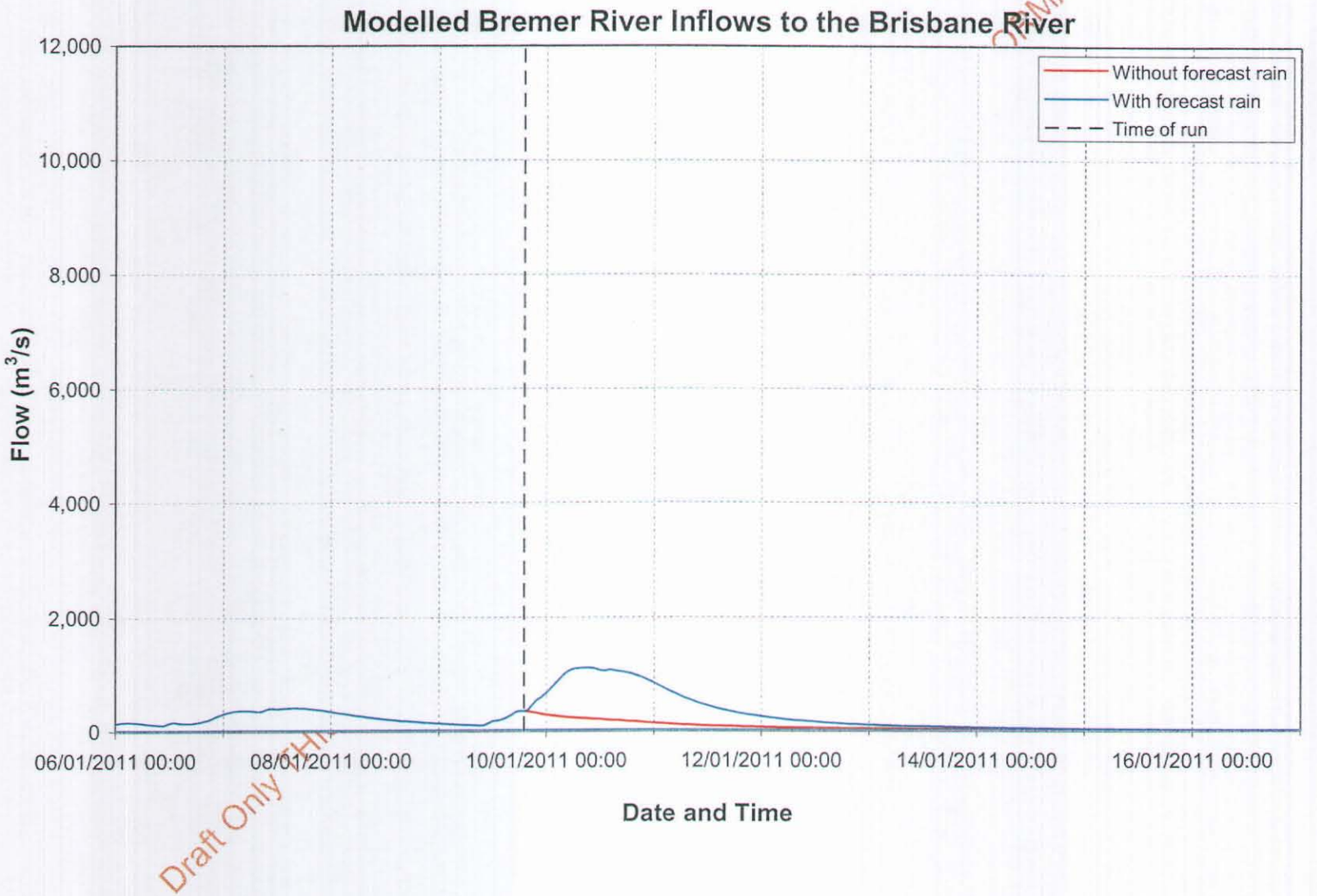
Draft Only


Modelled Lockyer Creek Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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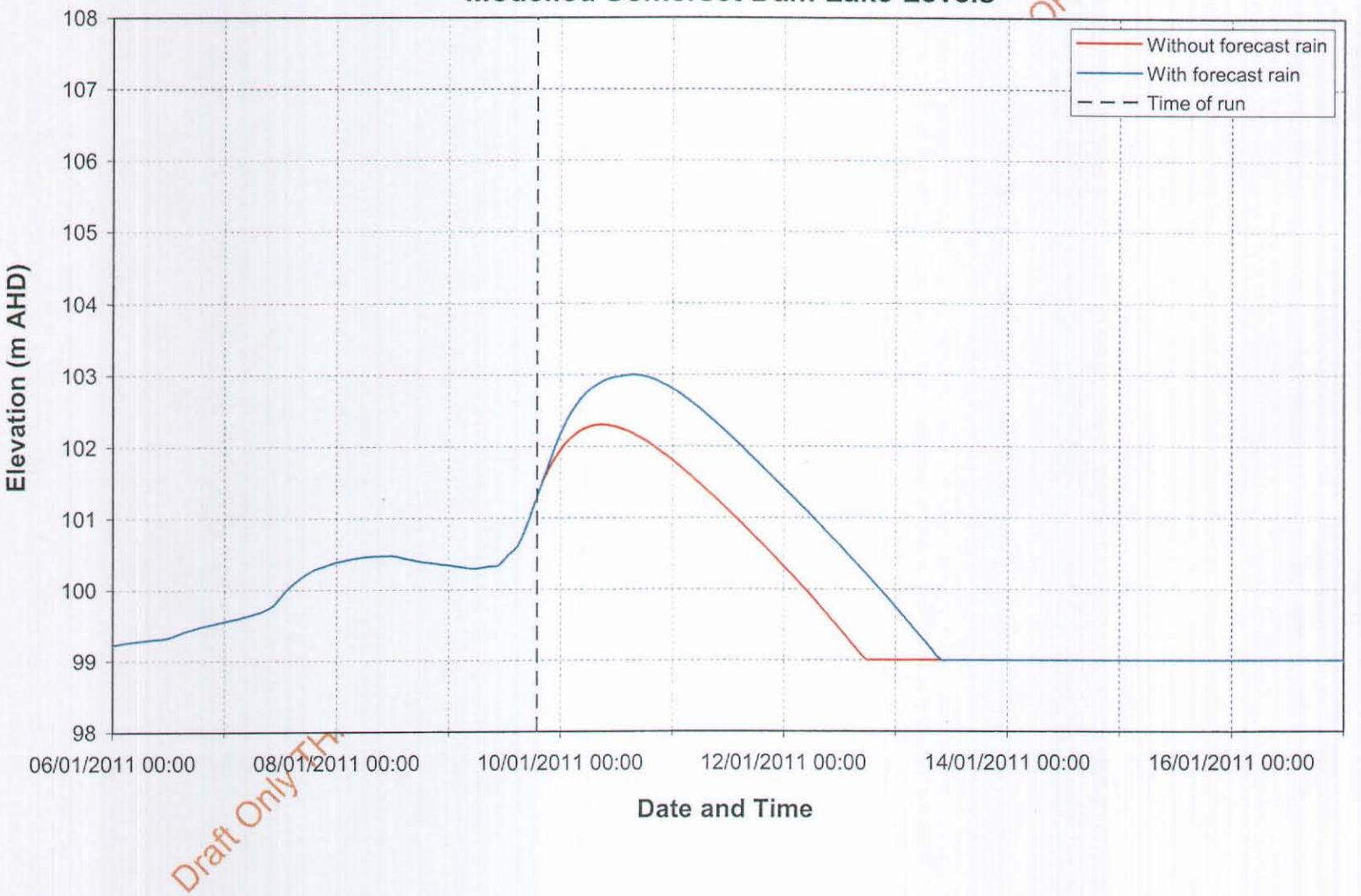
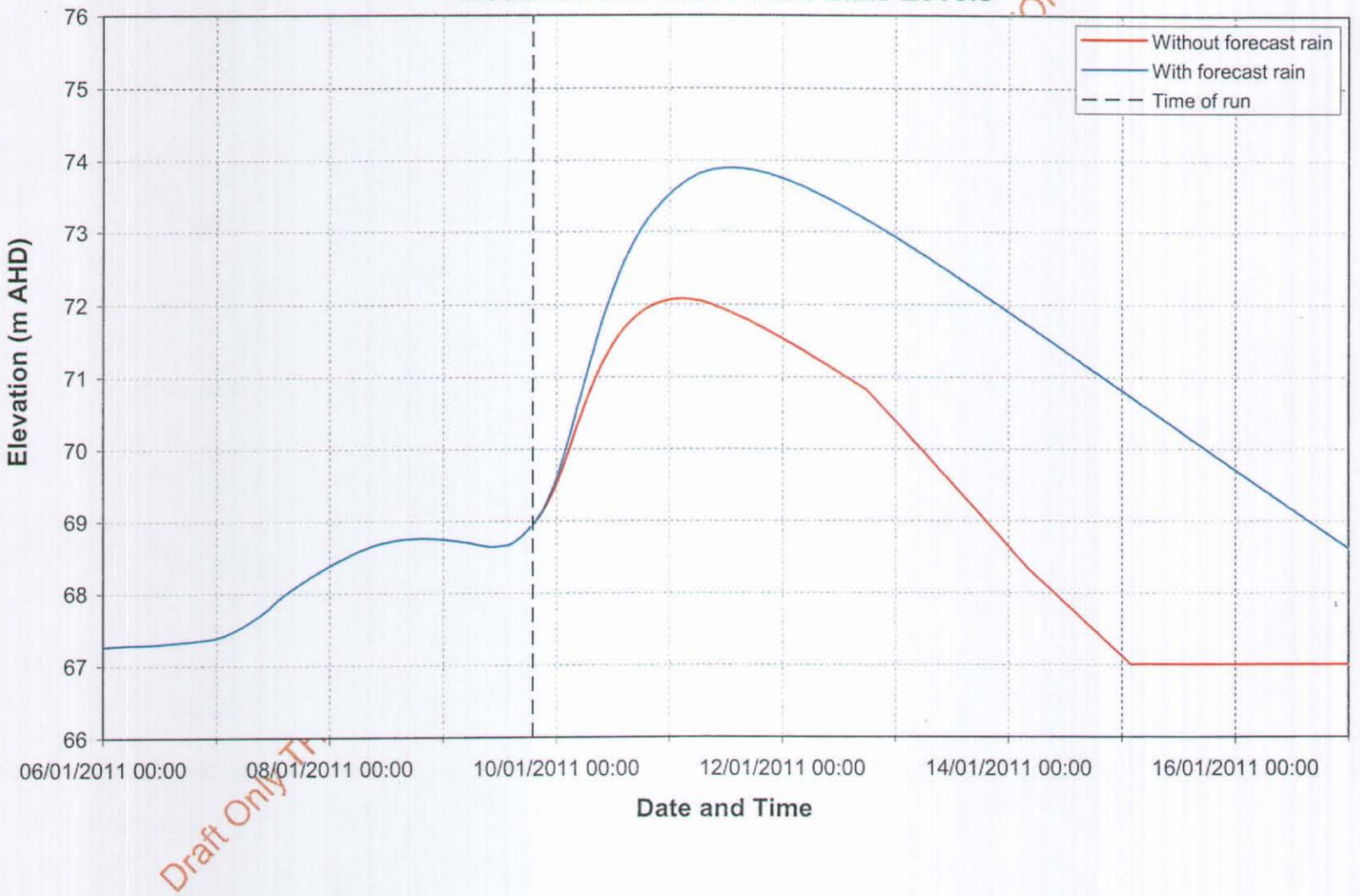
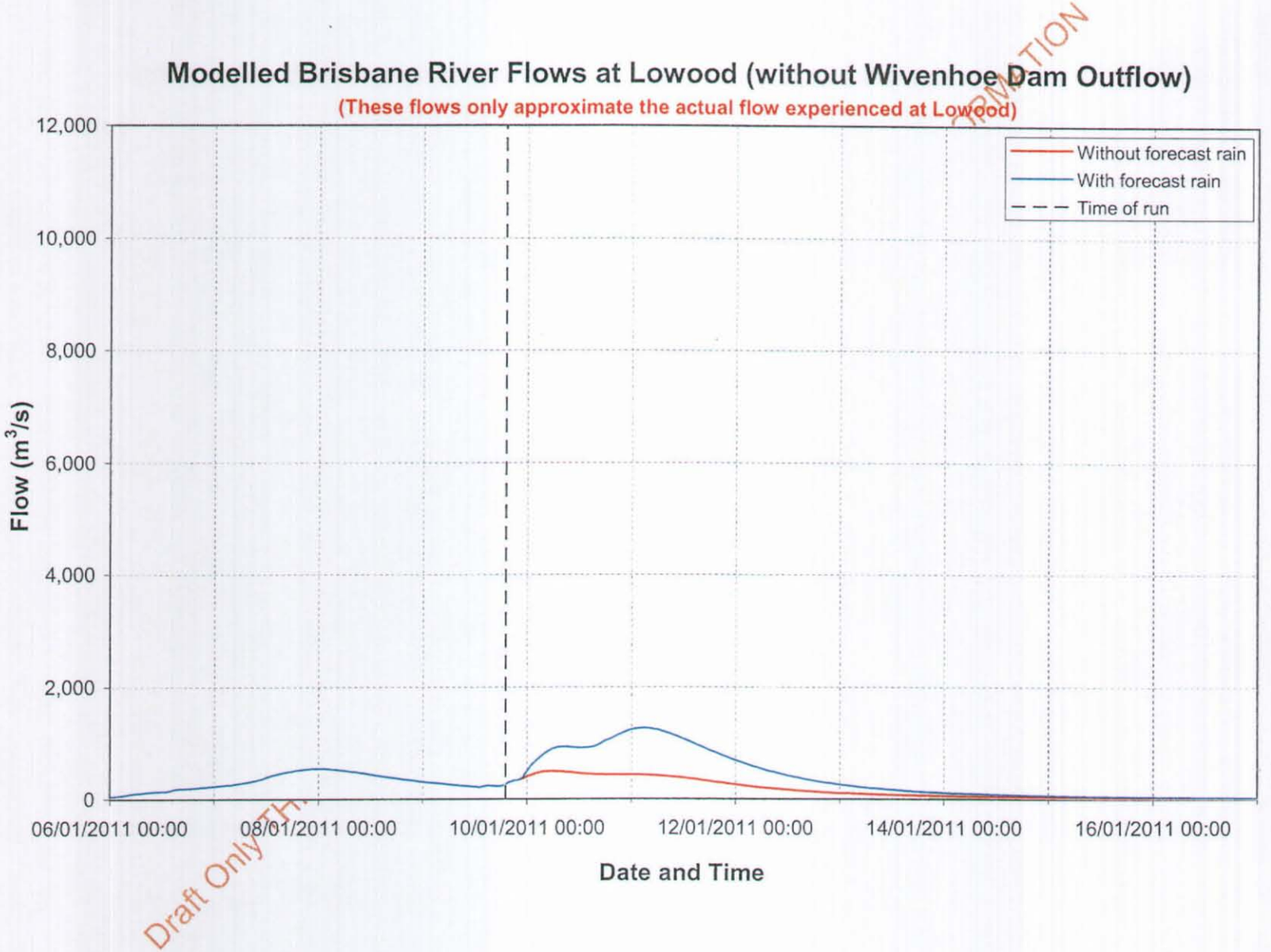


ORMATION
Draft Only TH



ORMATION
Draft Only TF



Draft Only TH
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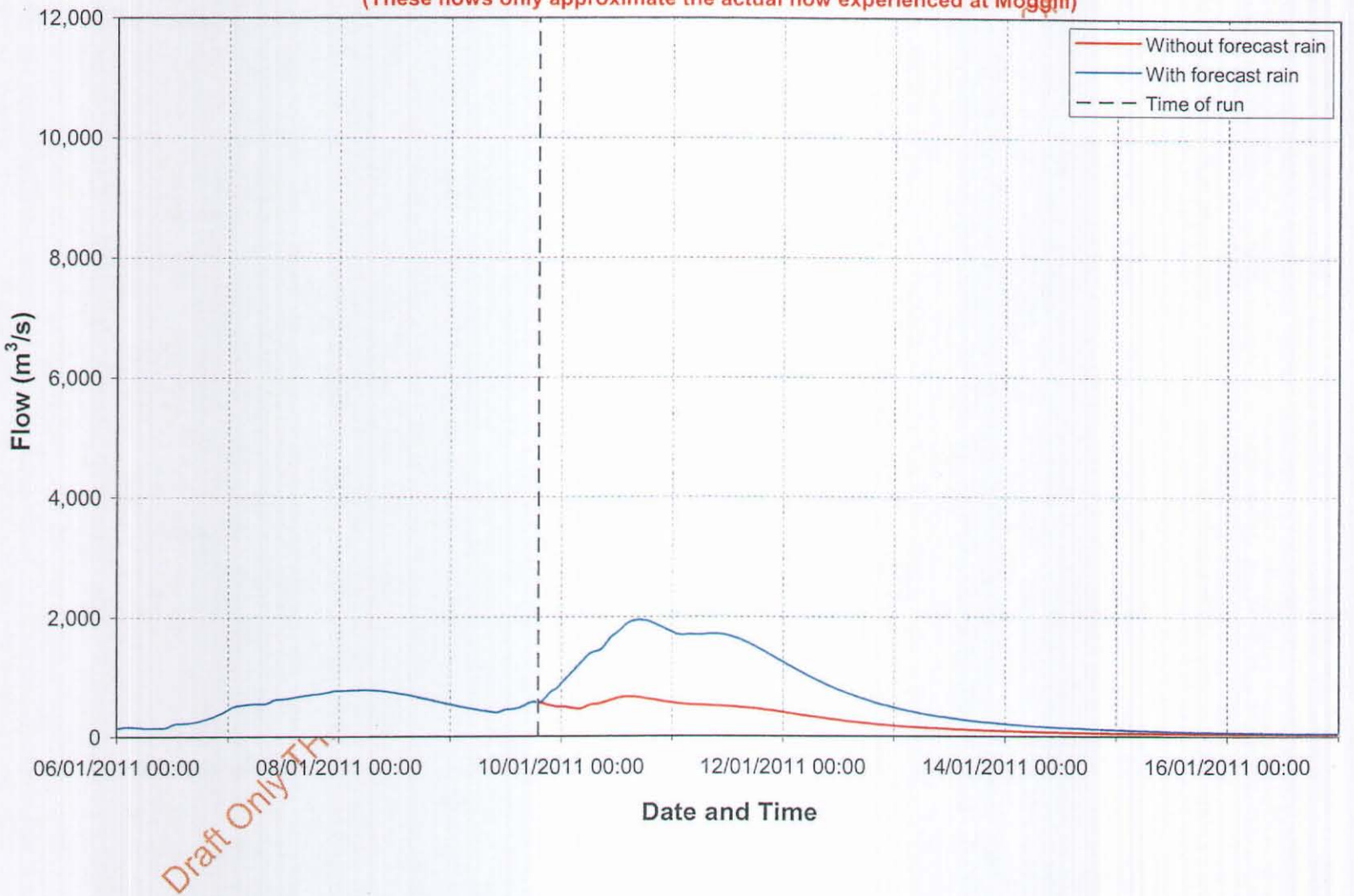
Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



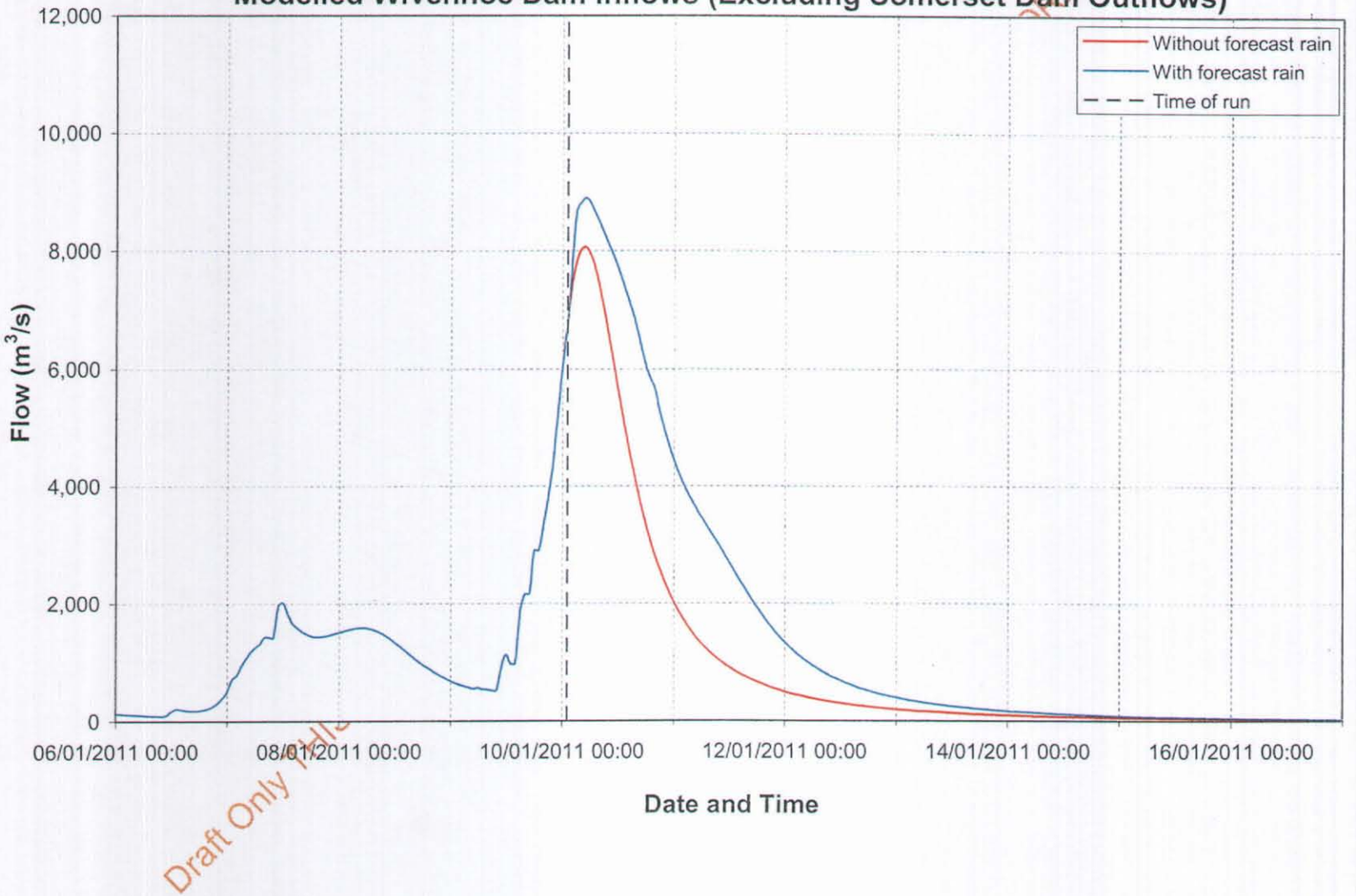
Draft Only TH
ORMATION

RUN 23

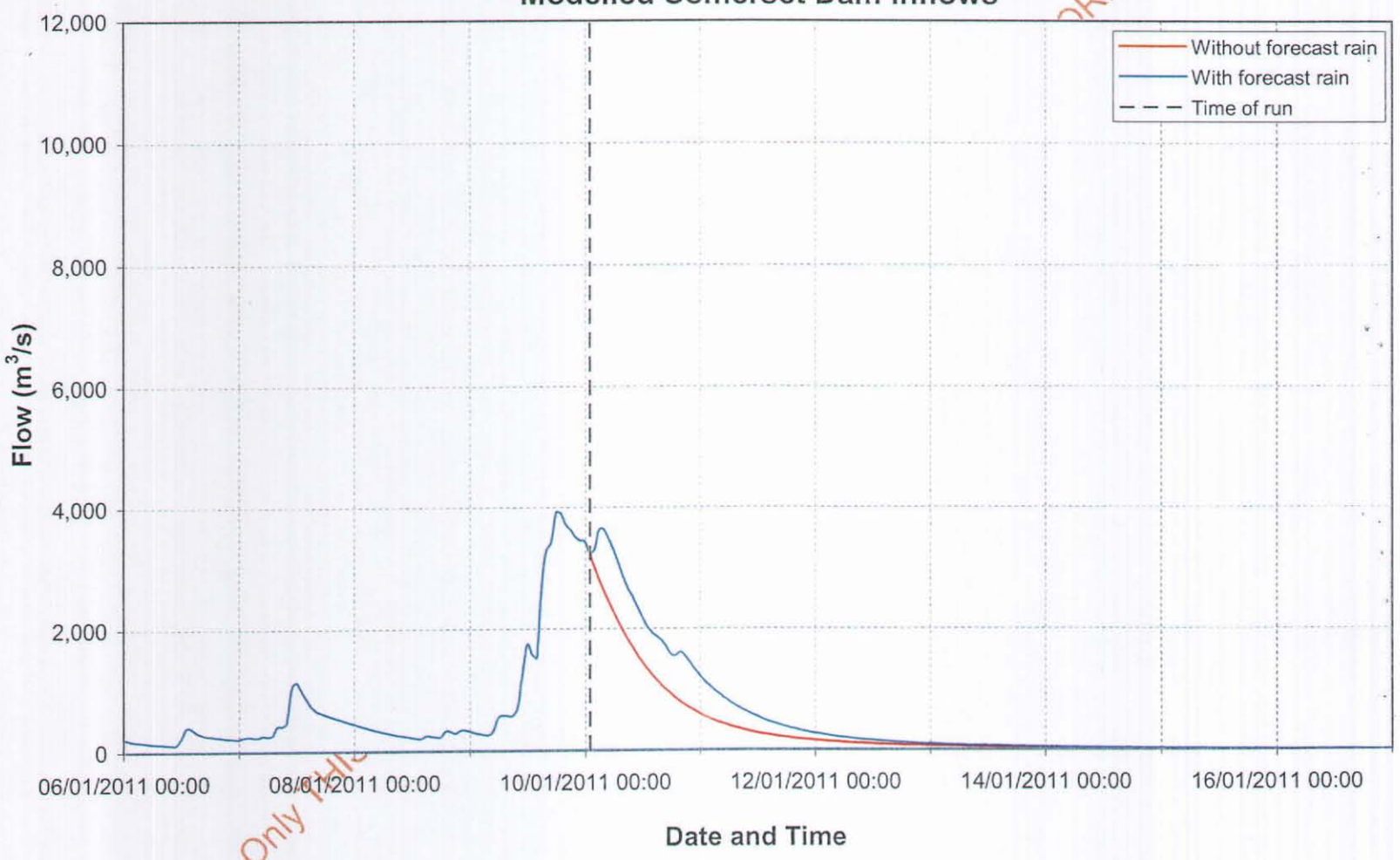
DATE: MONDAY, 10 JANUARY 2011

TIME: 01:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION


Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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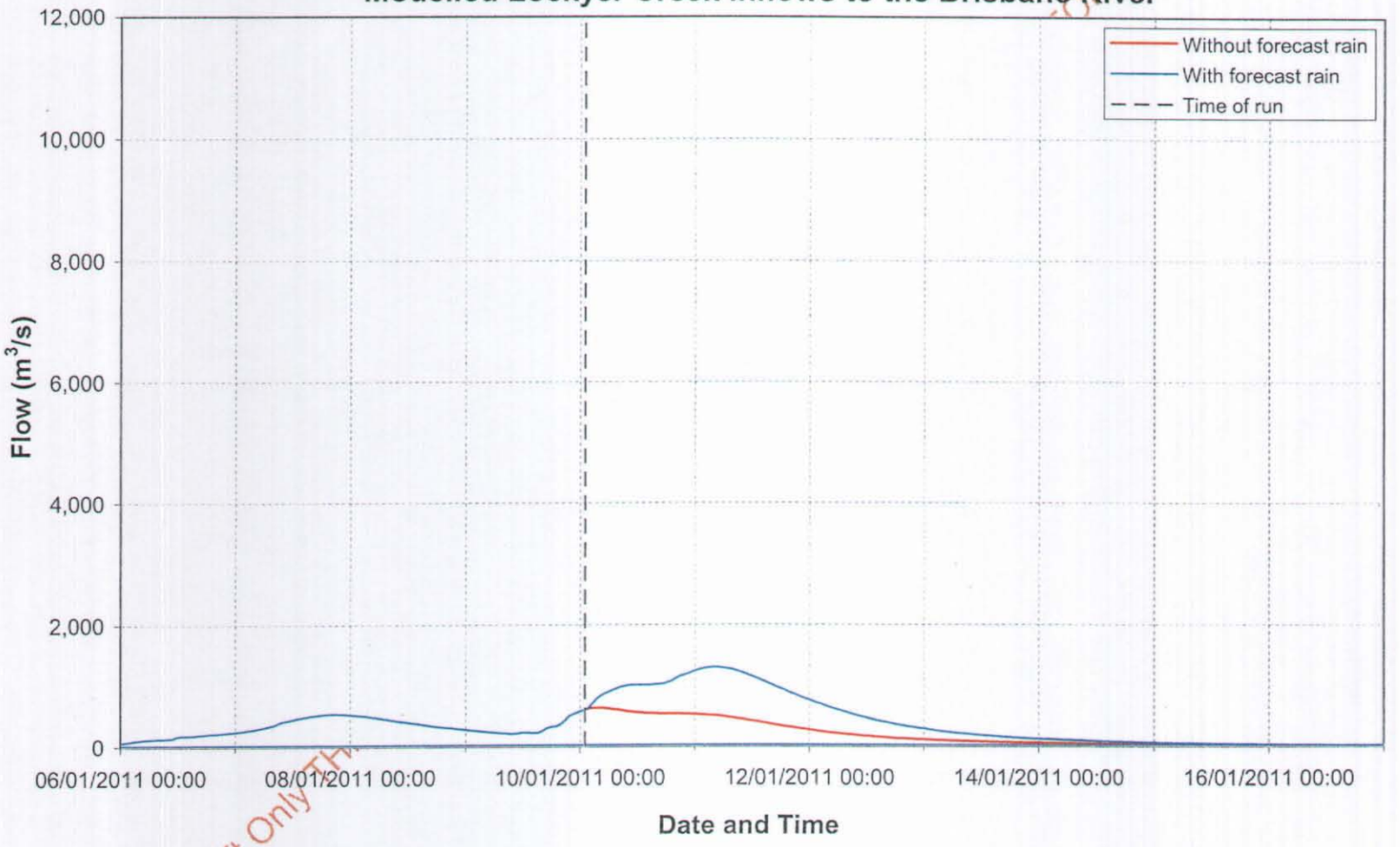
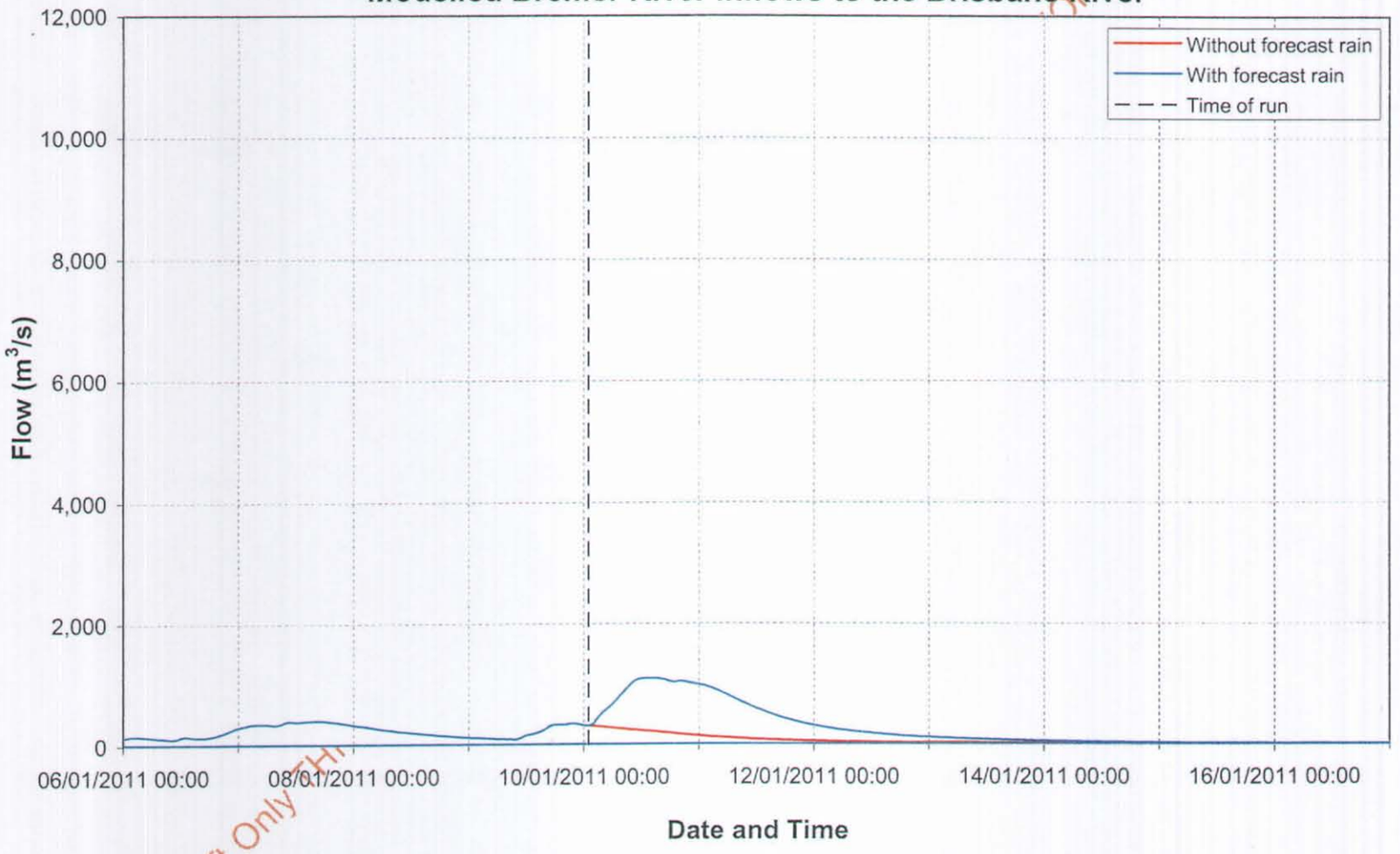
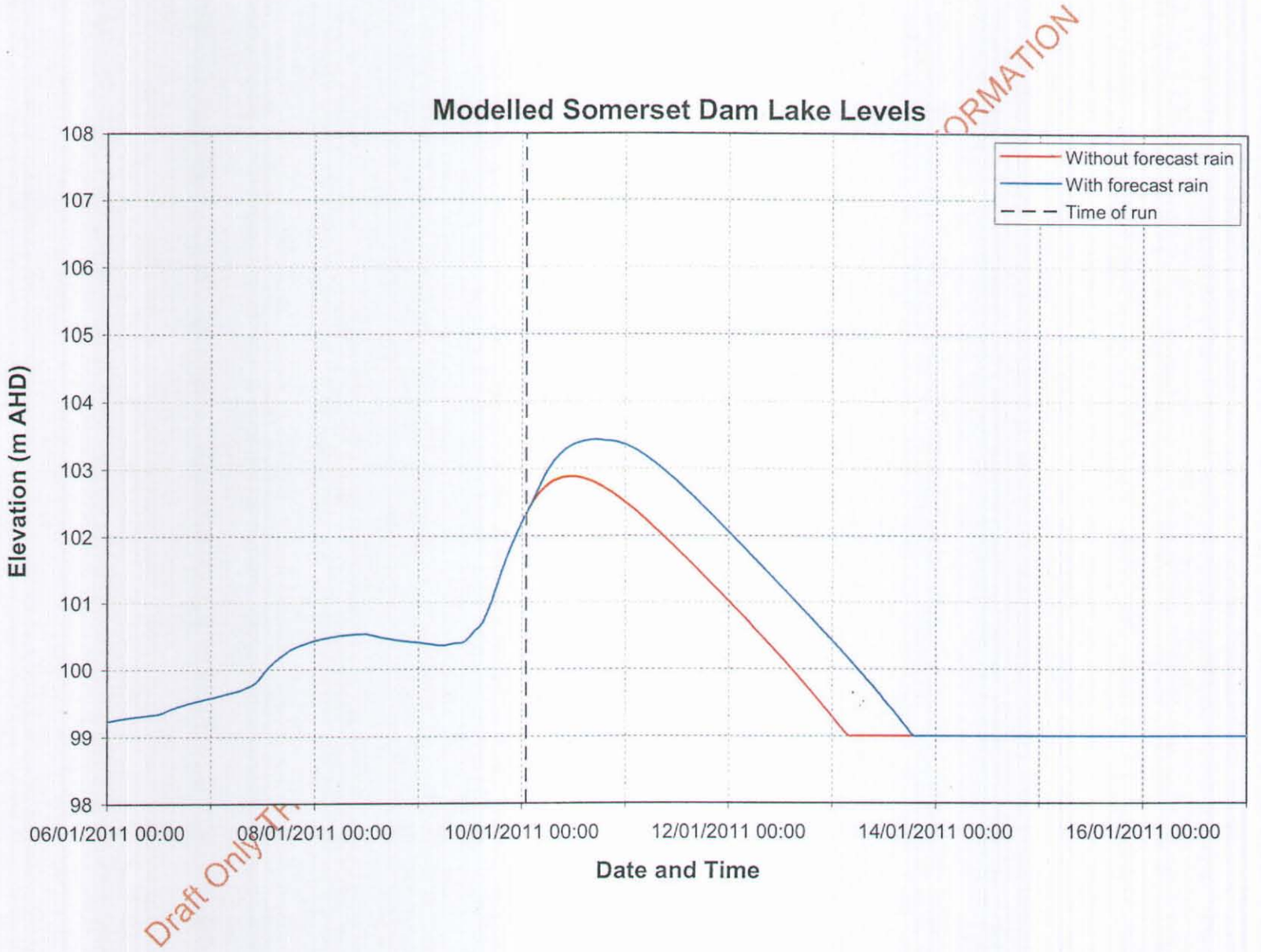
Draft Only



Draft Only TH



Draft Only - FOR INFORMATION



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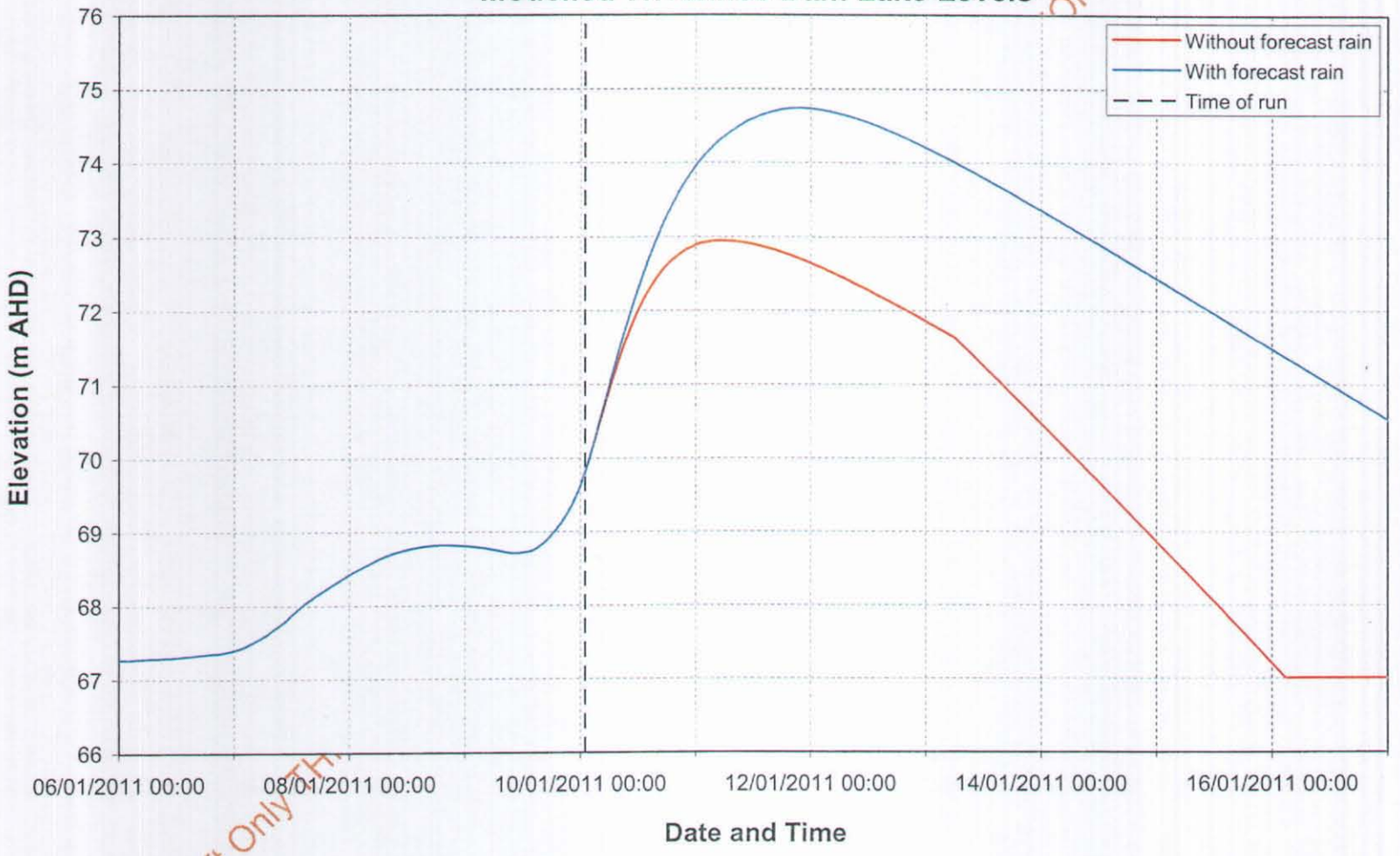
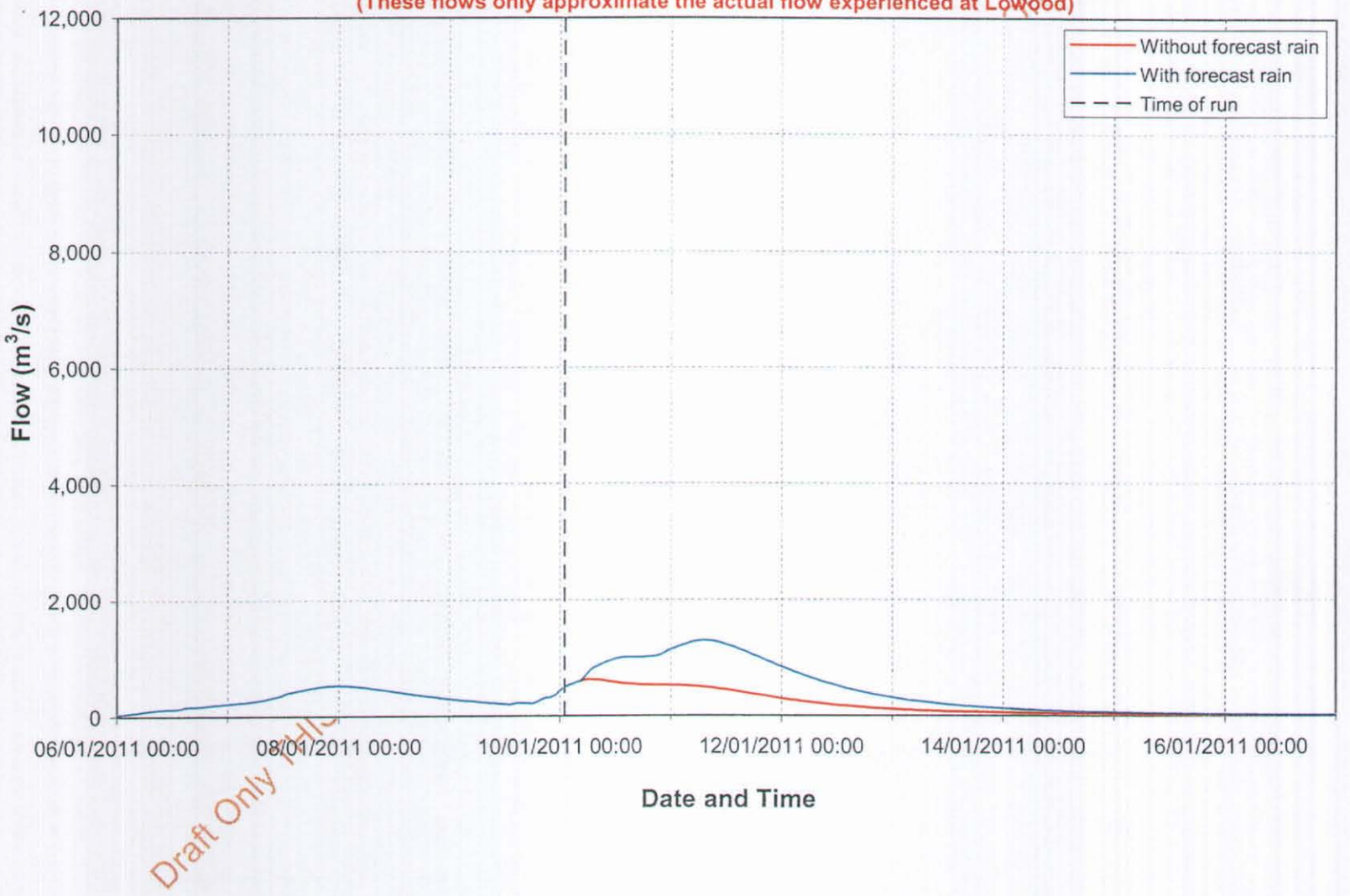


ORMATION
Draft Only TH

Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Lowood)



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Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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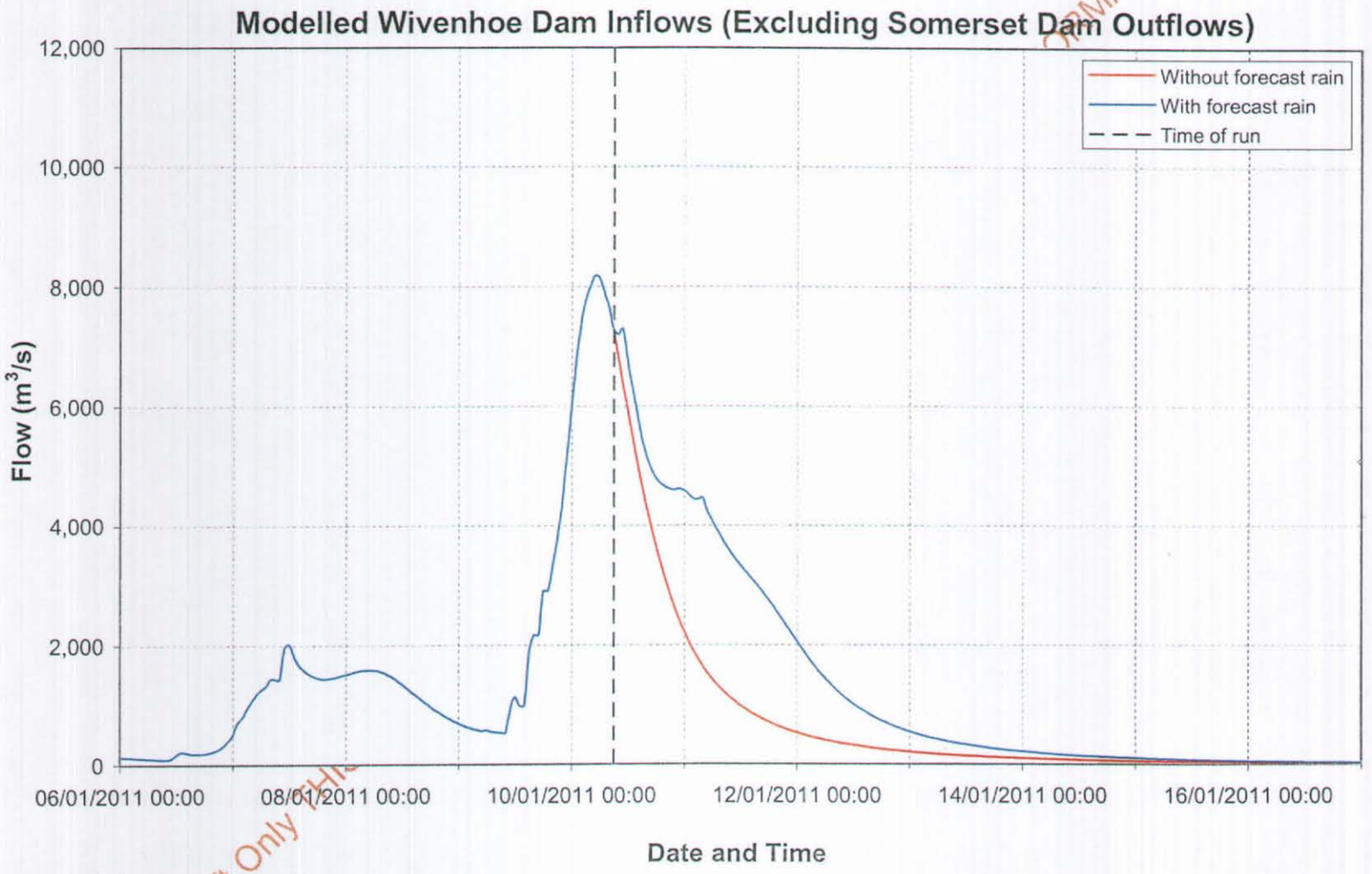
RUN 26

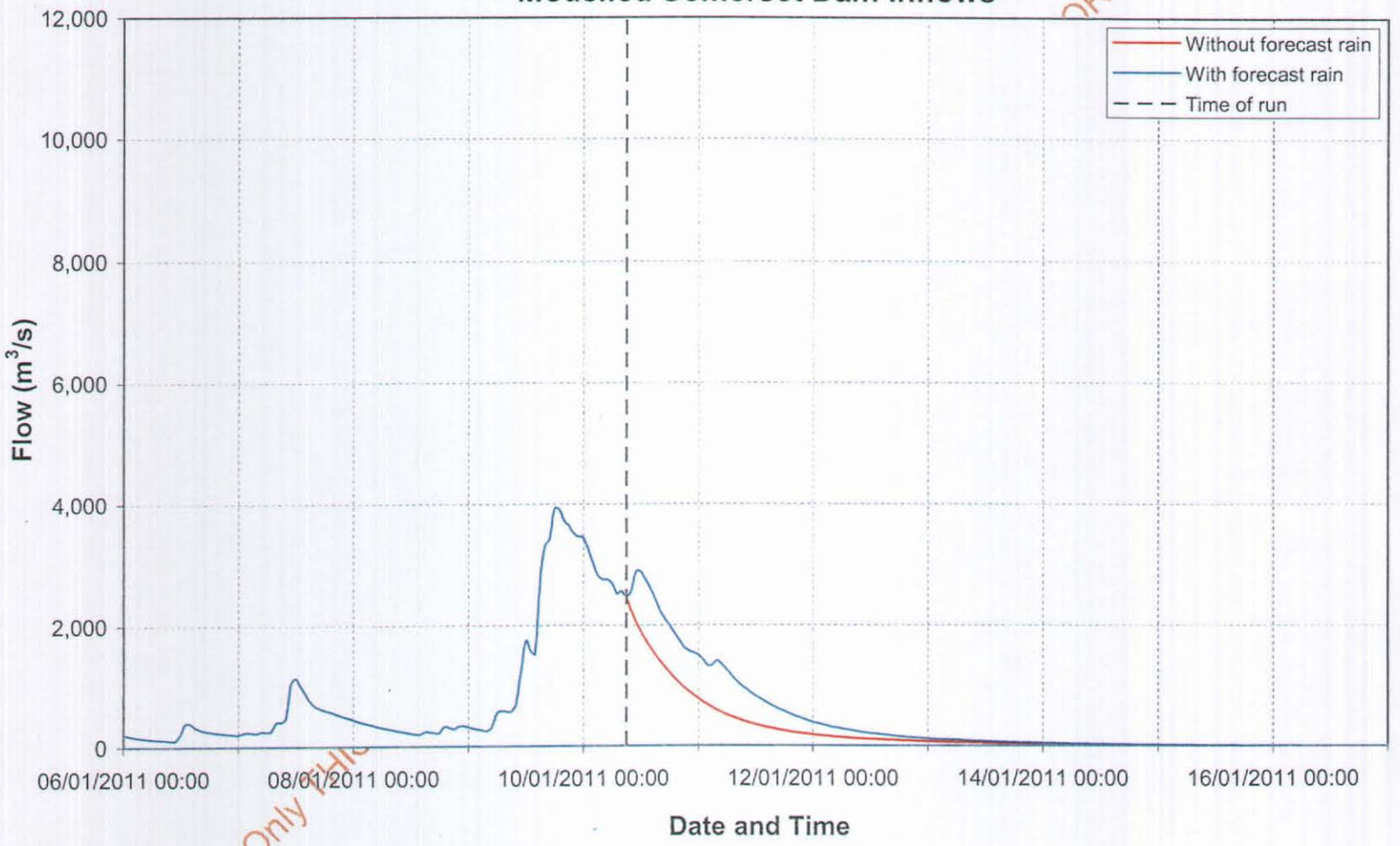
DATE: MONDAY, 10 JANUARY 2011

TIME: 09:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION


Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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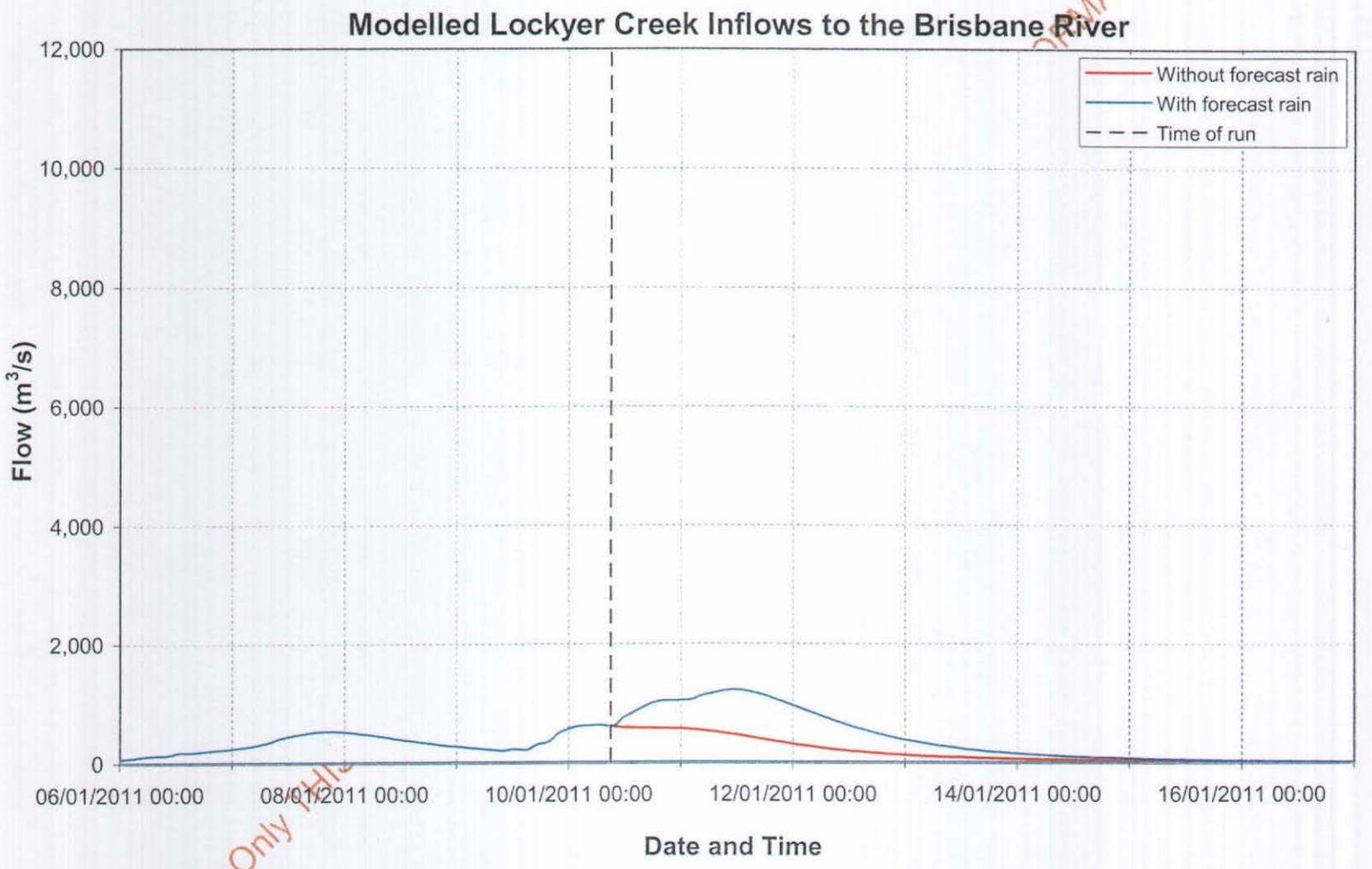
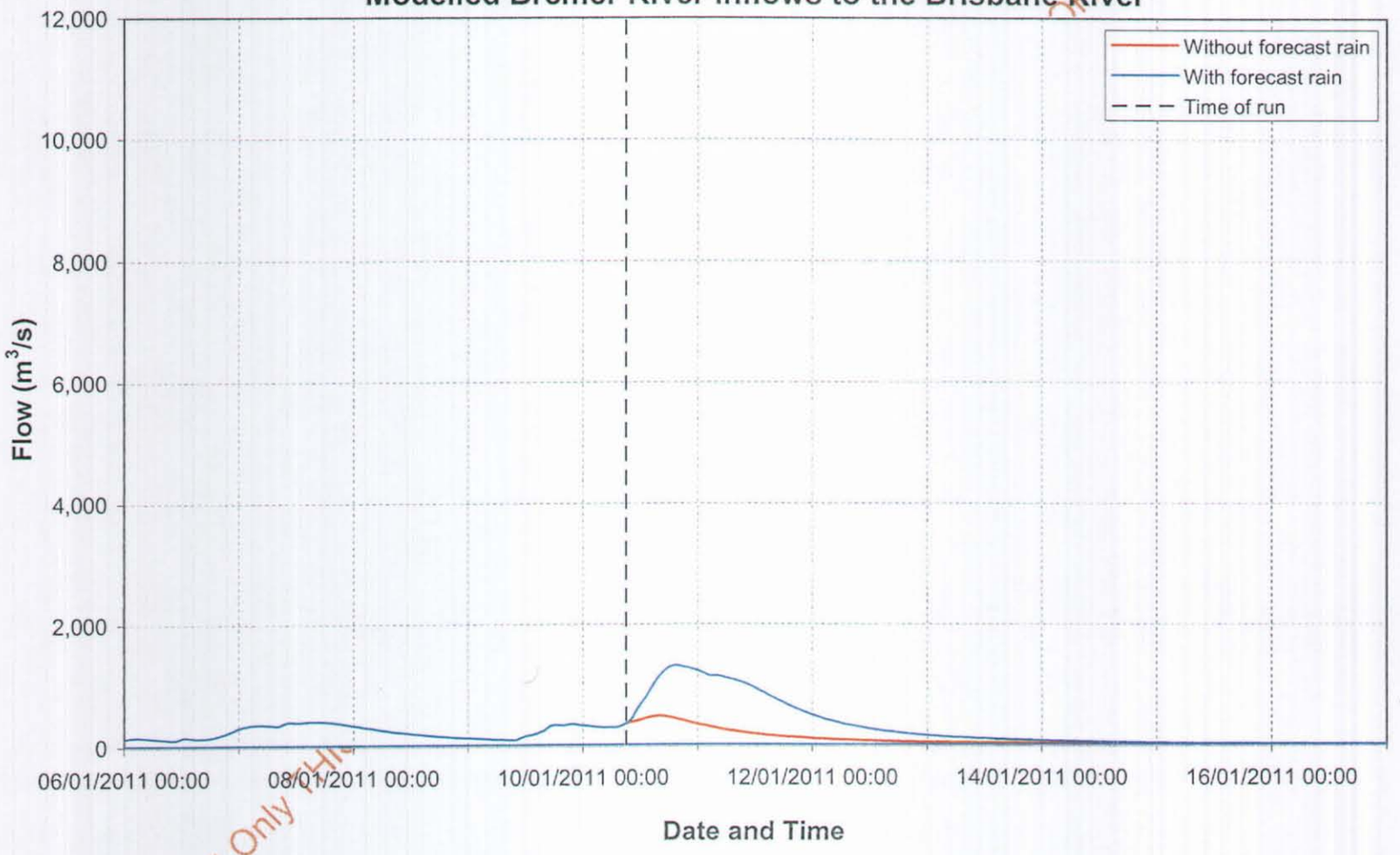
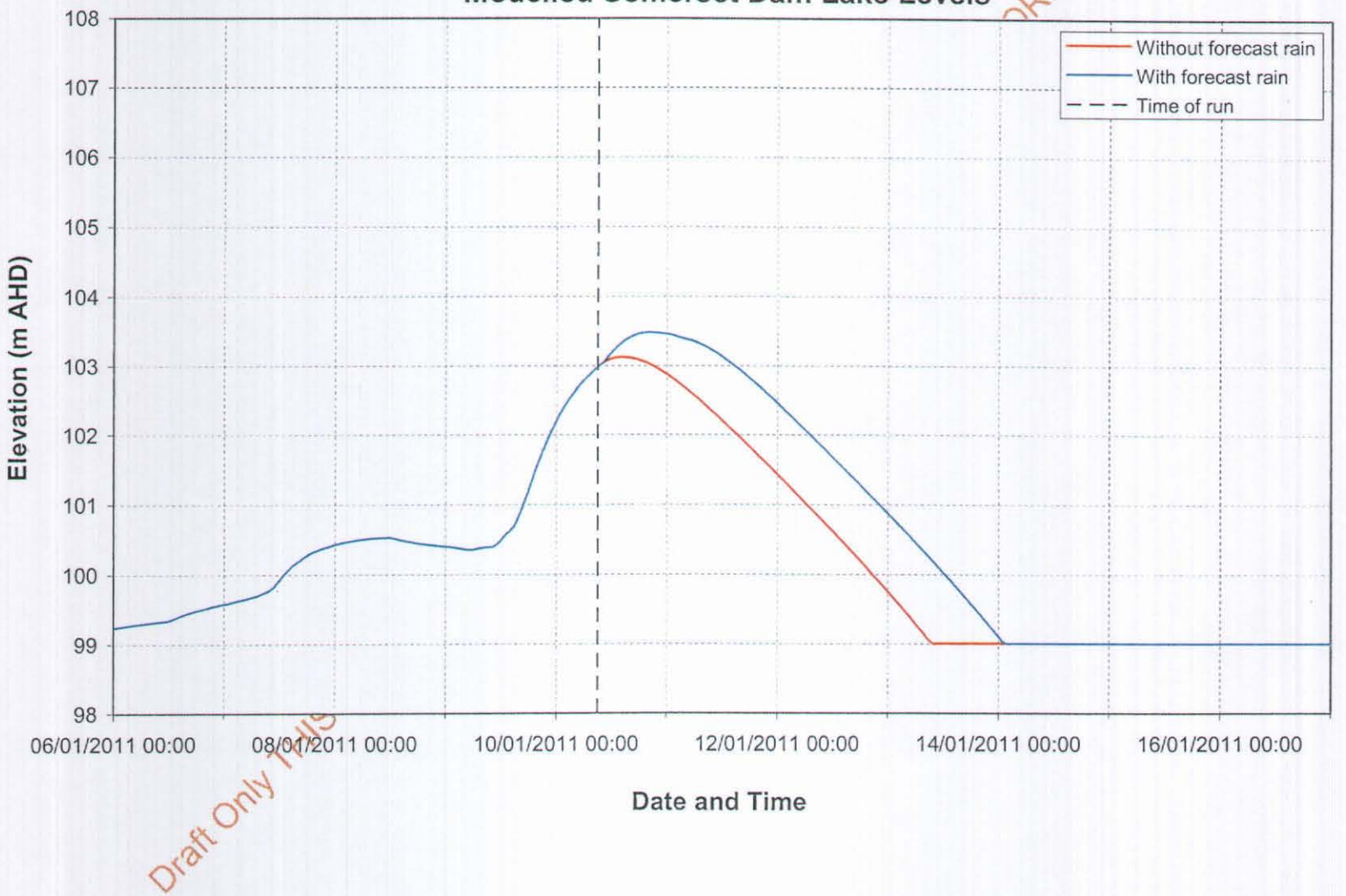

Modelled Lockyer Creek Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



Draft Only - THIS INFORMATION



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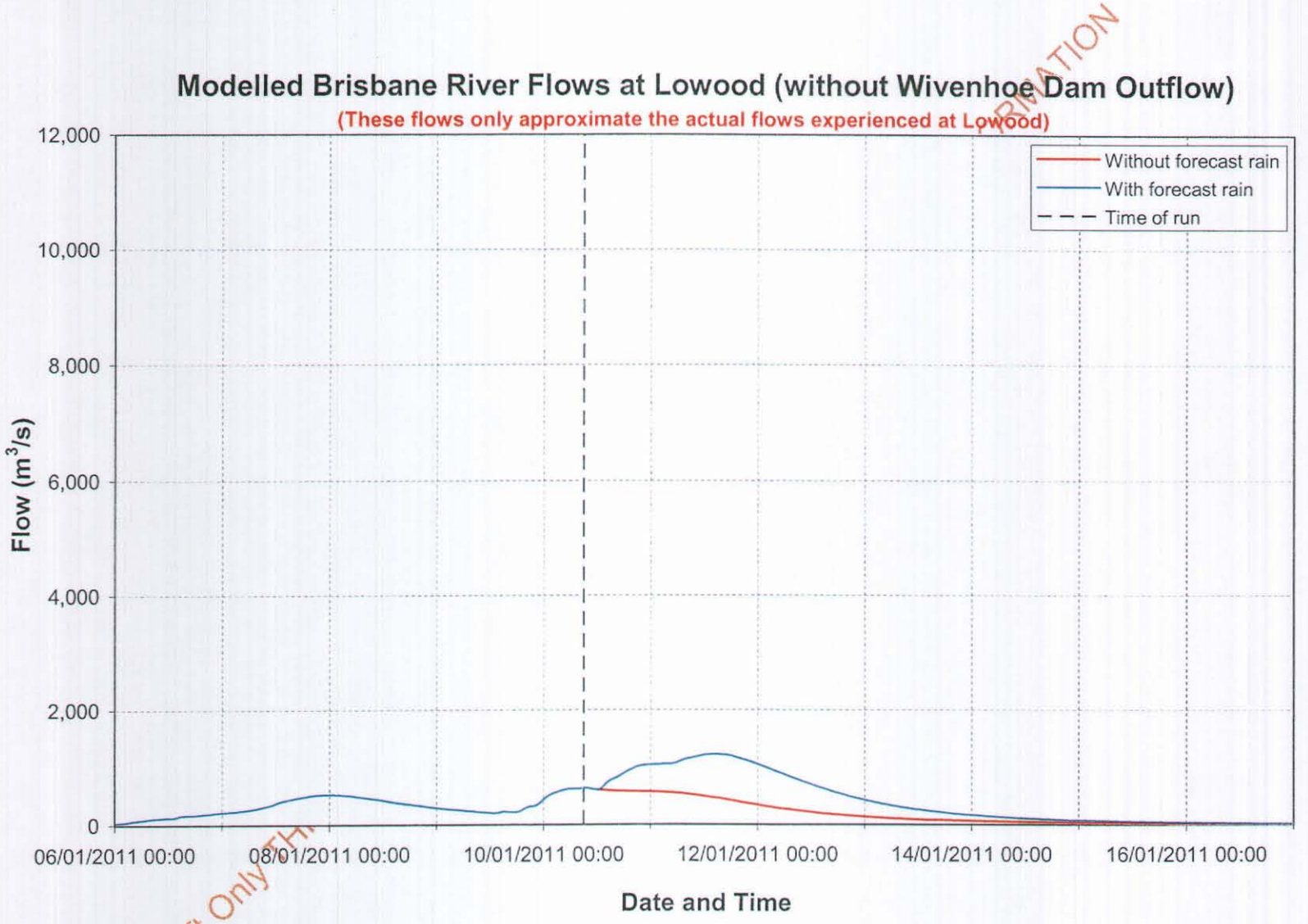
Modelled Wivenhoe Dam Lake Levels
Without forecast rain
With forecast rain
Time of run
Elevation (m AHD)
76
75
74
73
72
71
70
69
68
67
66
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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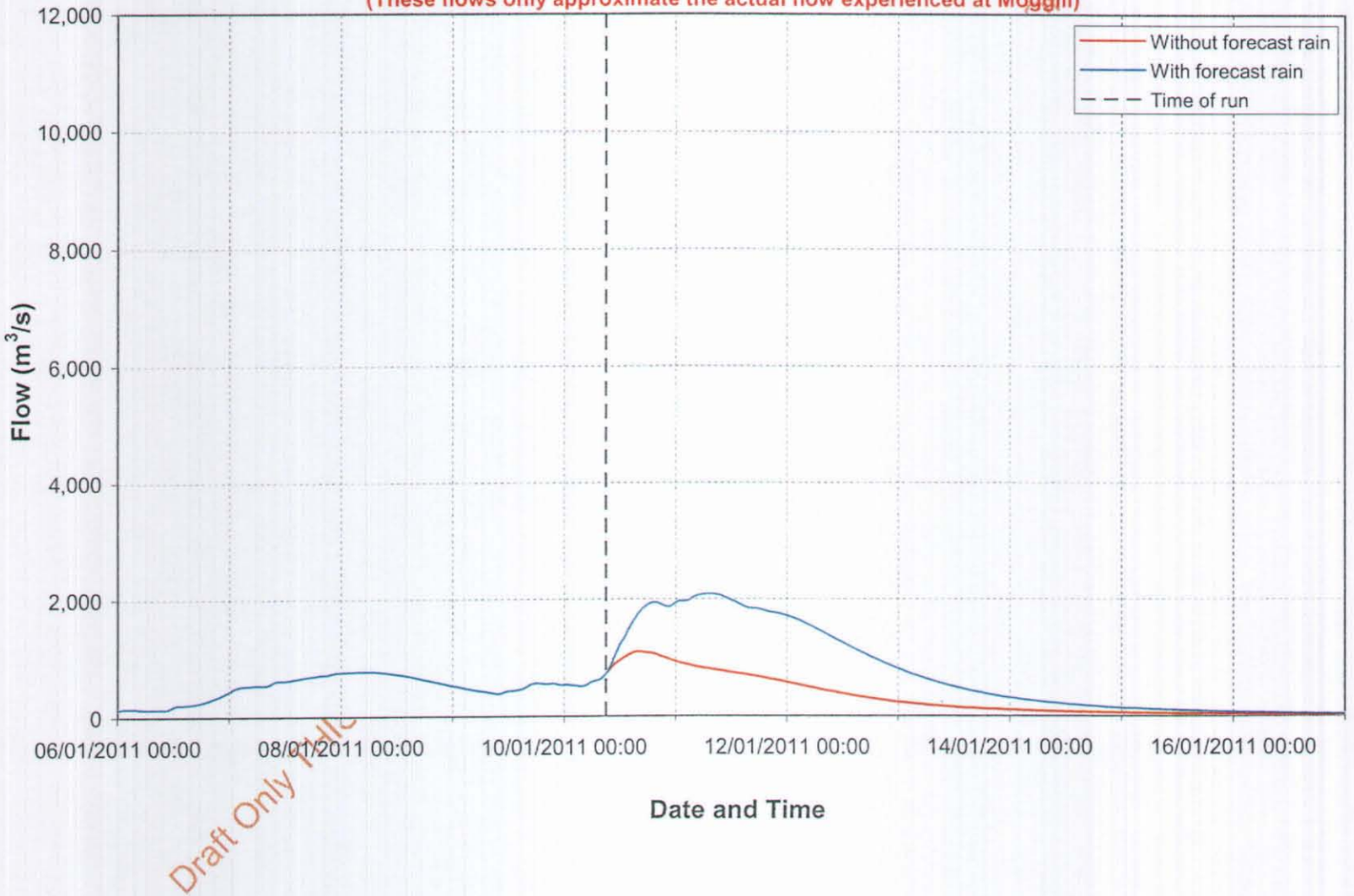
Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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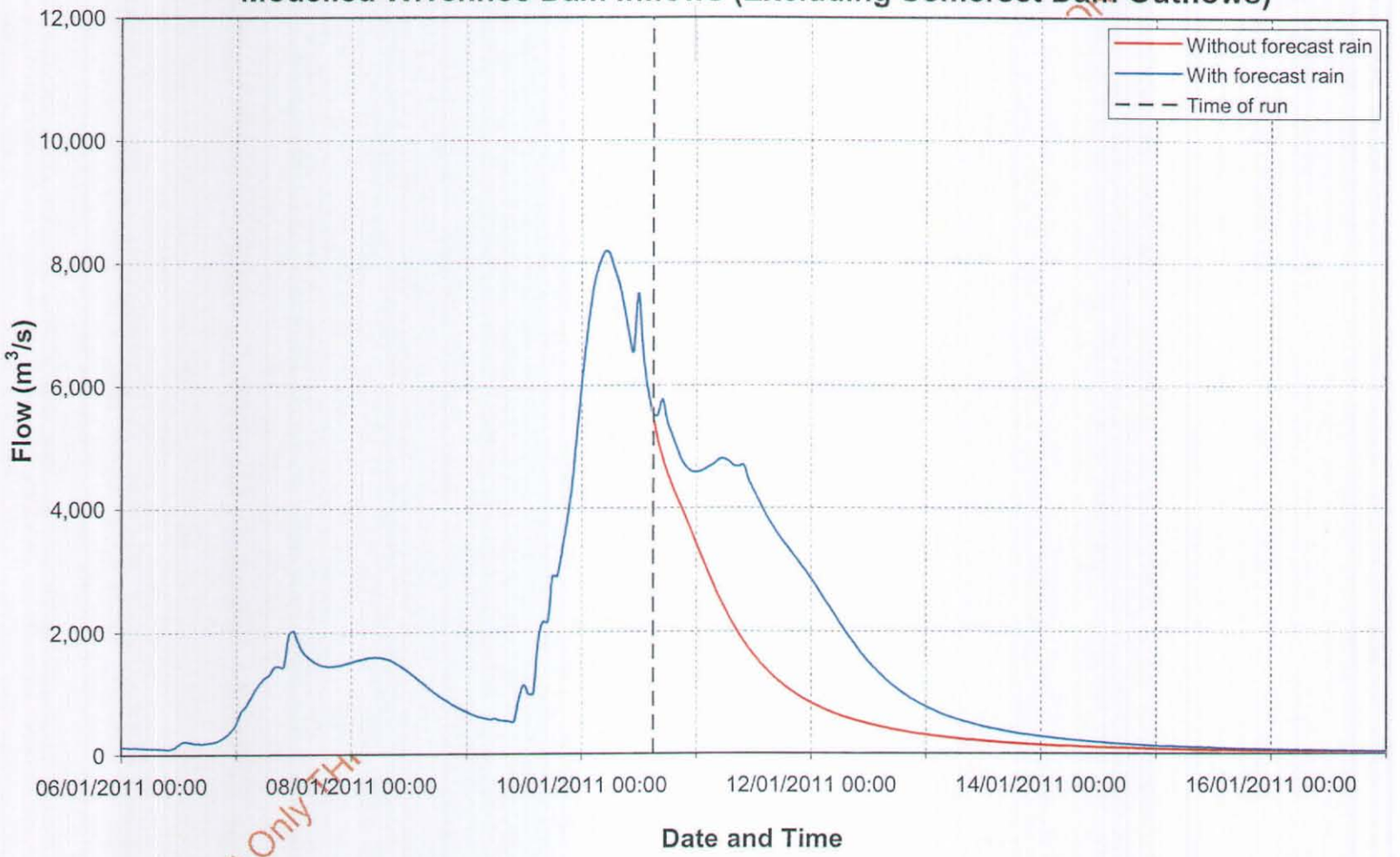
RUN 28

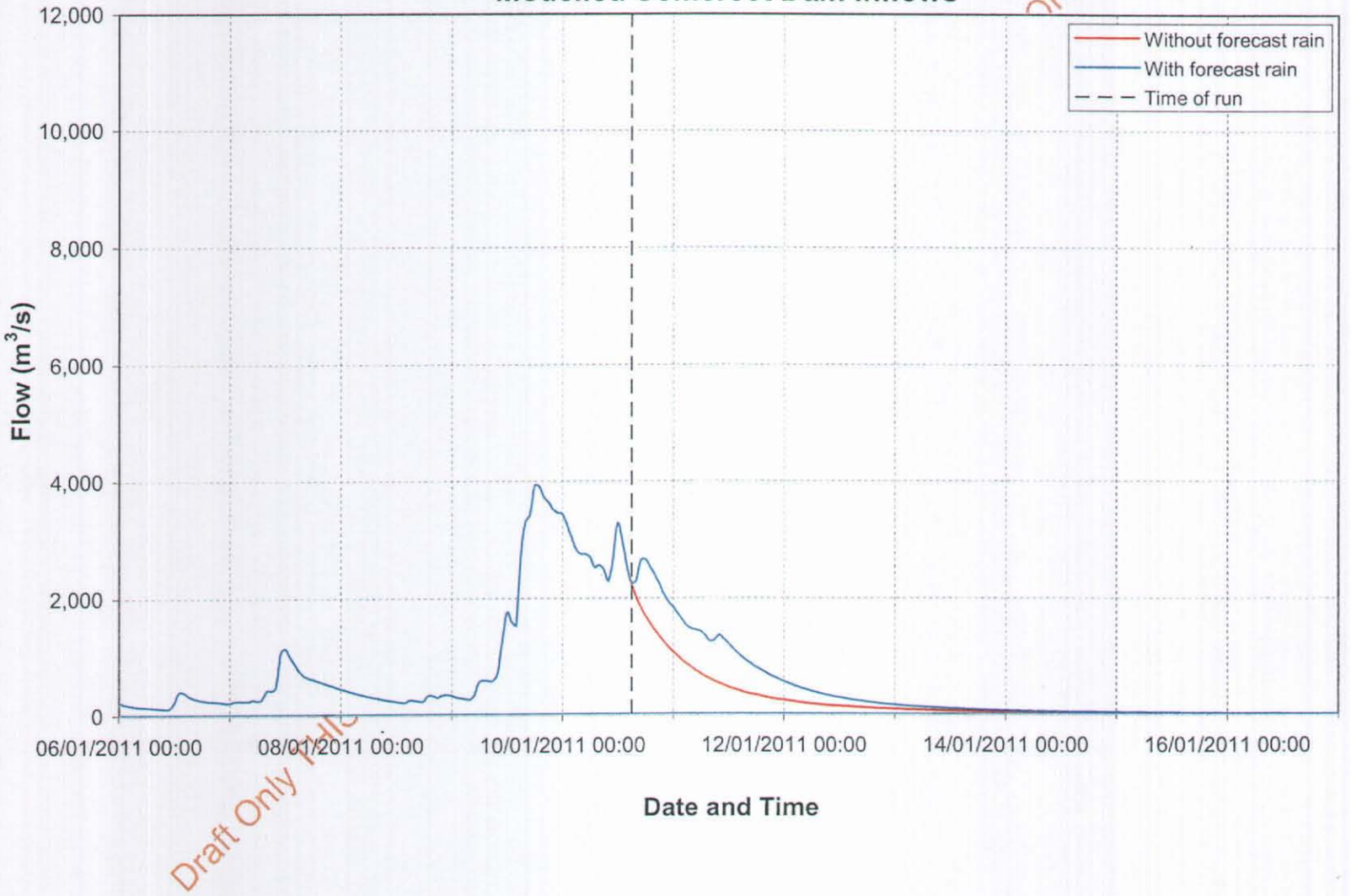
DATE: MONDAY, 10 JANUARY 2011

TIME: 15:00

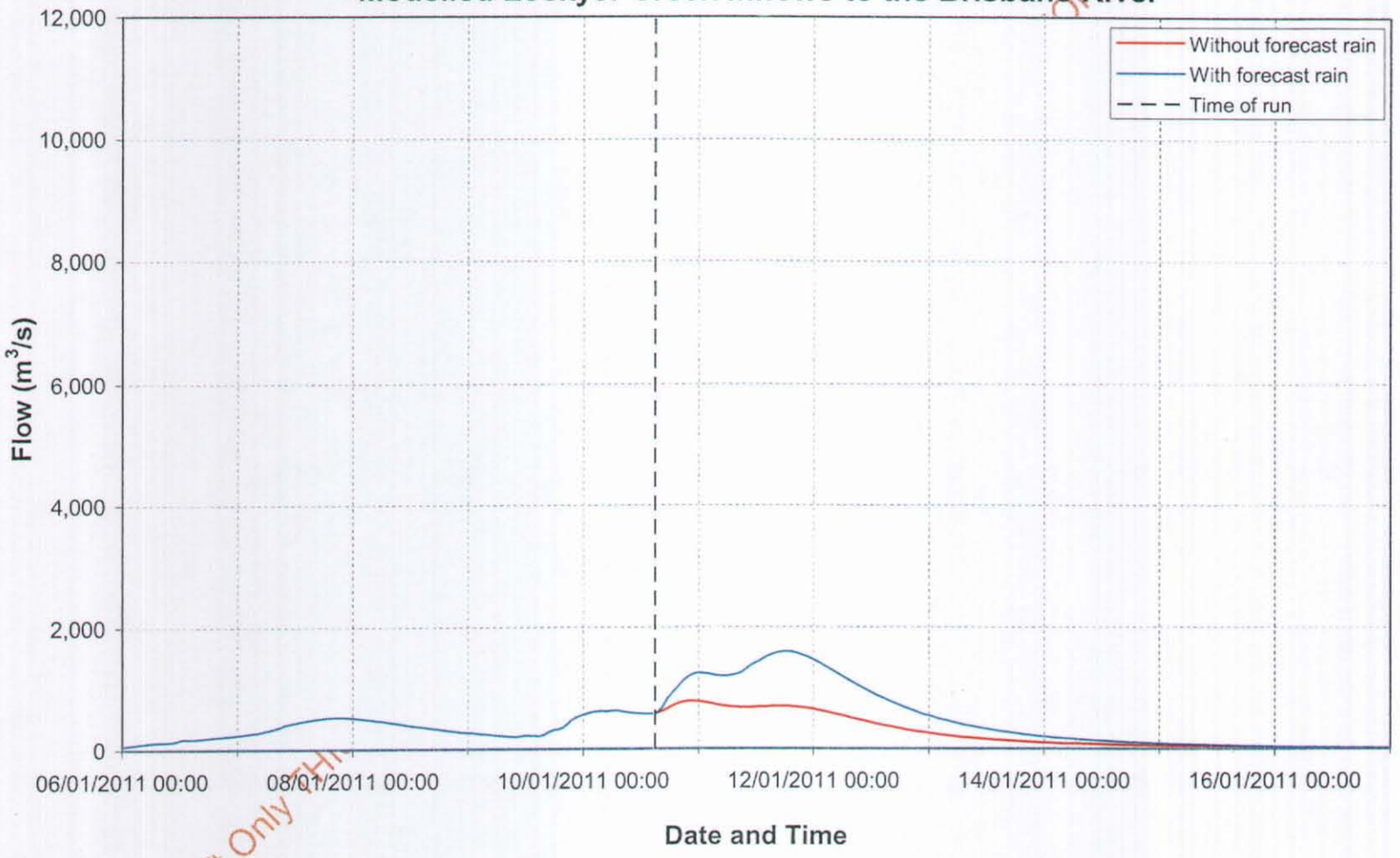
Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



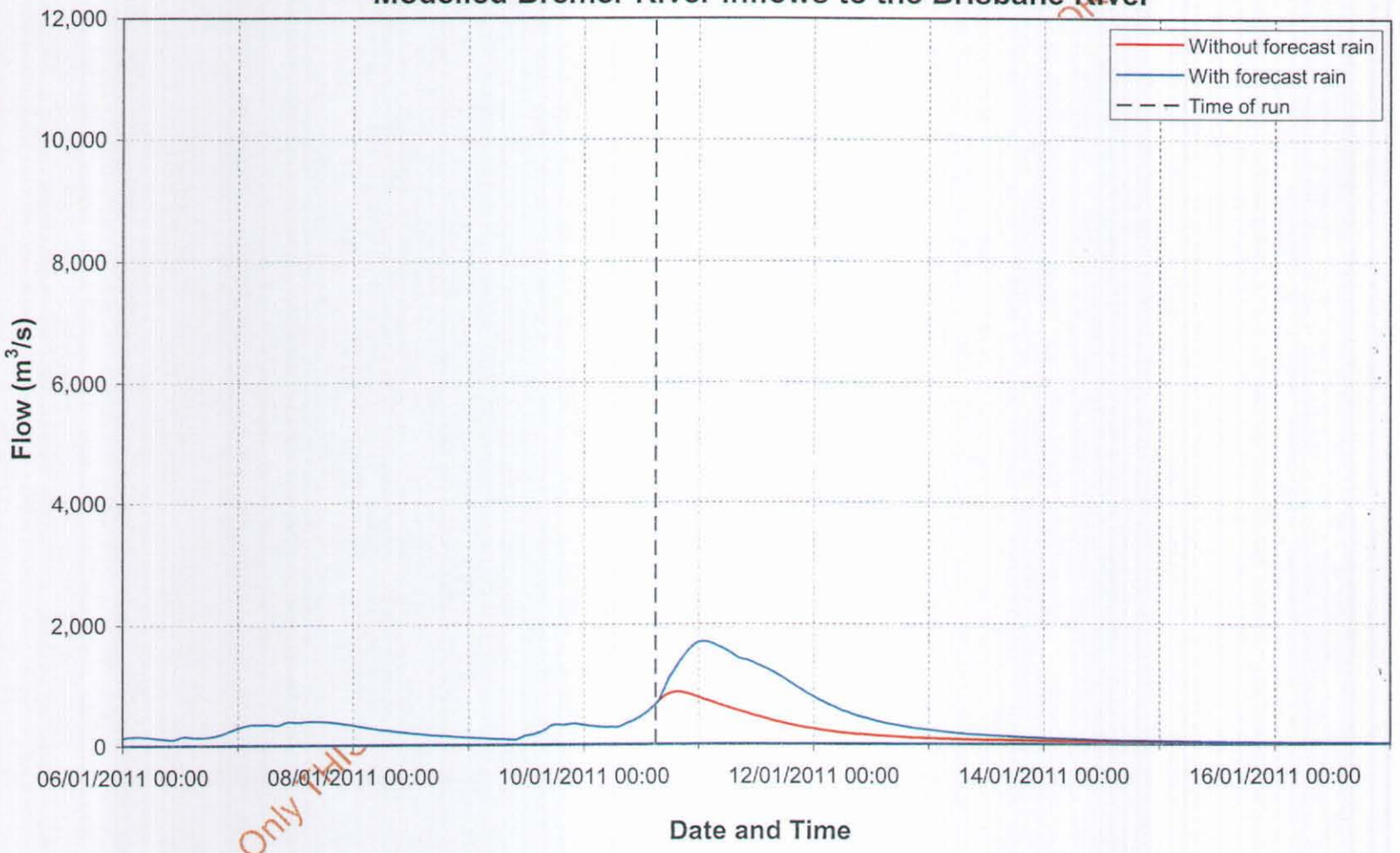
Draft Only - FH



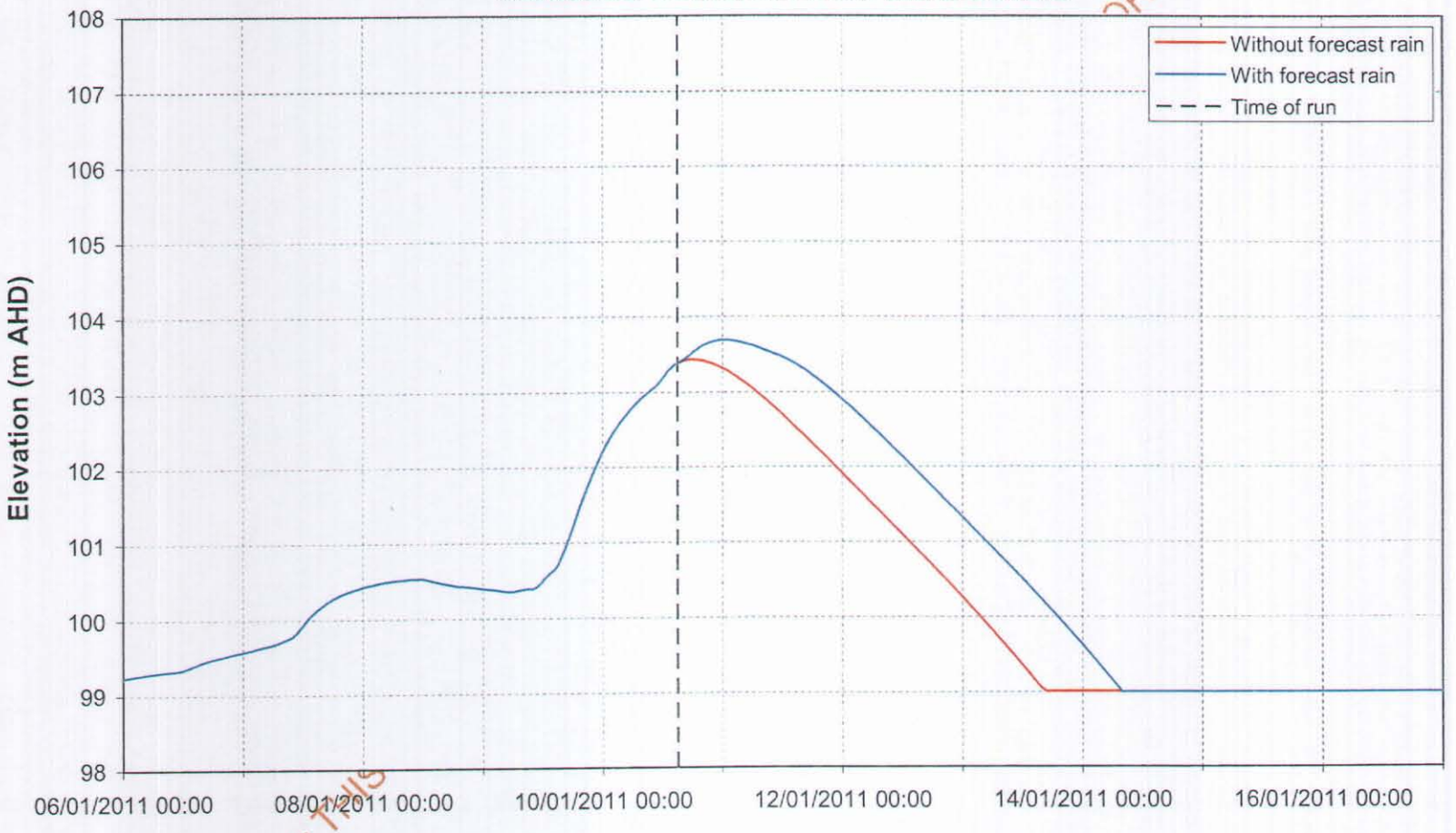
ORMATION
Draft Only THIS


Modelled Lockyer Creek Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only


Modelled Bremer River Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



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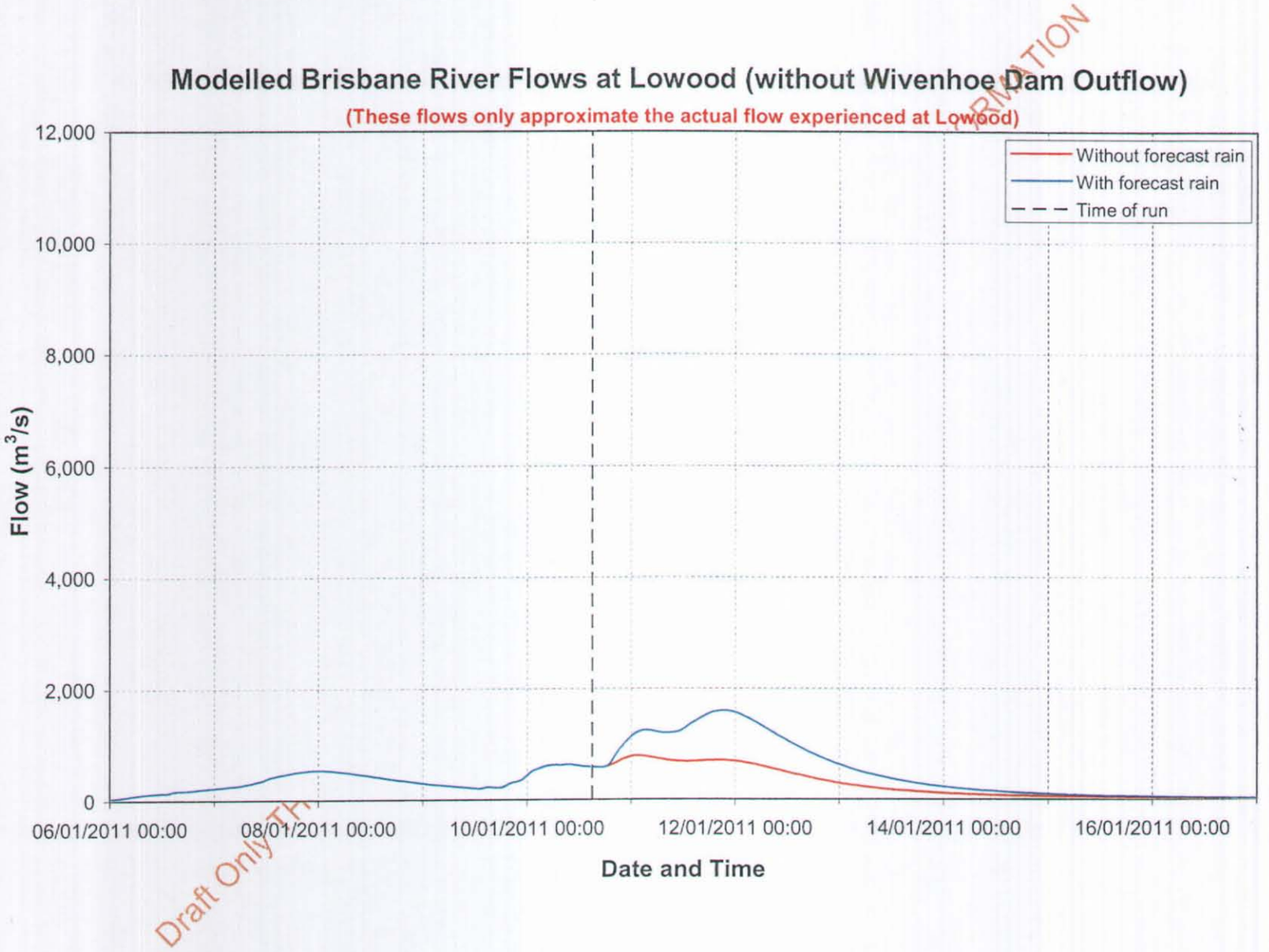

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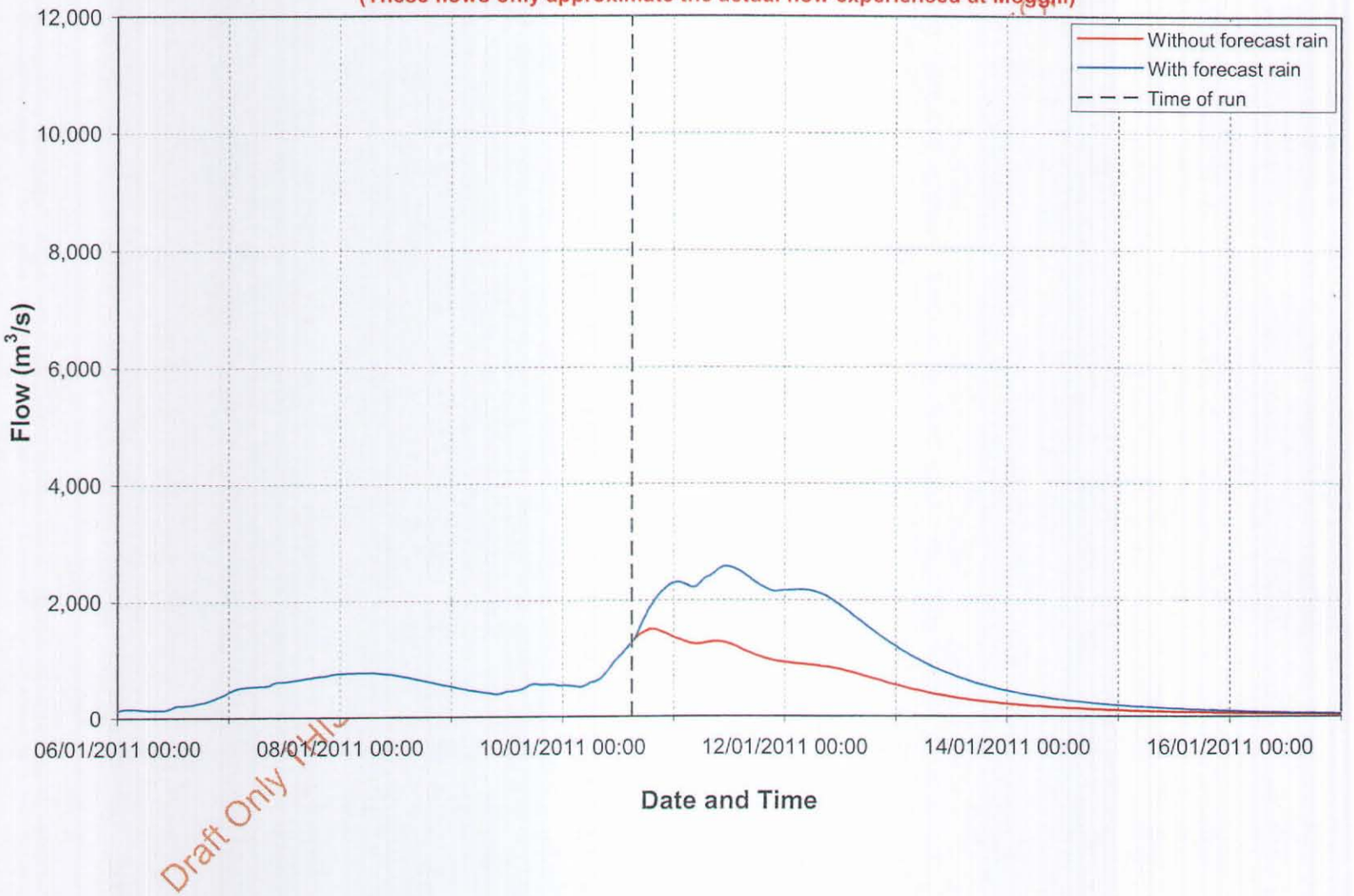
Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



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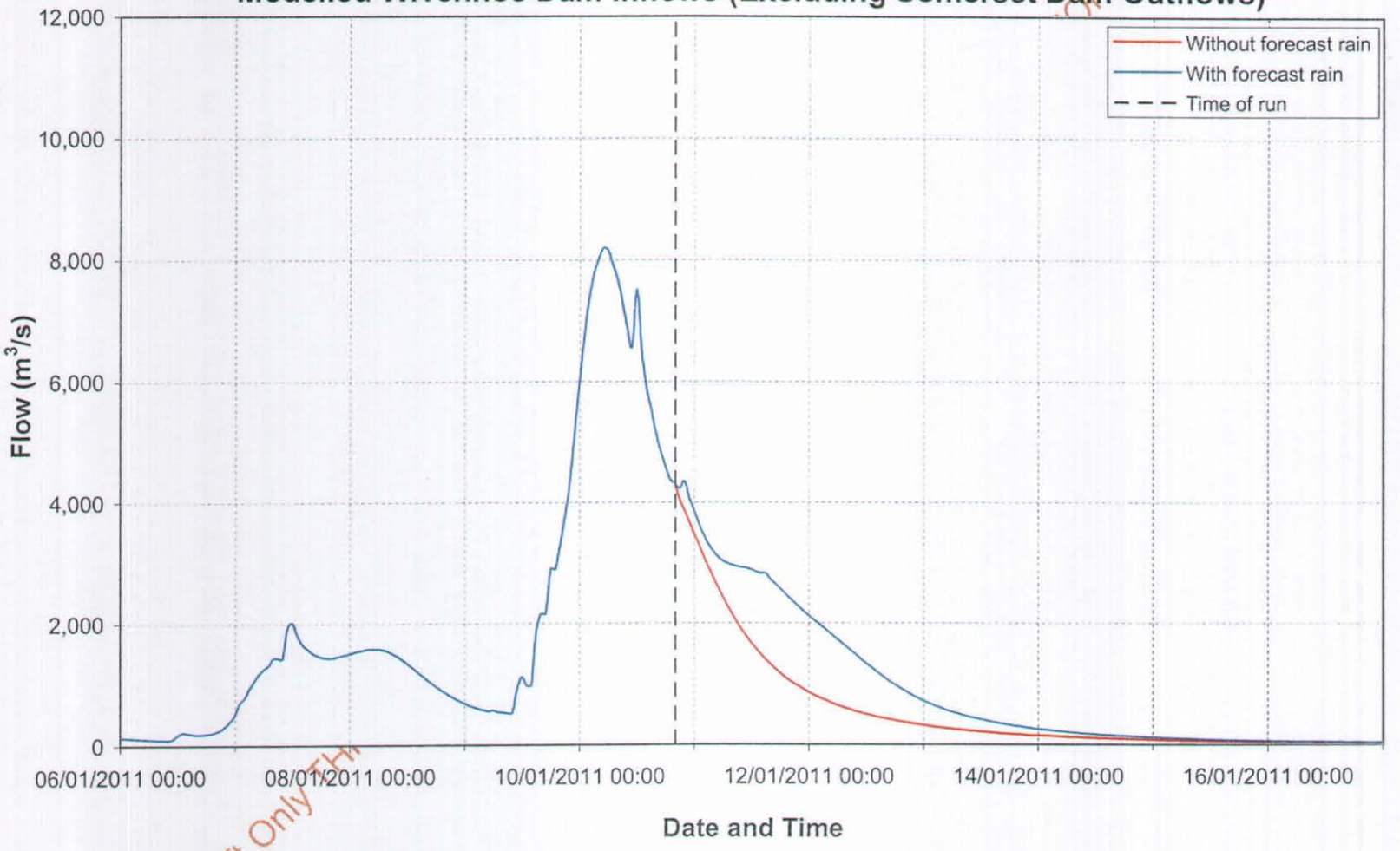
RUN 31

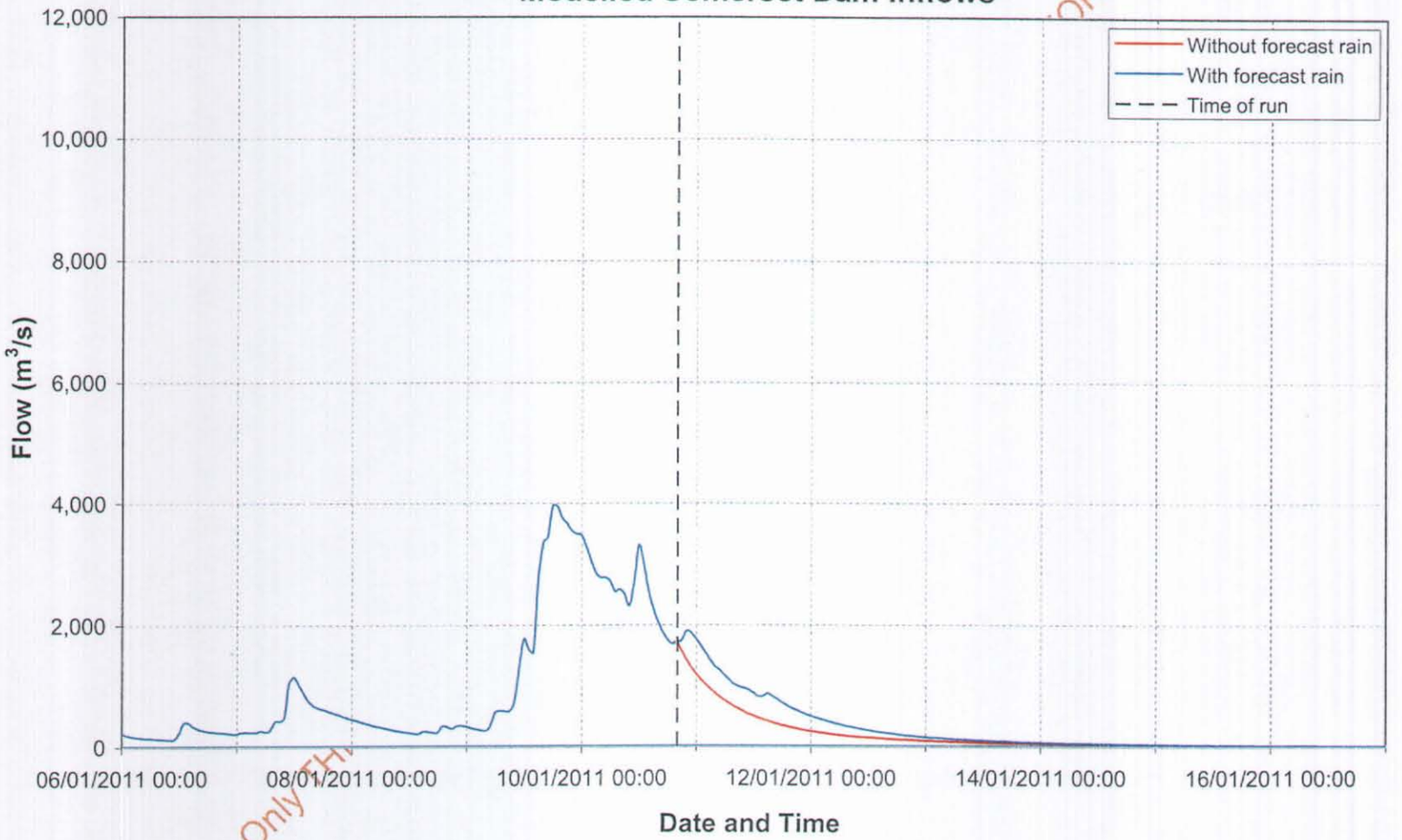
DATE: MONDAY, 10 JANUARY 2011

TIME: 20:00

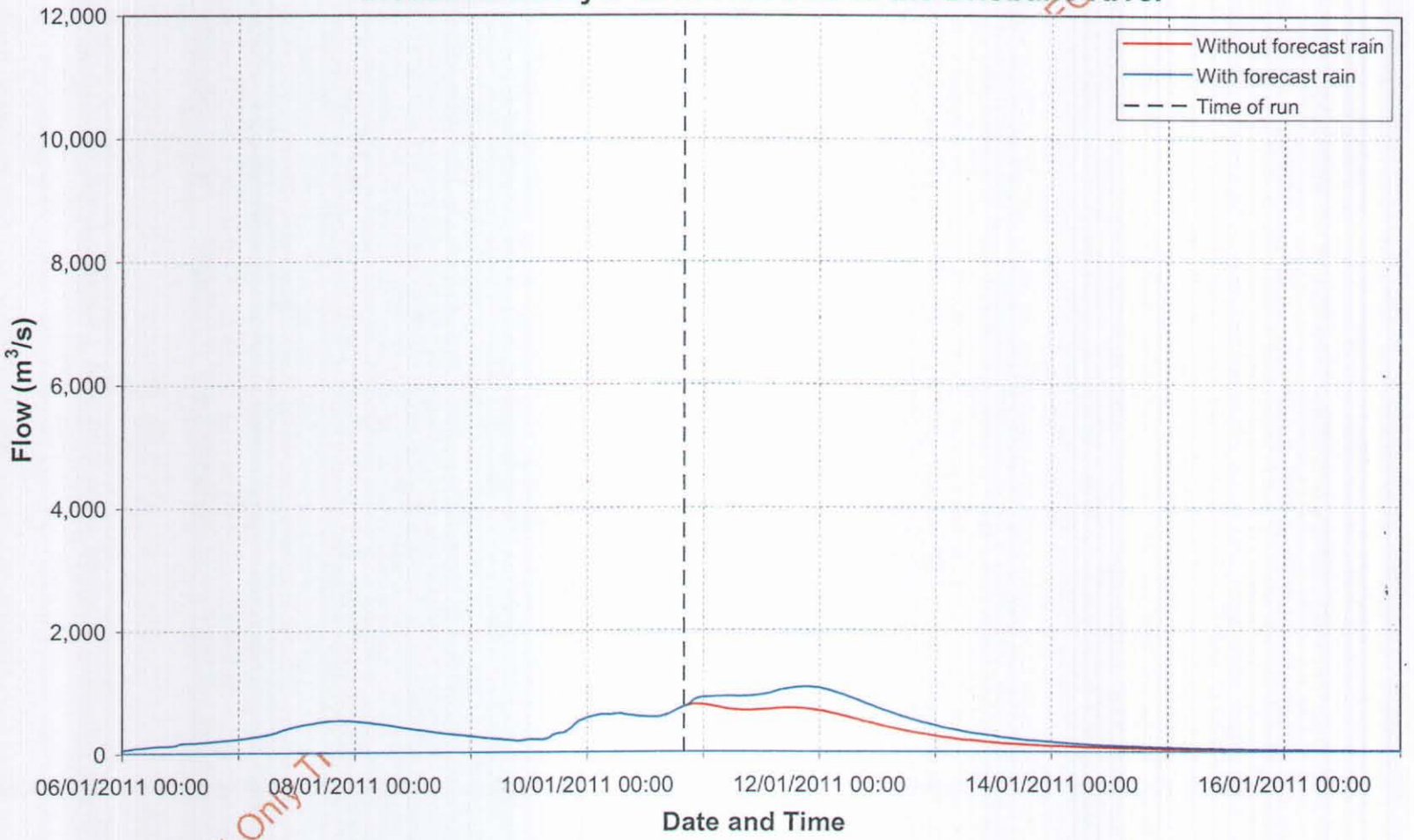
Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



Draft Only - THIS INFORMATION



ORMATION
Draft Only FH



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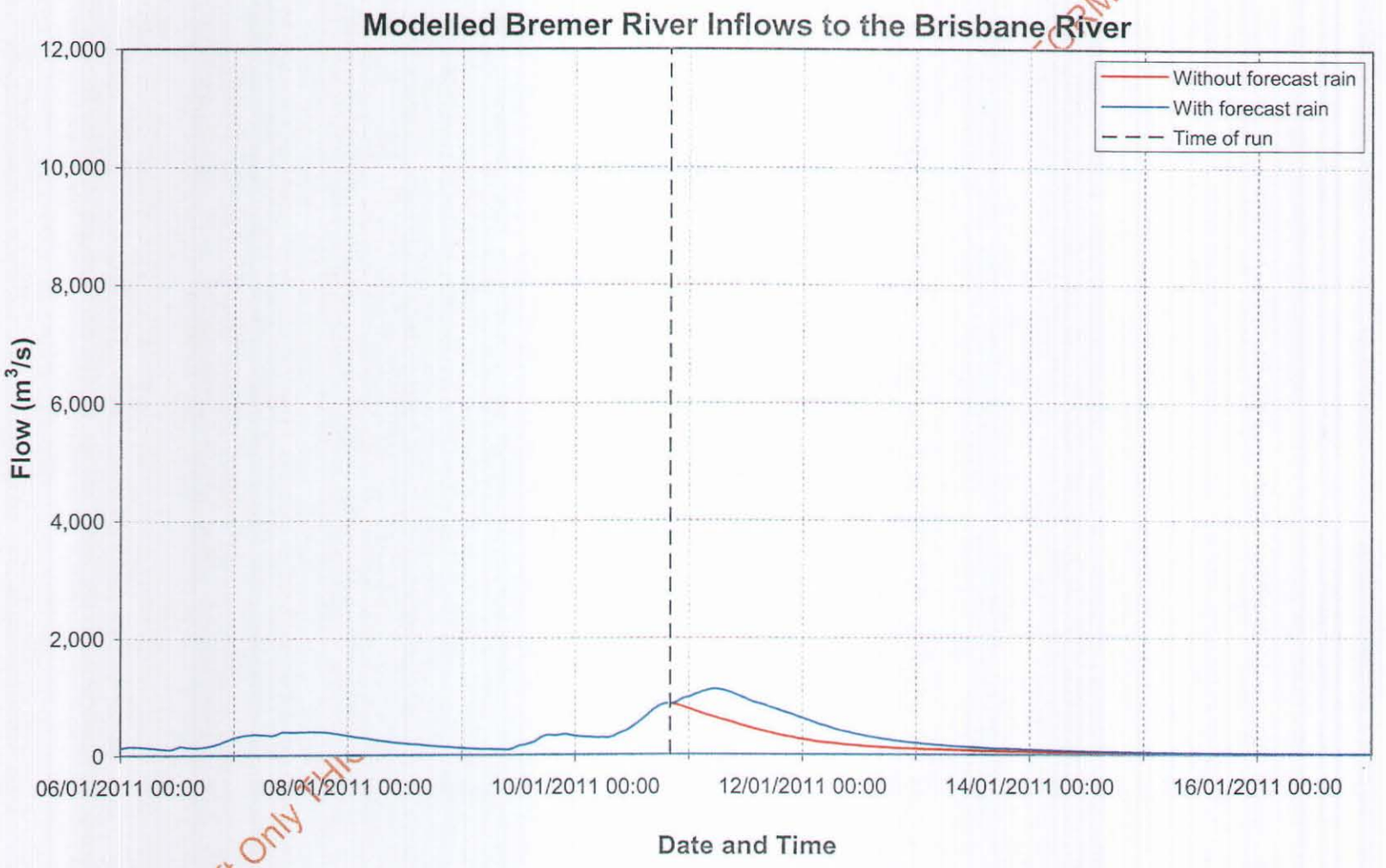
Draft Only



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Draft Only



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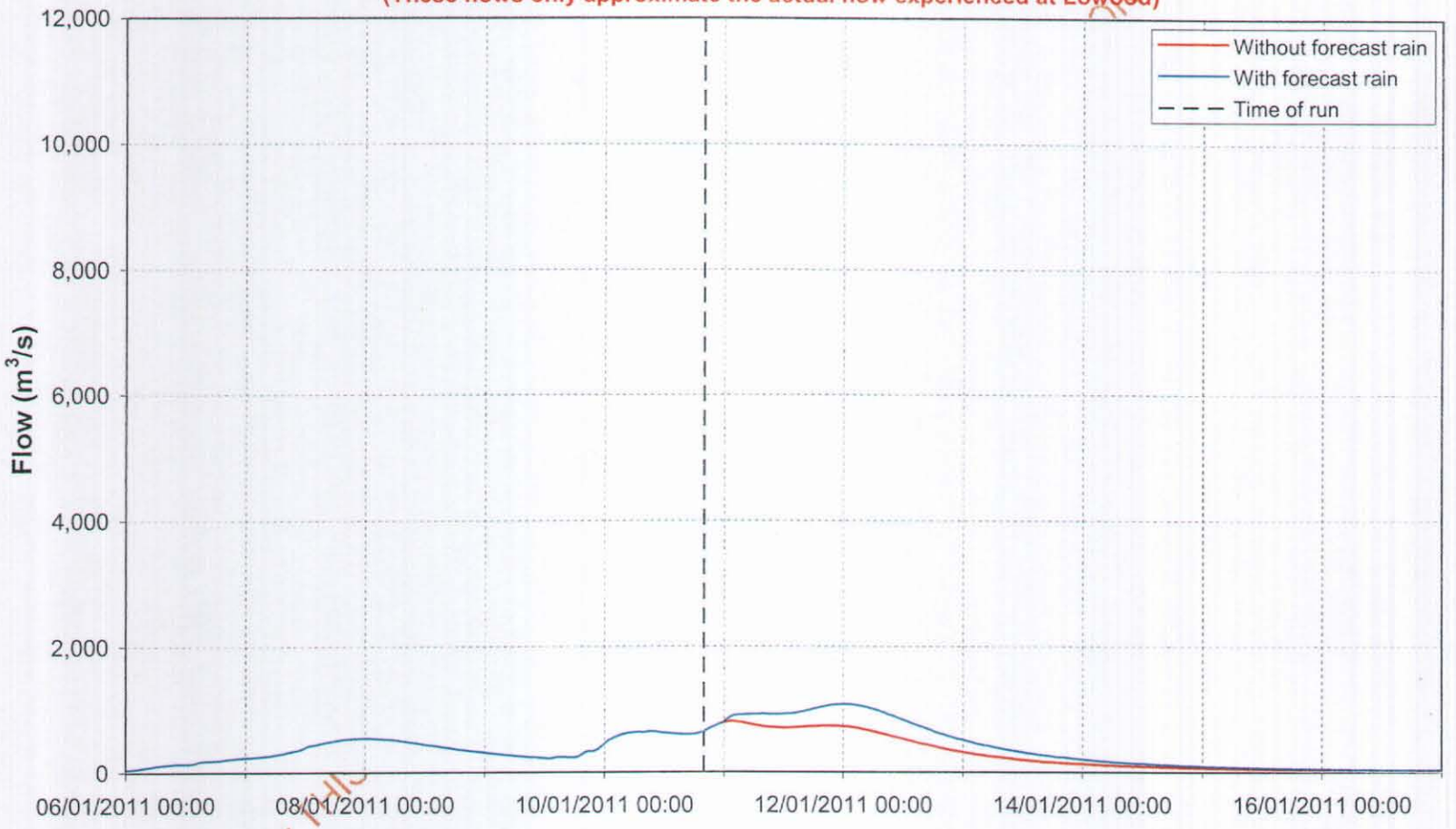
Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

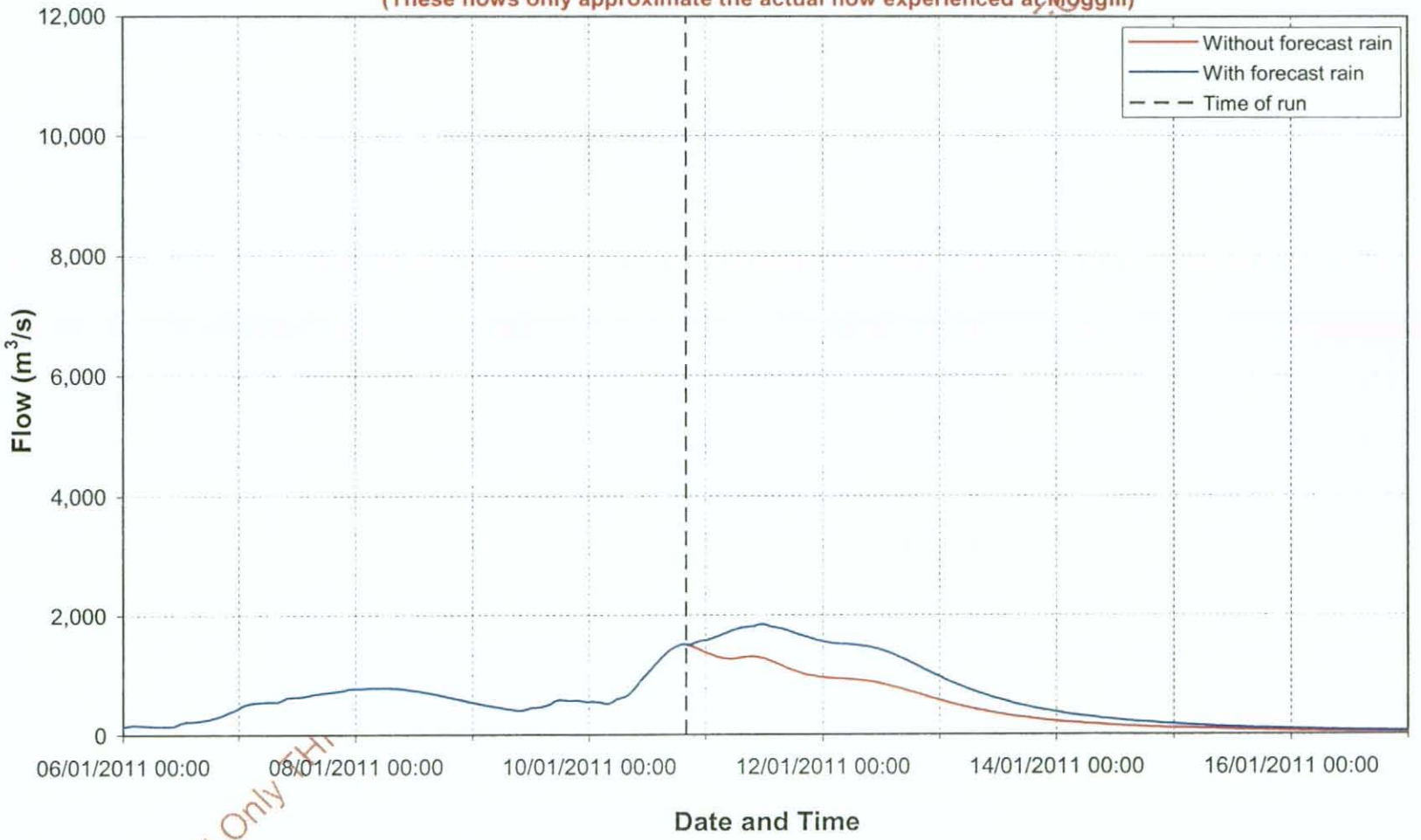
(These flows only approximate the actual flow experienced at Lowood)



Draft Only - Not for Distribution

Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



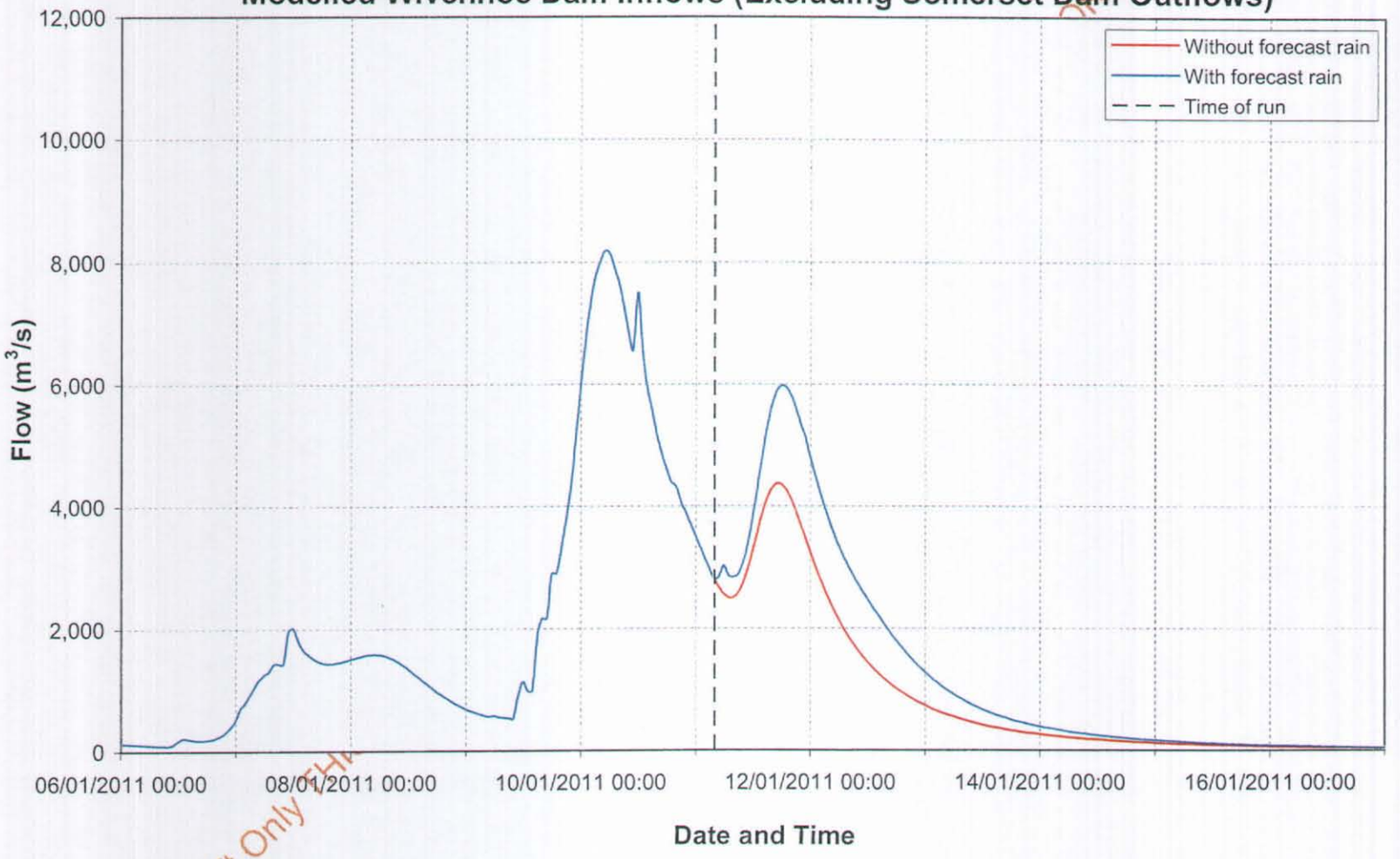
Draft Only - FHI
INFORMATION

RUN 35

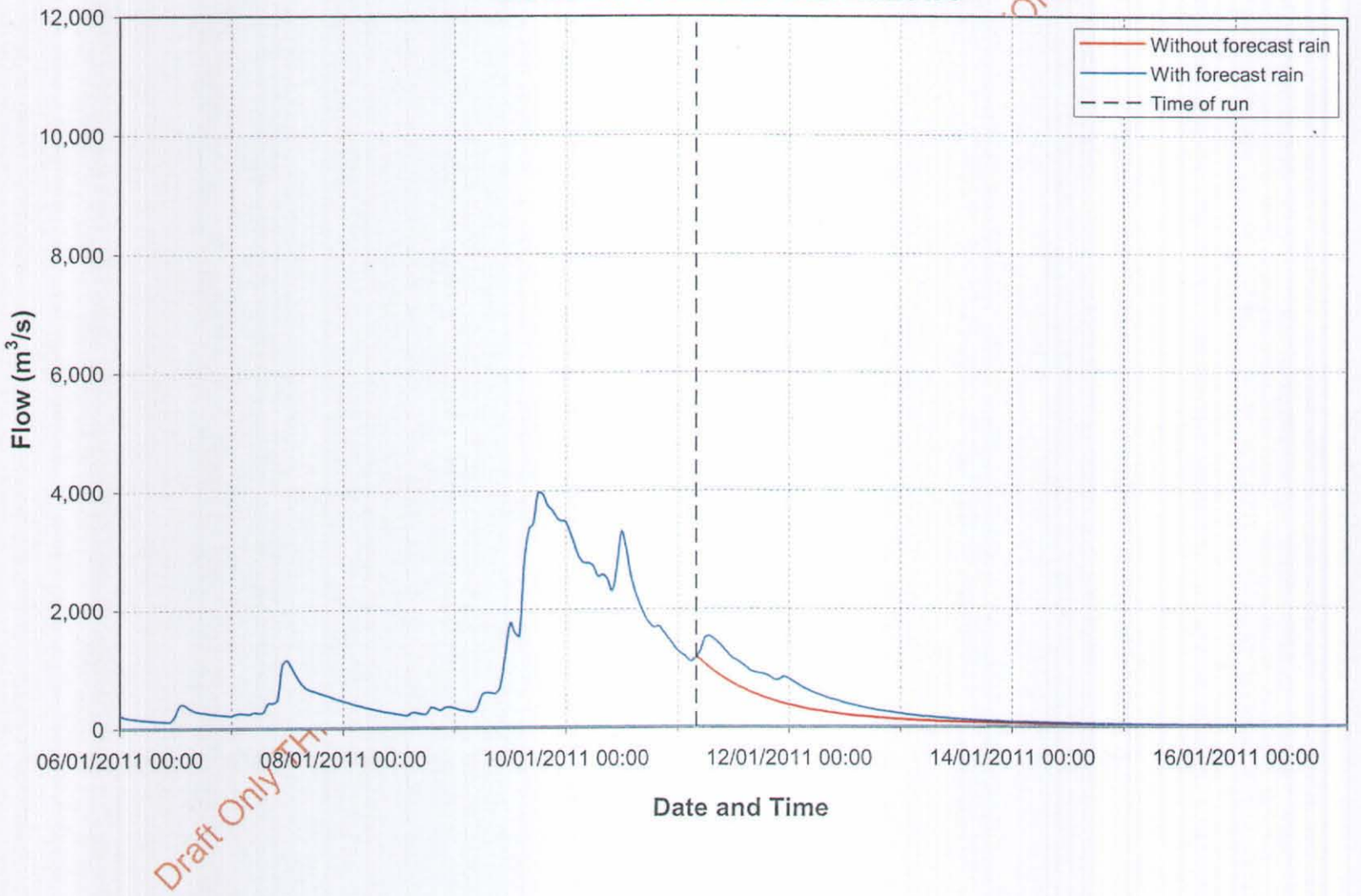
DATE: TUESDAY, 11 JANUARY 2011

TIME: 04:00

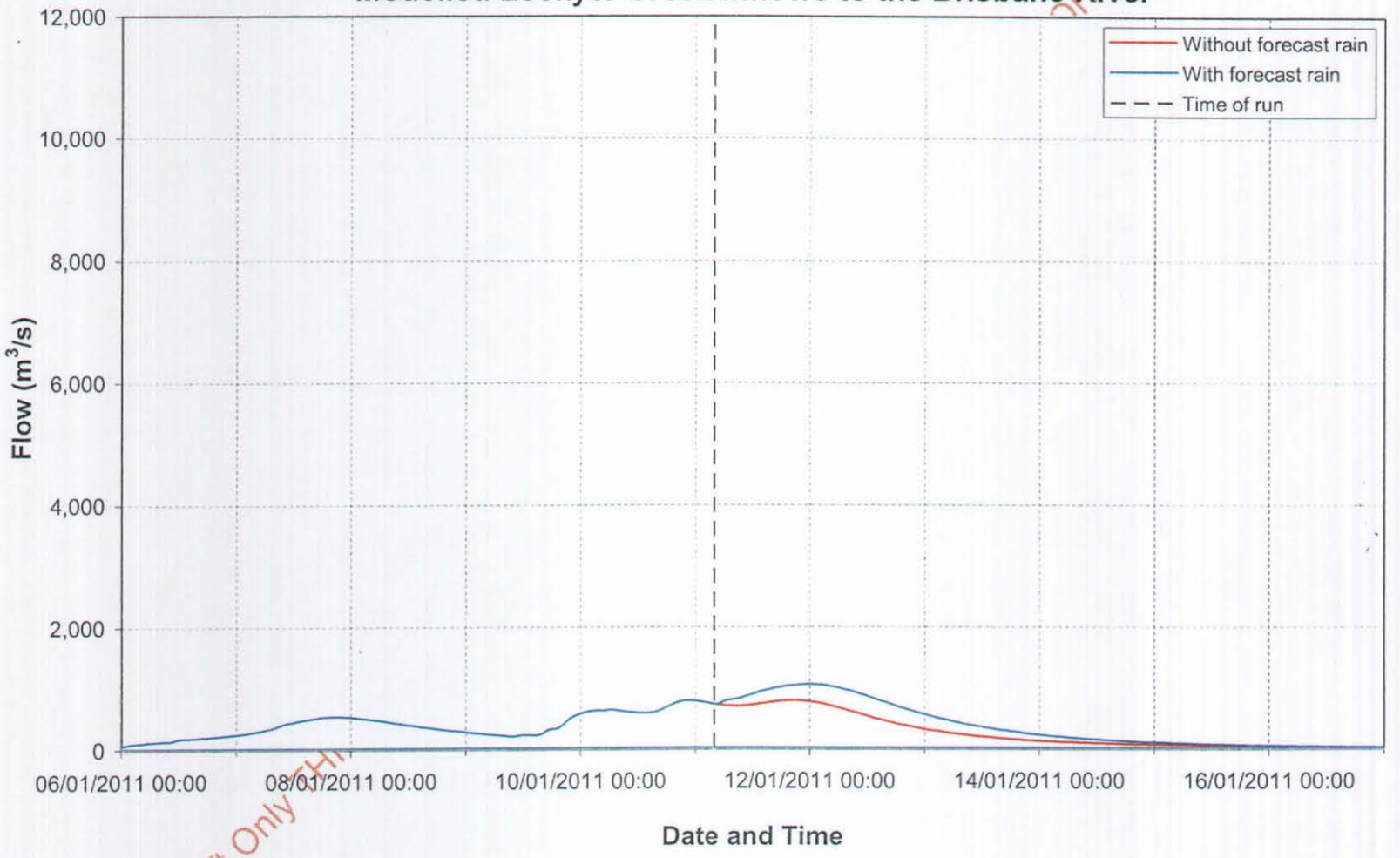
Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION


Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
Flow (m³/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

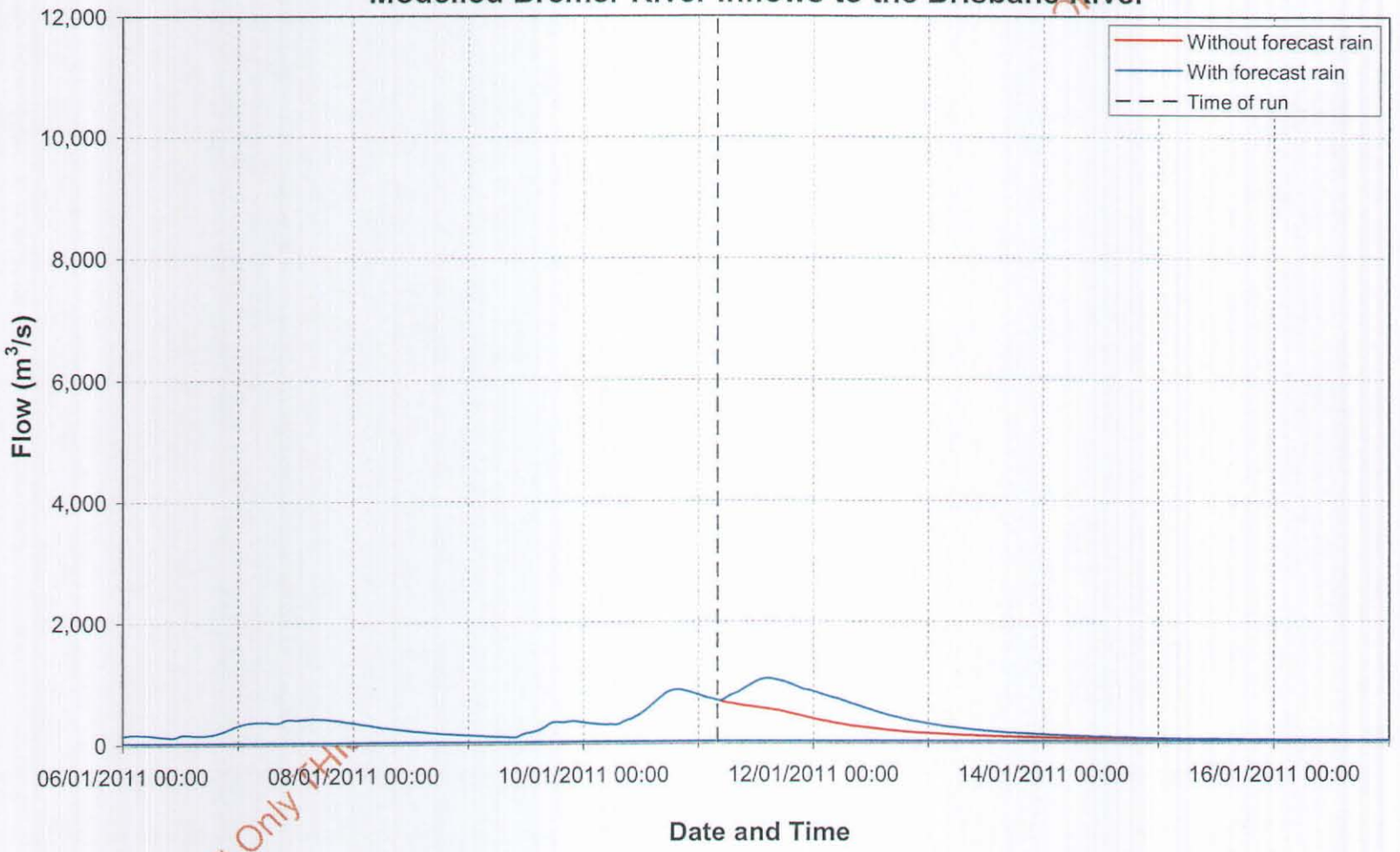
Draft Only



ORMATION
Draft Only TFH



Draft Only FOR INFORMATION



Draft Only THIS INFORMATION



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Draft Only TH



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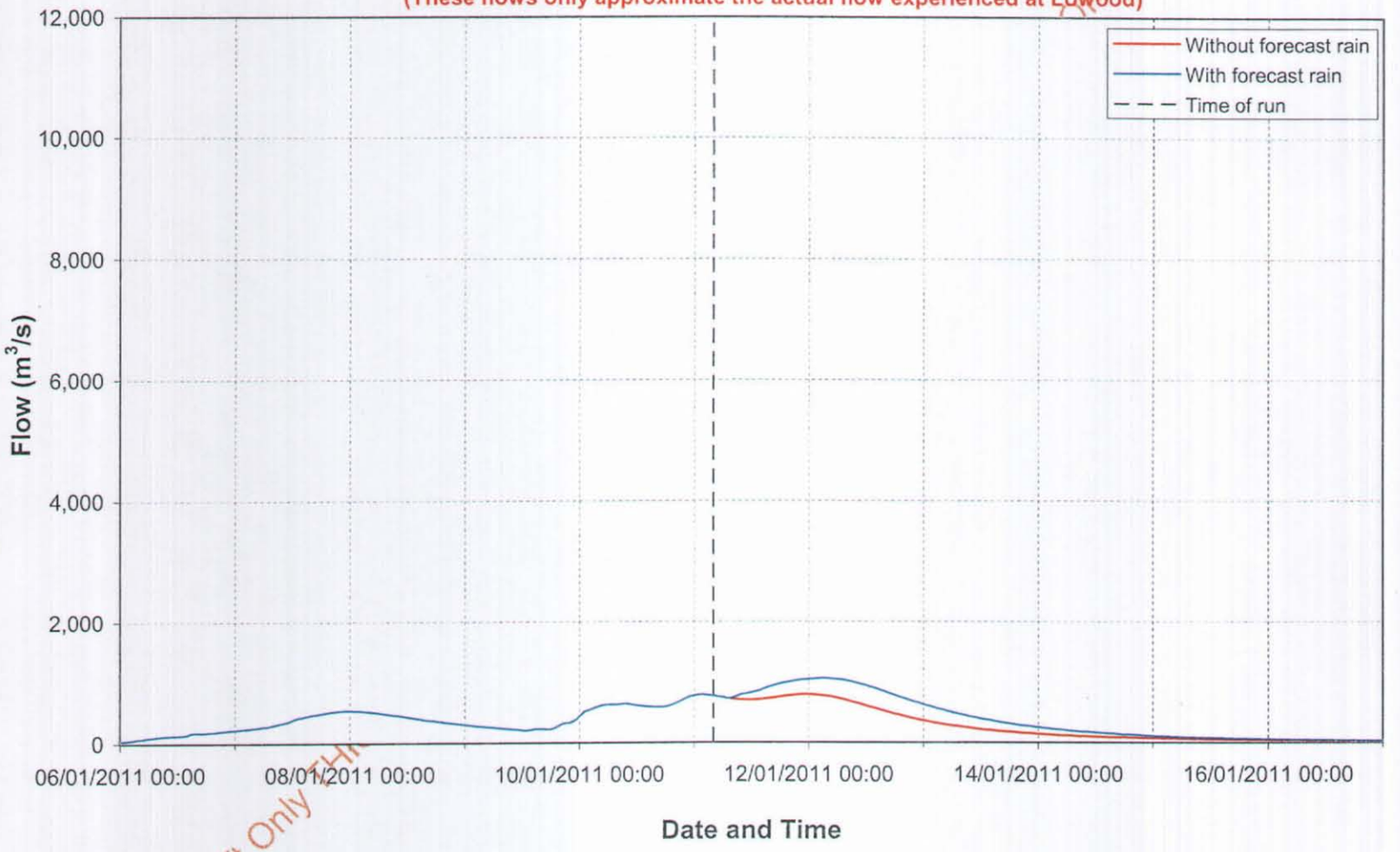
Draft Only

Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Lowood)



Draft Only

Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



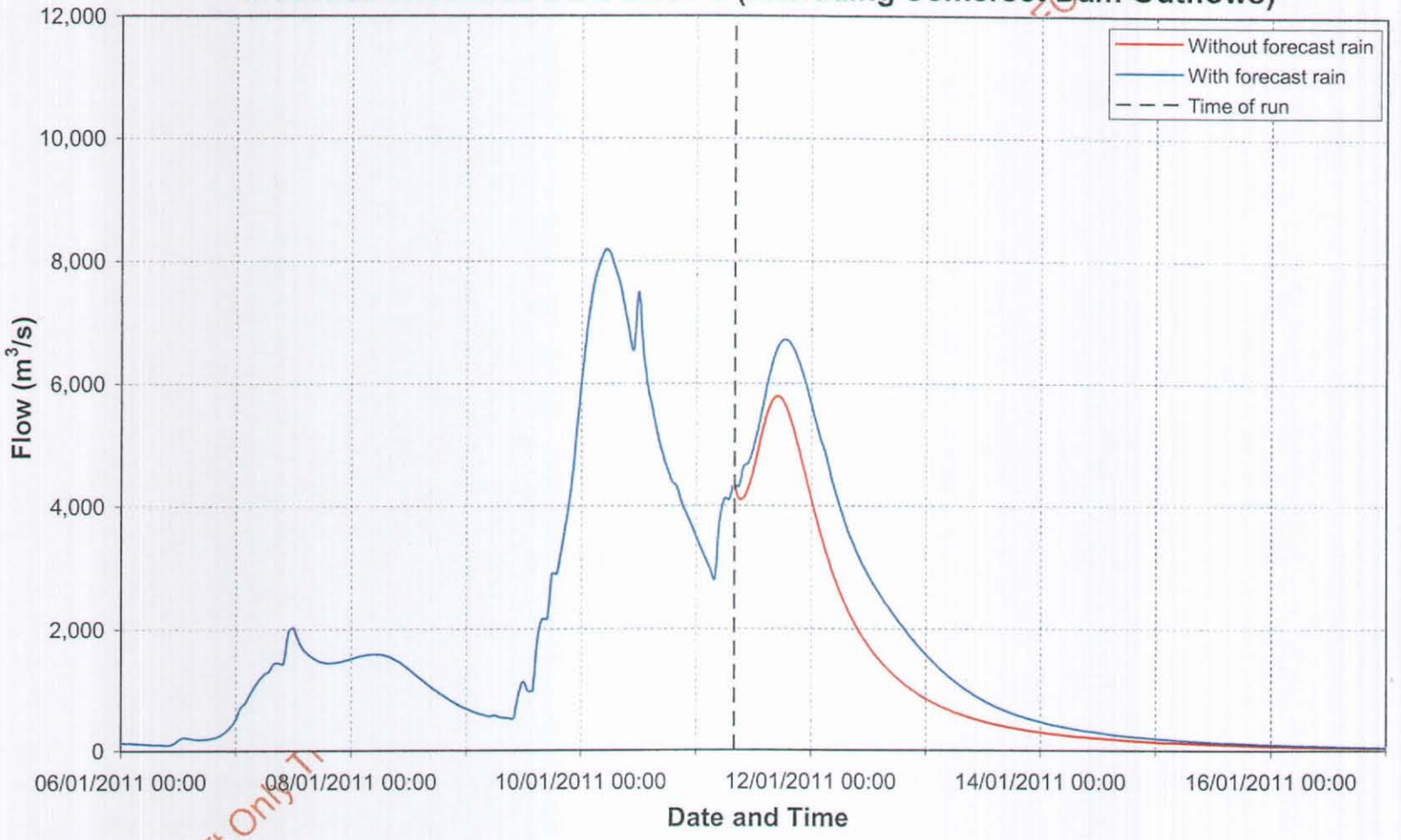
Draft Only

RUN 37

DATE: TUESDAY, 11 JANUARY 2011

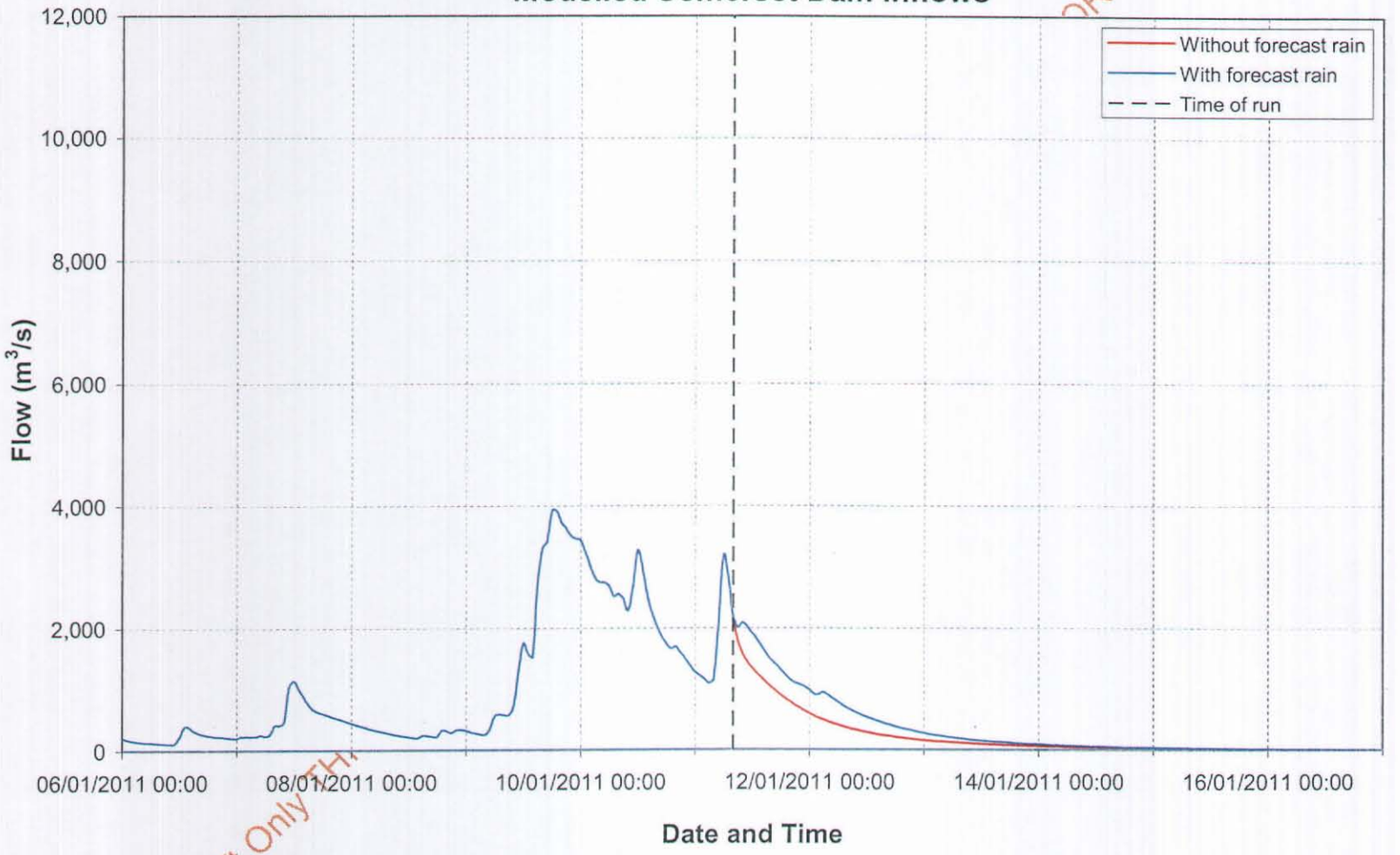
TIME: 08:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



FORMATION
Draft Only

ORMATION



Draft Only TH;

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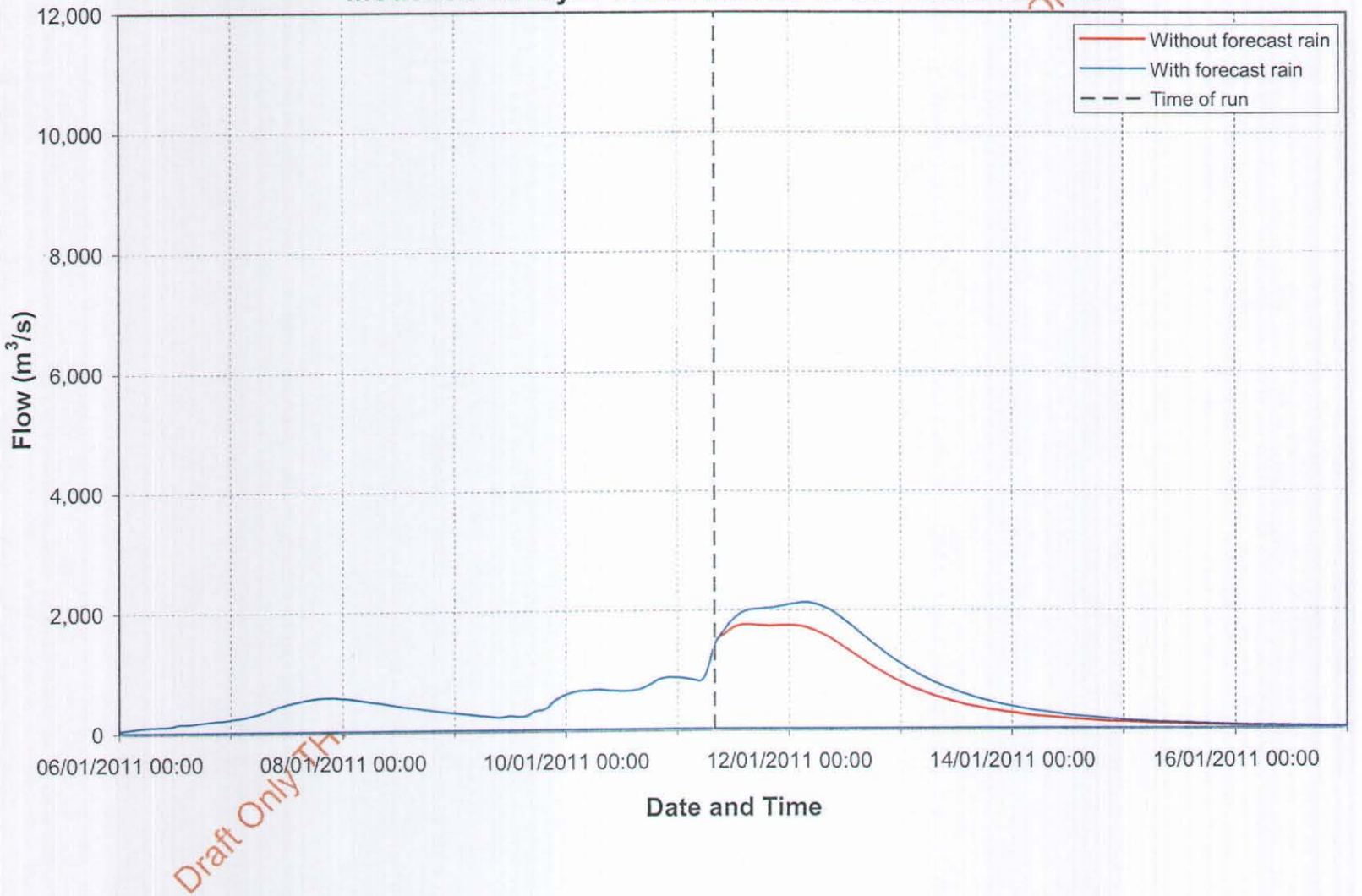
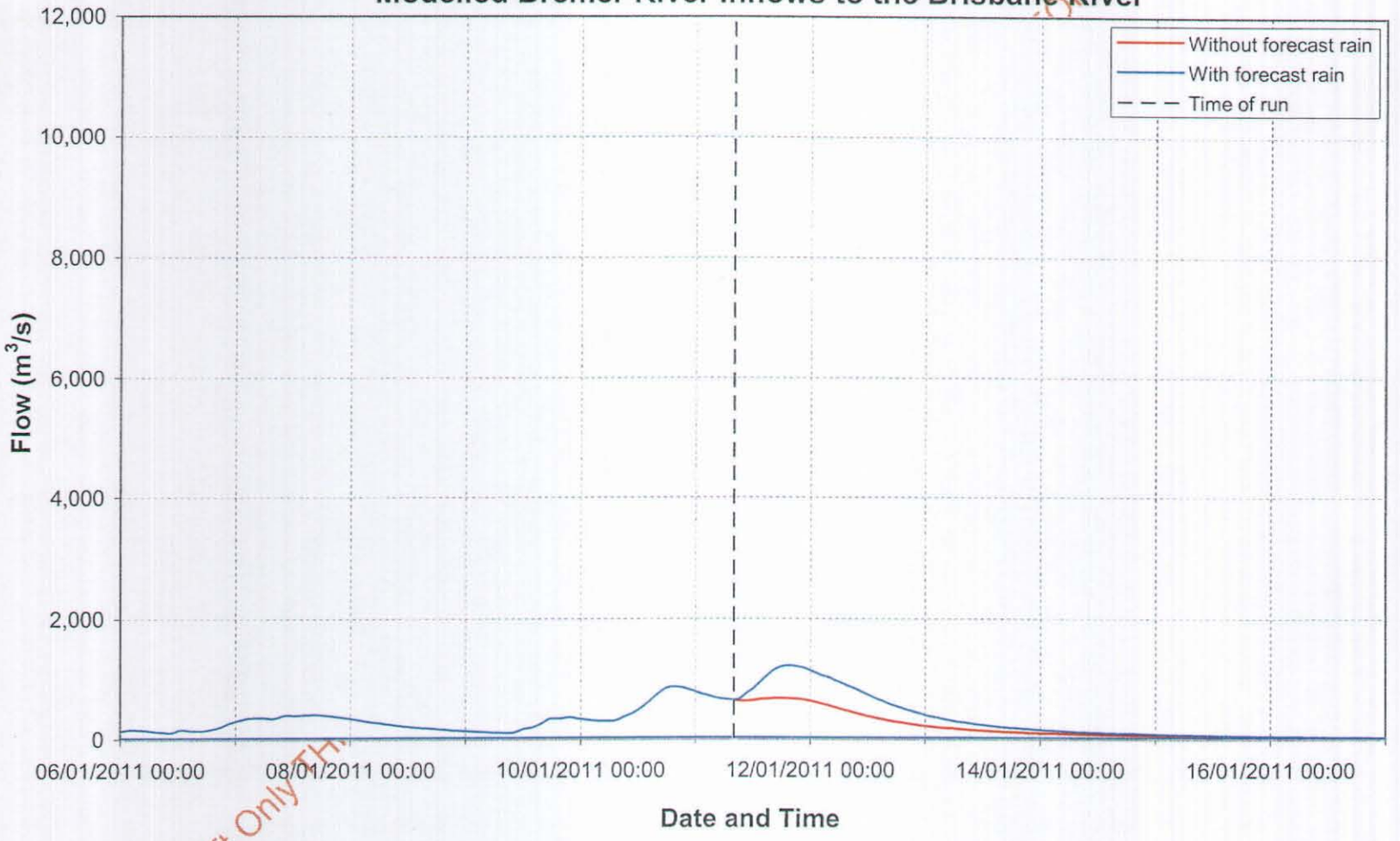
Modelled Lockyer Creek Inflows to the Brisbane River



Draft Only TH



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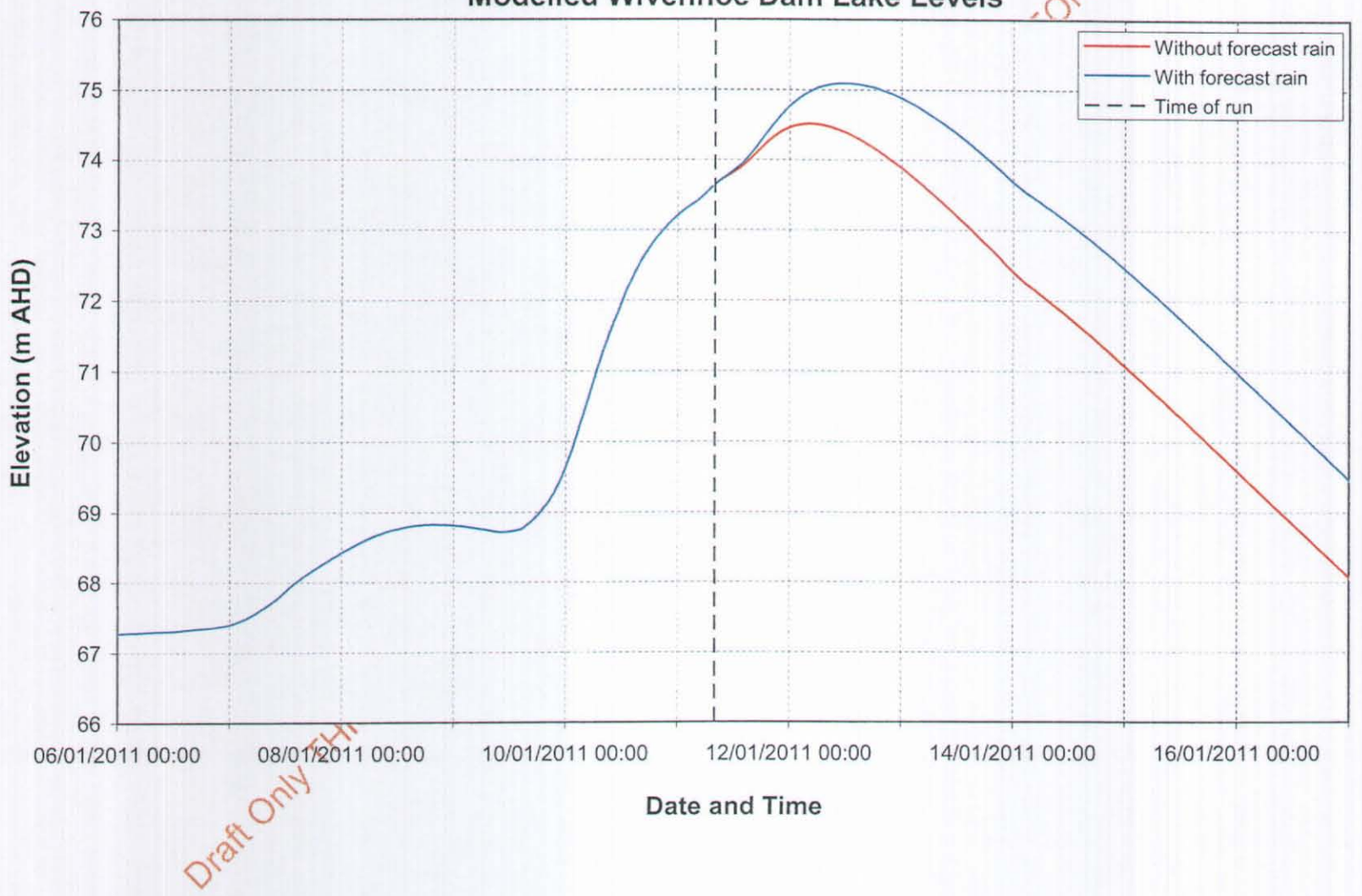
Draft Only


Modelled Wivenhoe Dam Lake Levels
Without forecast rain
With forecast rain
Time of run
Elevation (m AHD)
76
75
74
73
72
71
70
69
68
67
66
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

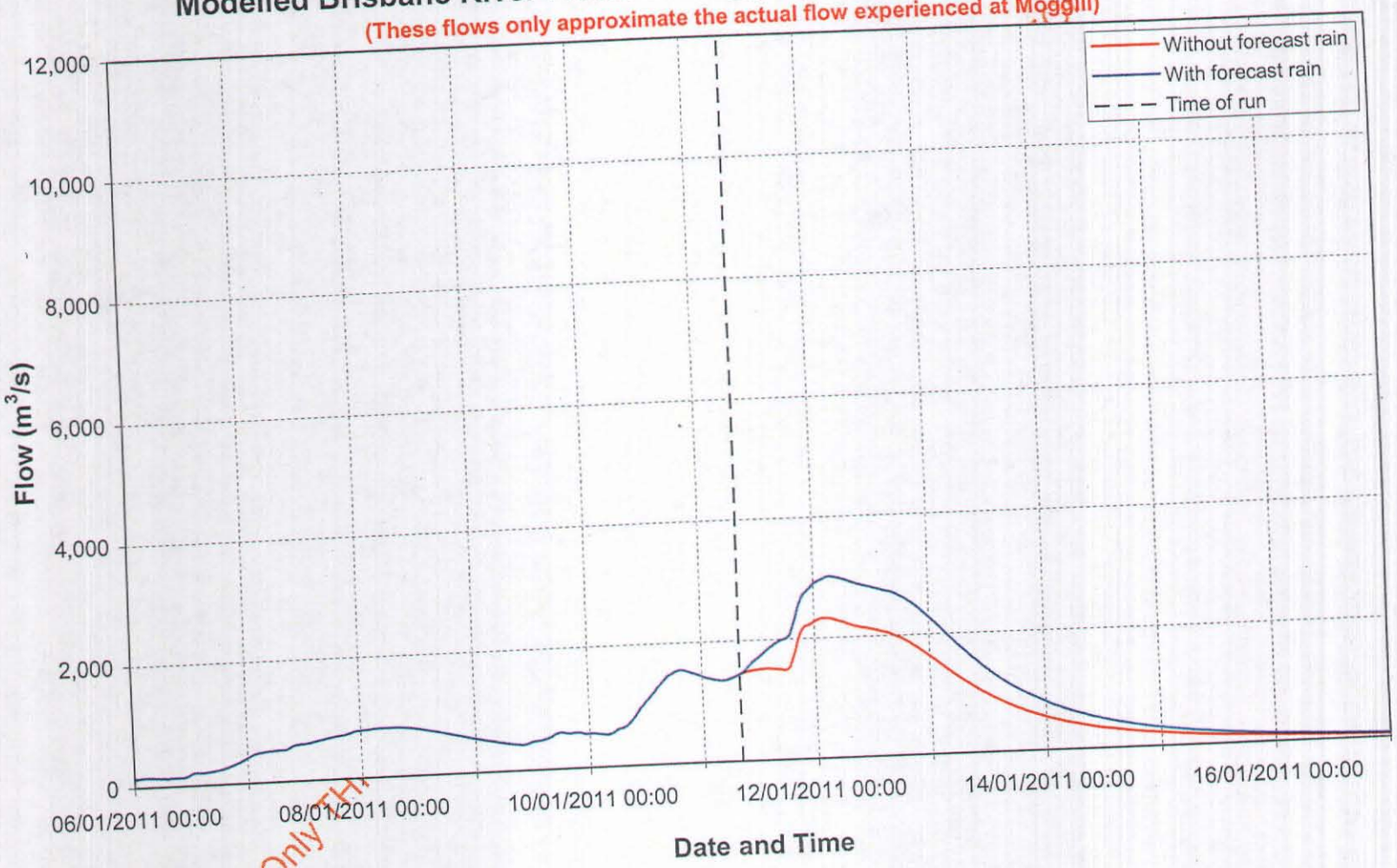
Draft Only

Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Lowood)



Draft Only THIS INFORMATION



INFORMATION
Draft Only - FH

RUN 39

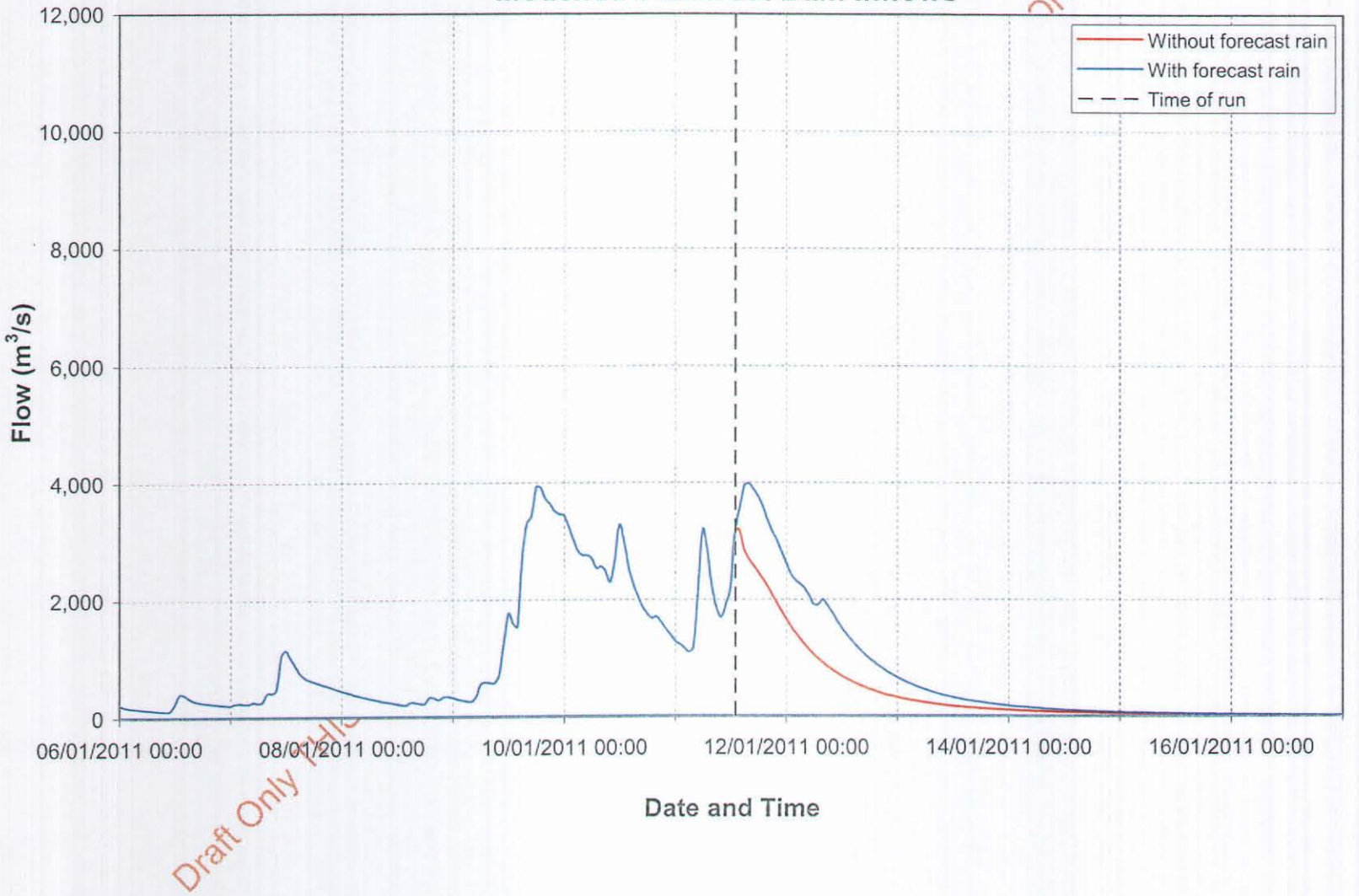
DATE: TUESDAY, 11 JANUARY 2011

TIME: 13:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION


Modelled Wivenhoe Dam Inflows (Excluding Somerset Dam Outflows)
Without forecast rain
With forecast rain
Time of run
Flow (m3/s)
12,000
10,000
8,000
6,000
4,000
2,000
0
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



ORMATION
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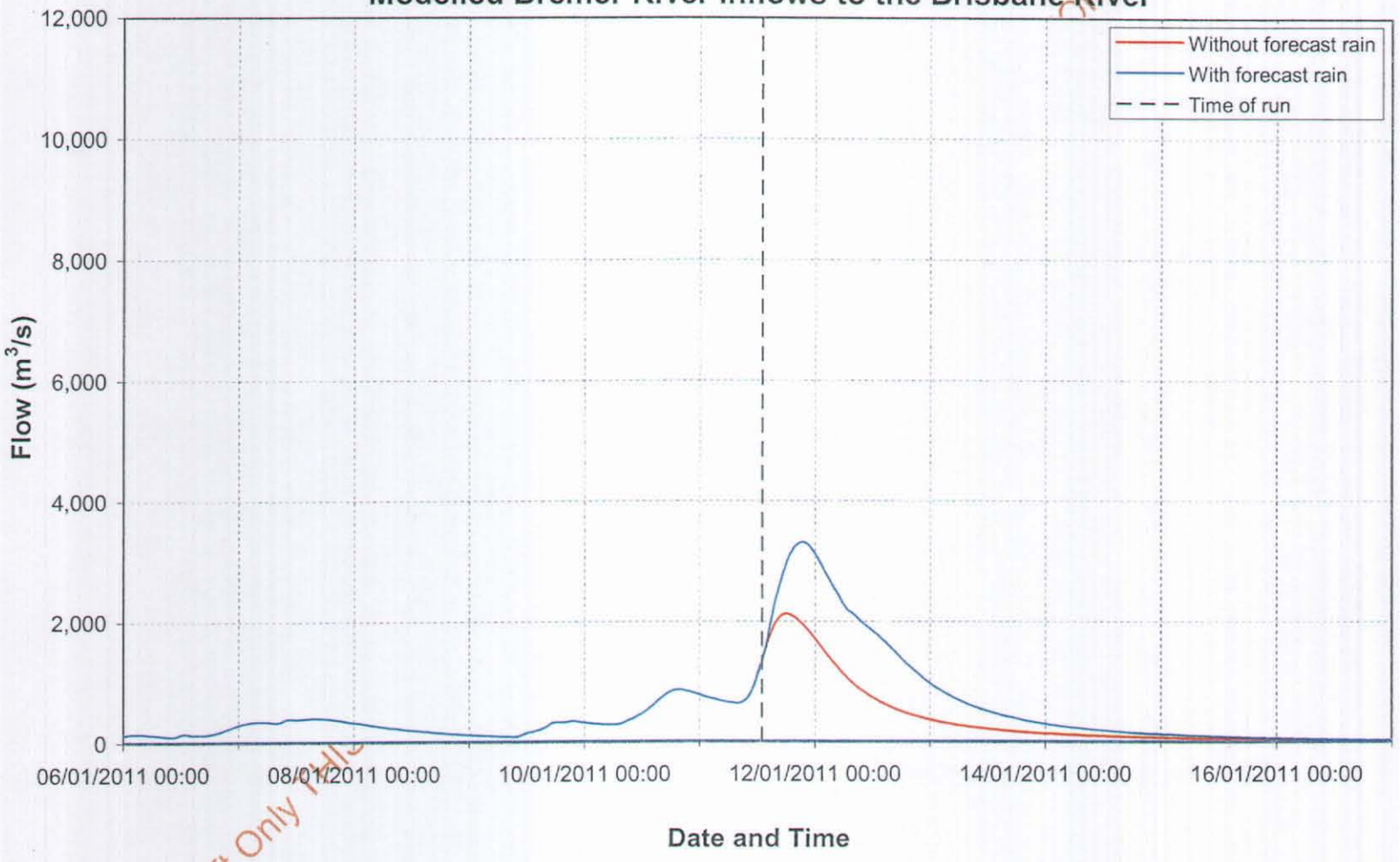
Modelled Lockyer Creek Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

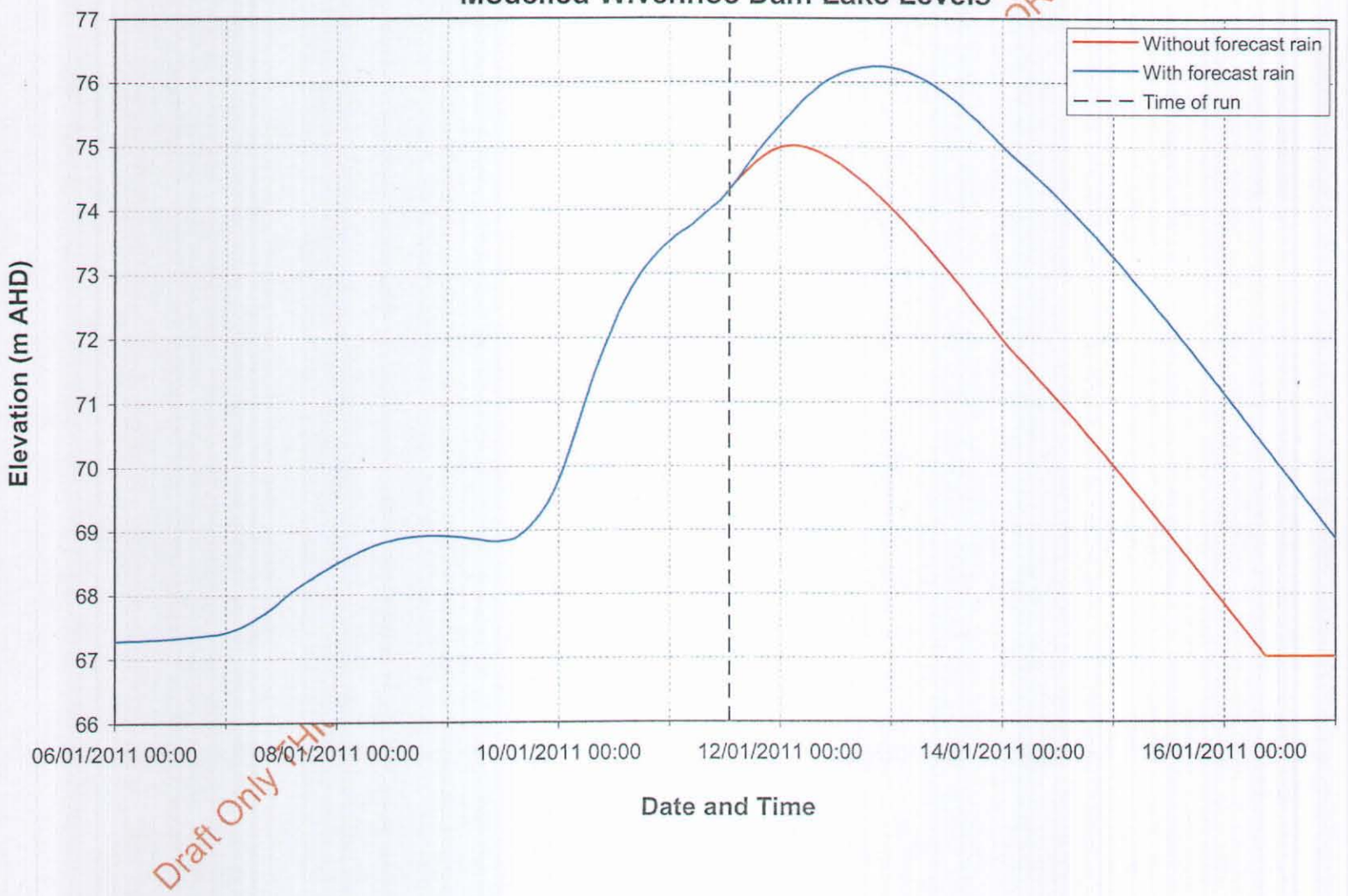
Draft Only


Modelled Bremer River Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



ORMATION
Draft Only - FH



ORMATION
Draft Only - THI

Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

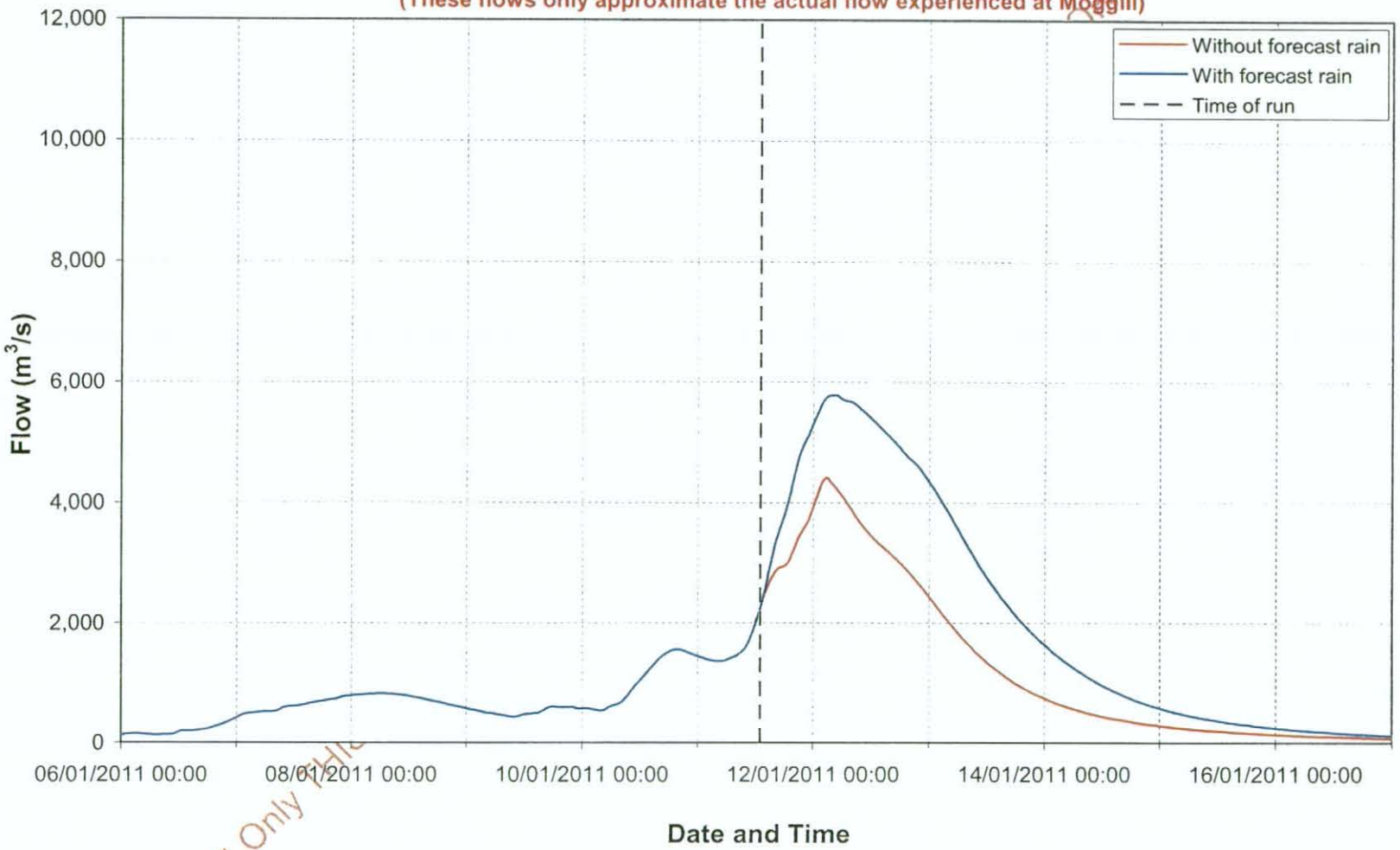
(These flows only approximate the actual flow experienced at Lowood)



RMATION
Draft Only

Modelled Brisbane River Flows at Moggill (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Moggill)



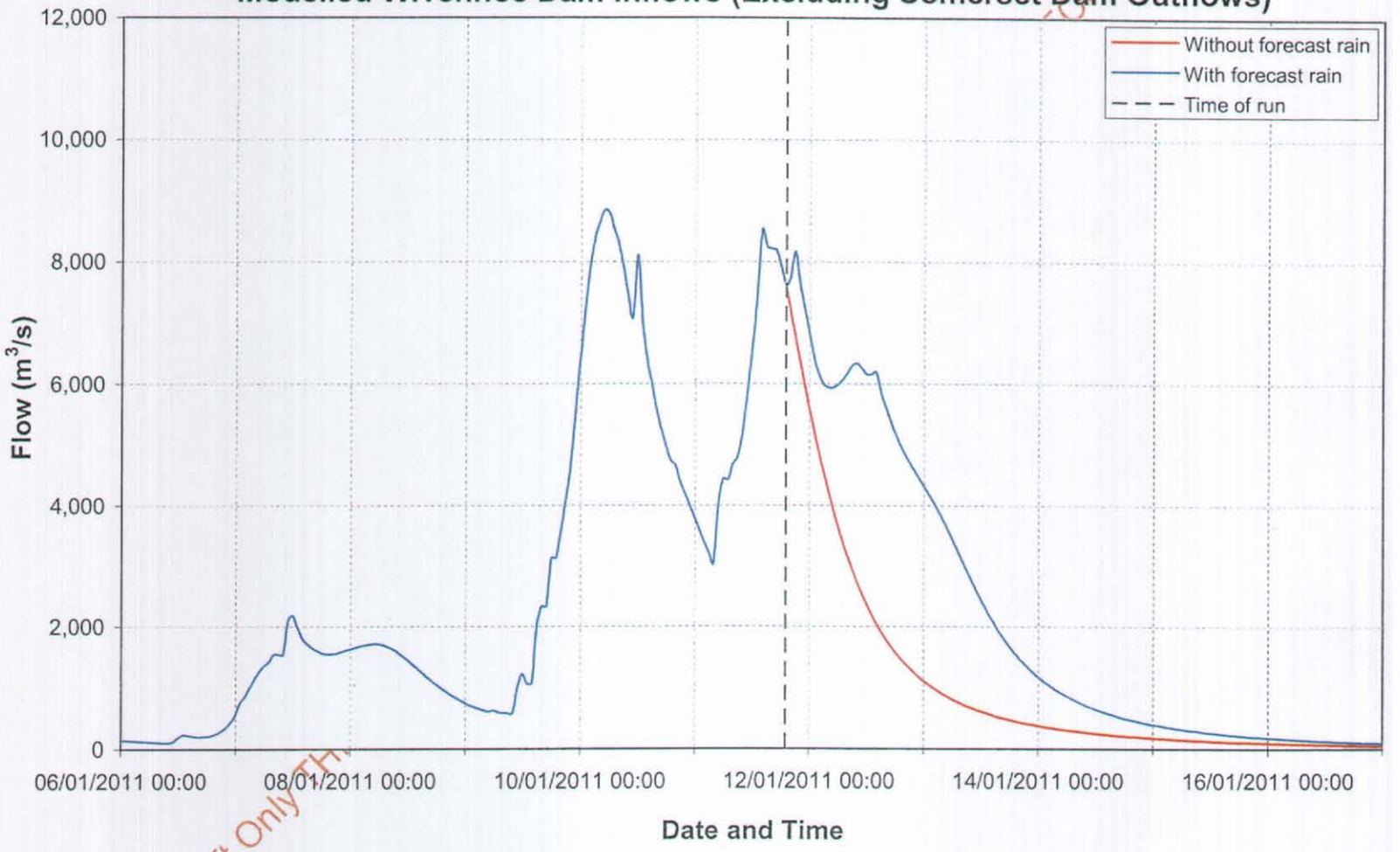
Draft Only

RUN 41

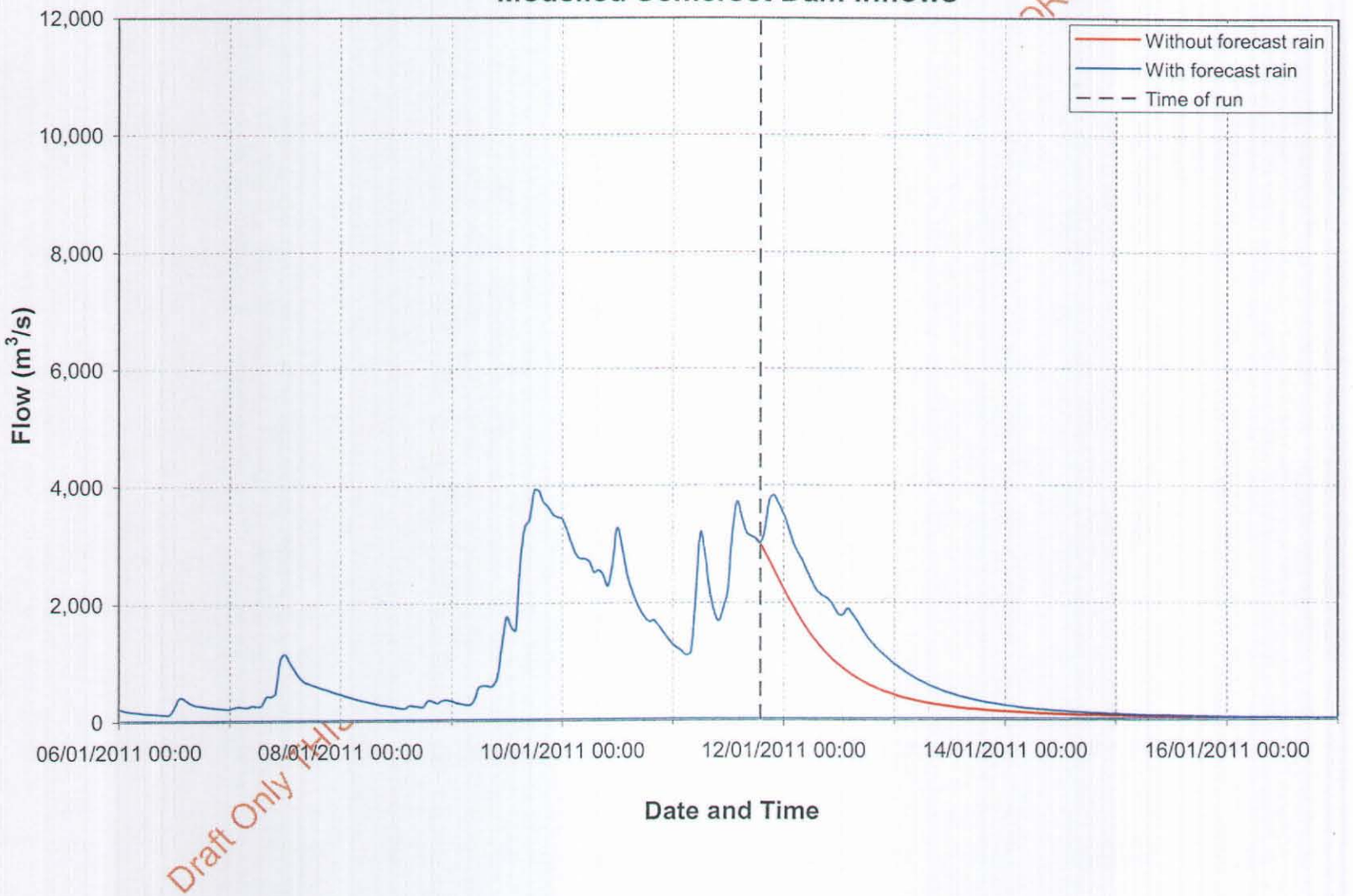
DATE: TUESDAY, 11 JANUARY 2011

TIME: 19:00

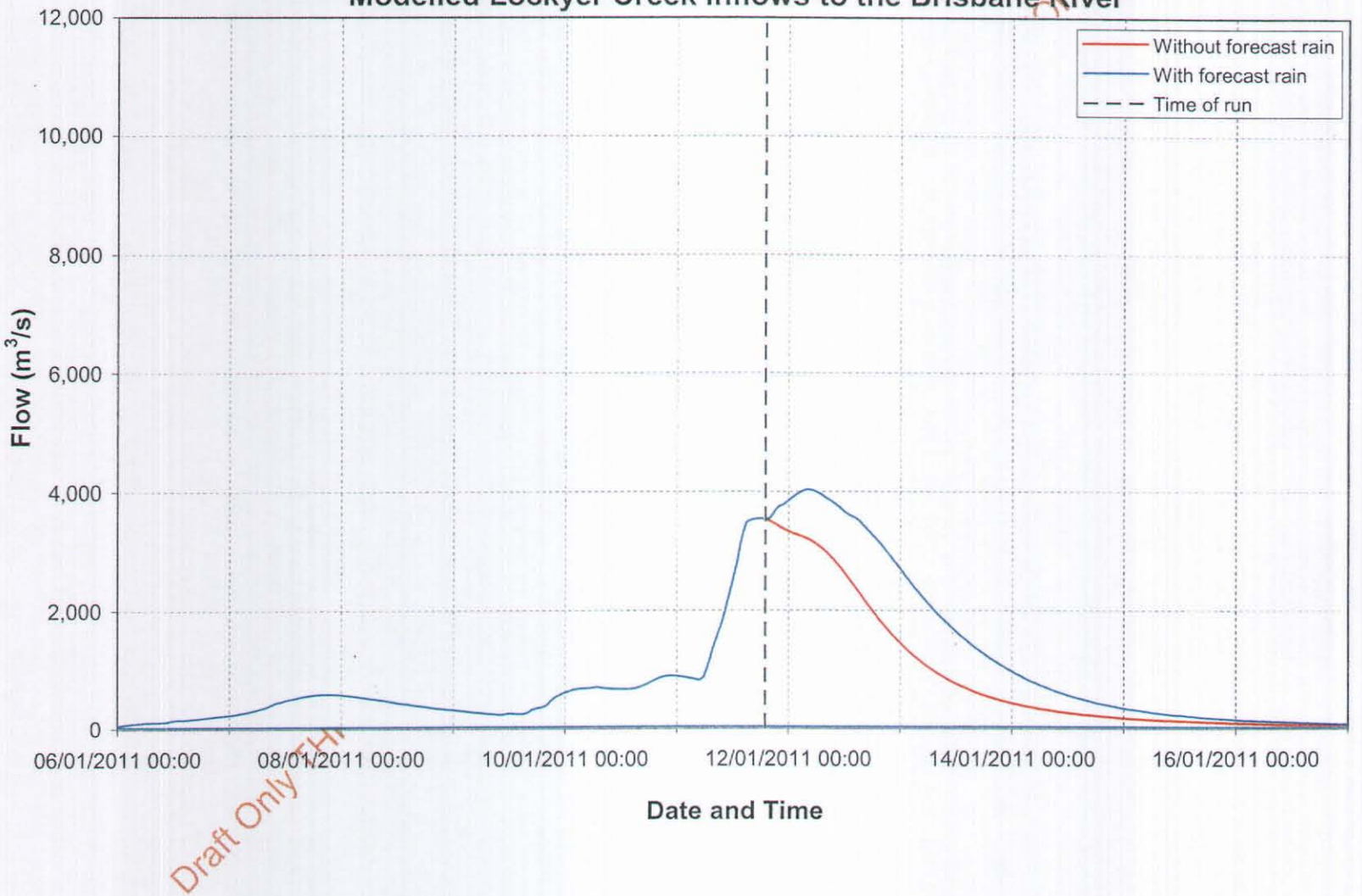
Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



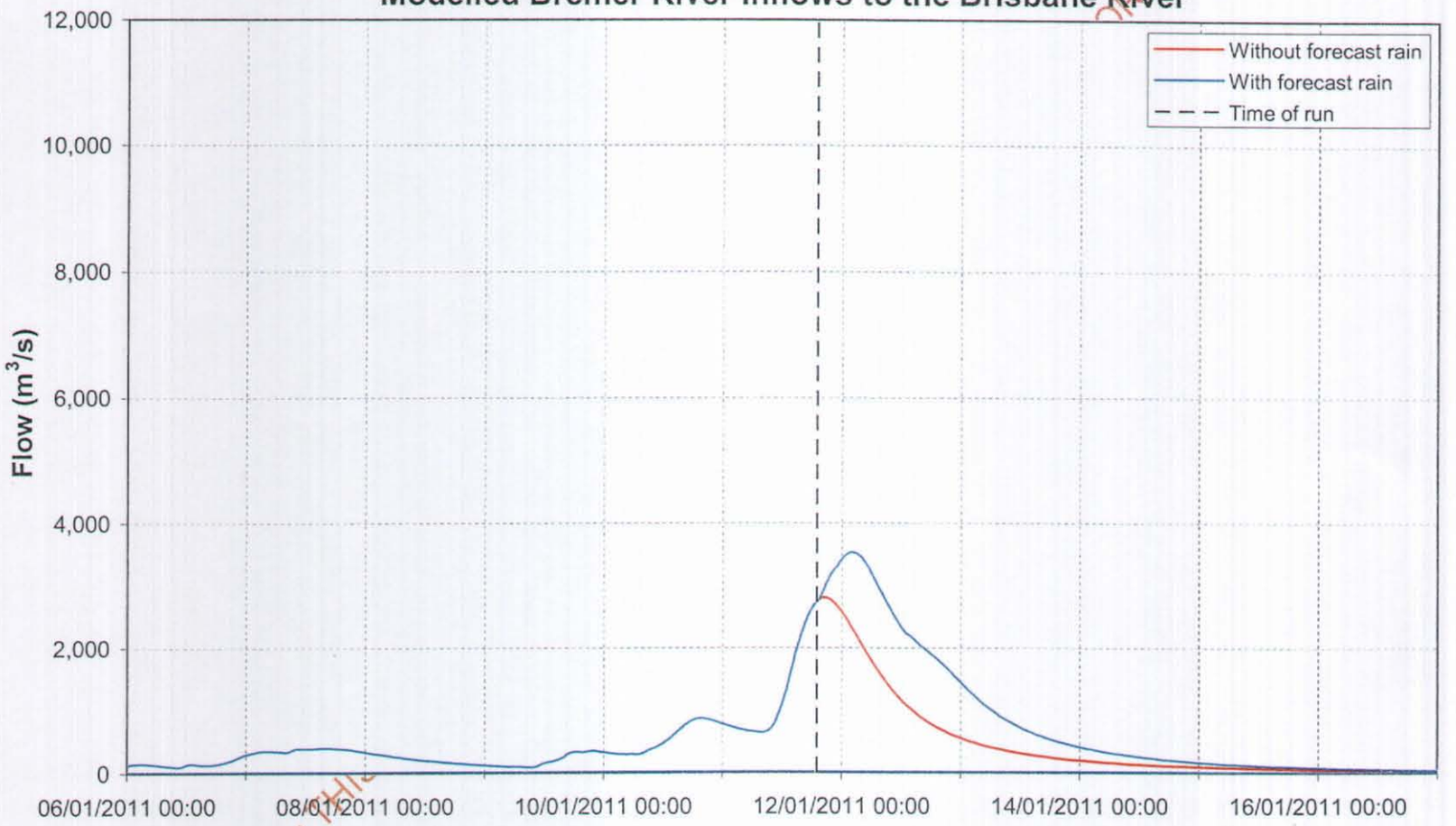
Draft Only TH



ORMATION
Draft Only



Draft Only - FLOOD INFORMATION


Modelled Bremer River Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only



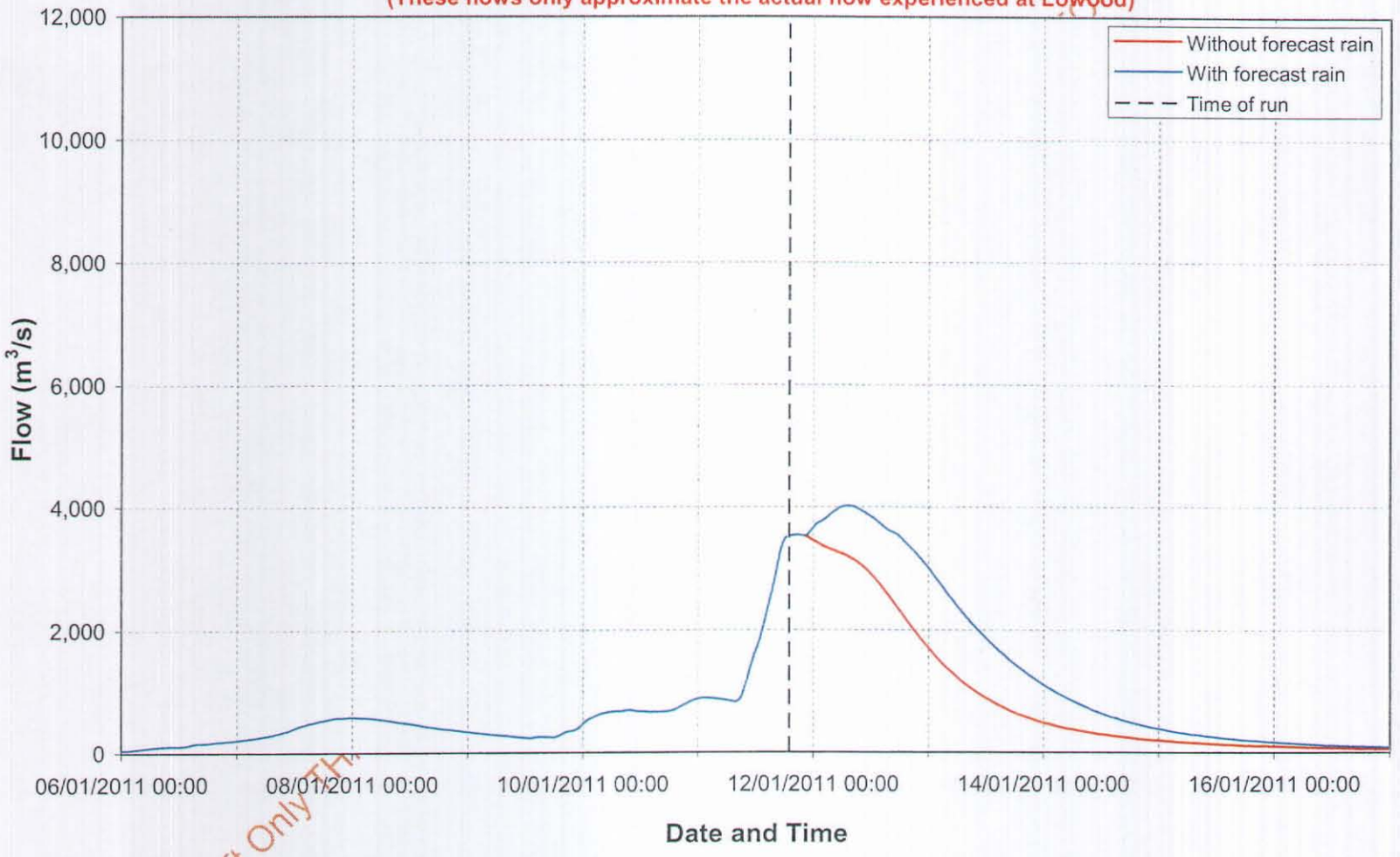
ORMATION
Draft Only TH



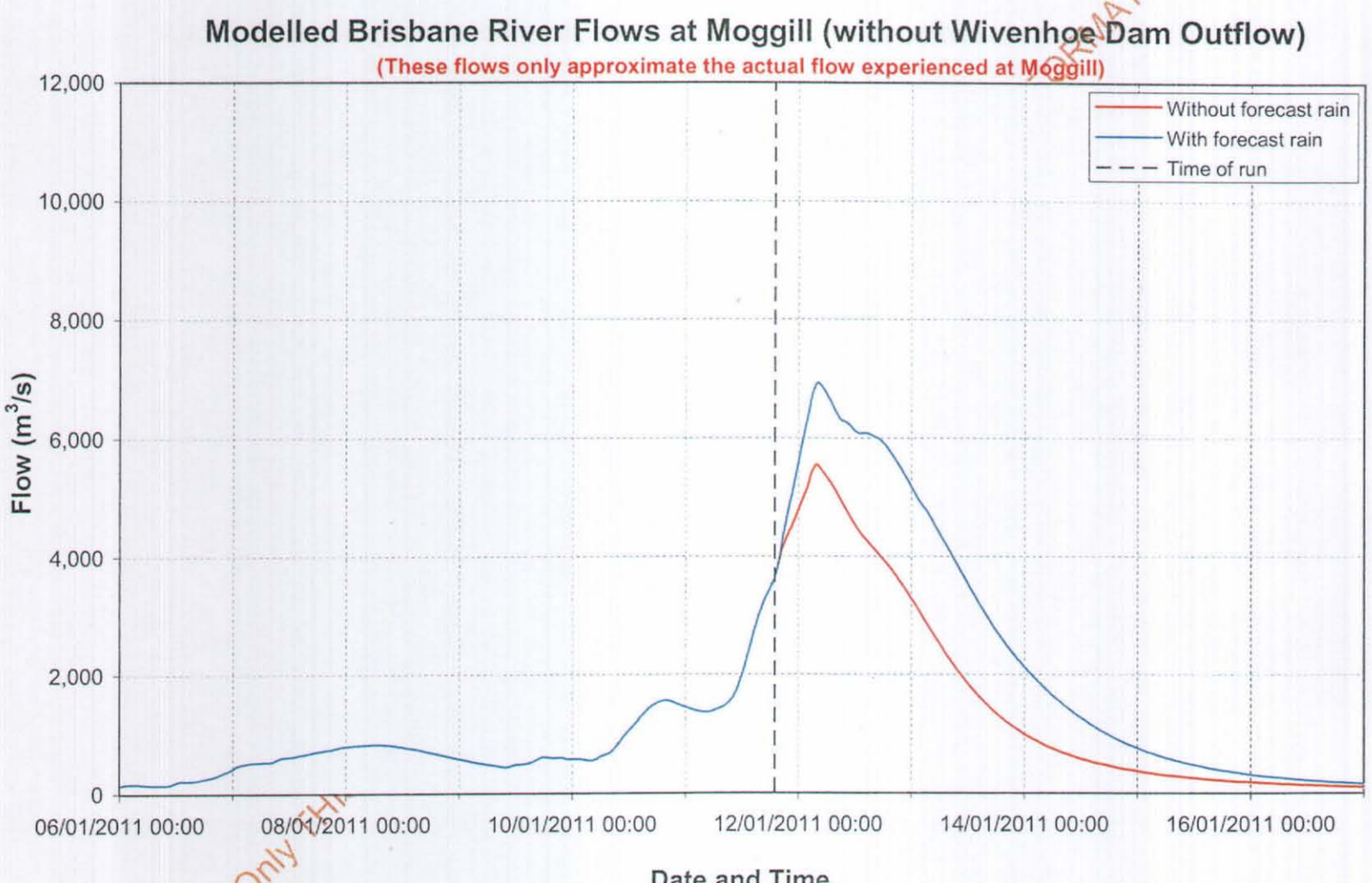
ORMATION
Draft Only TH

Modelled Brisbane River Flows at Lowood (without Wivenhoe Dam Outflow)

(These flows only approximate the actual flow experienced at Lowood)



Draft Only TH



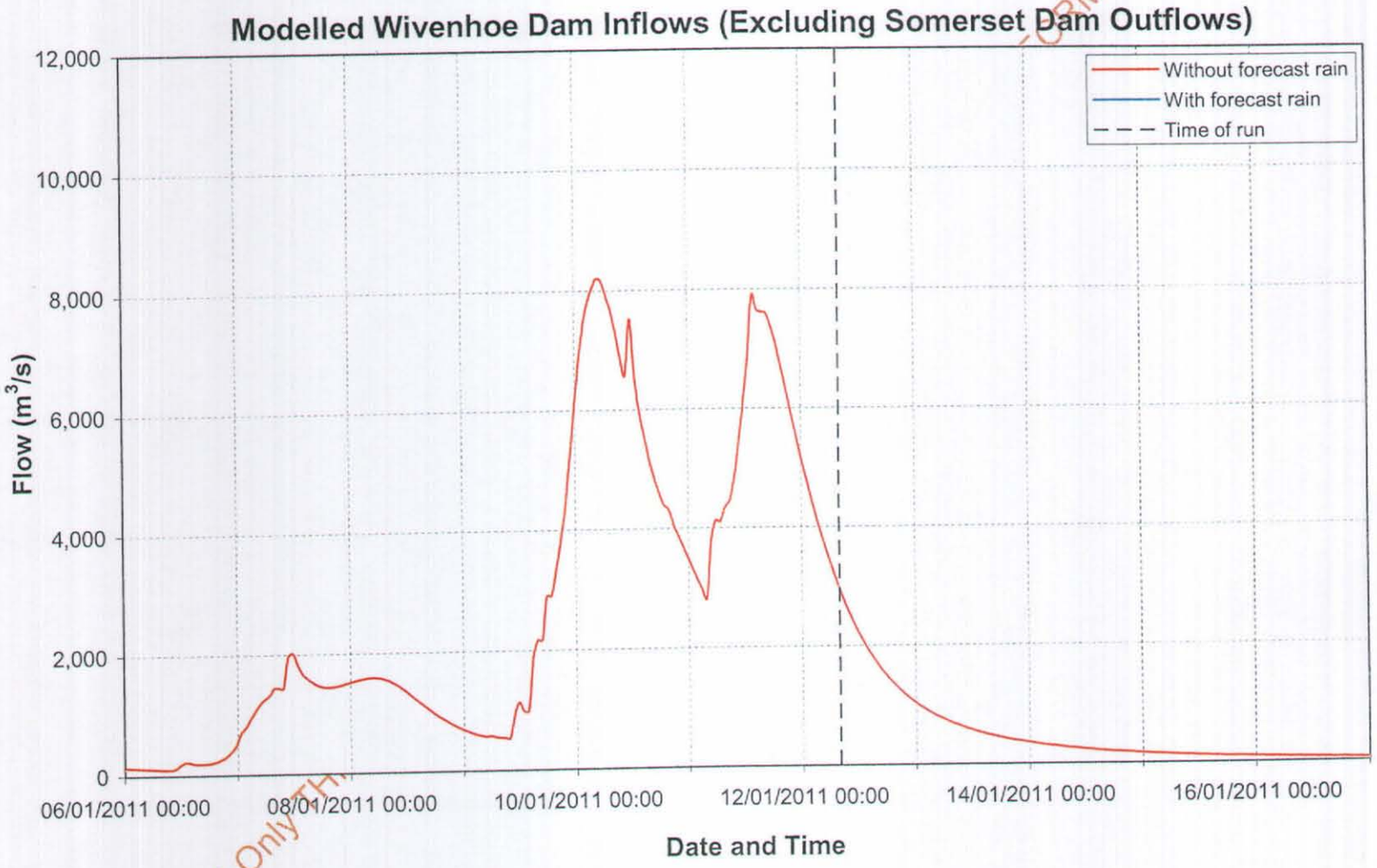
Draft Only THI
ORMATION

RUN 43

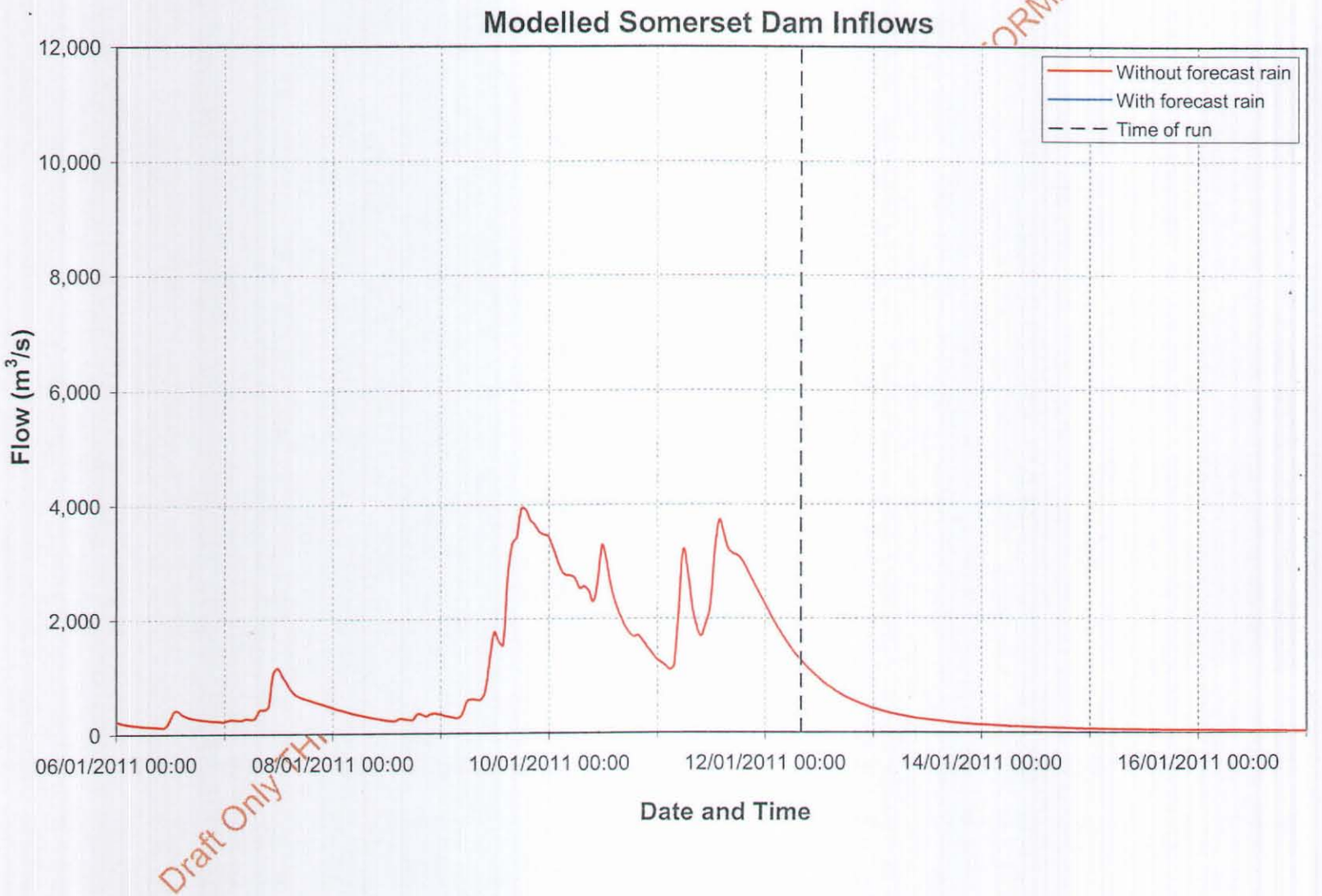
DATE: WEDNESDAY, 12 JANUARY 2011

TIME: 08:00

Draft Only THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



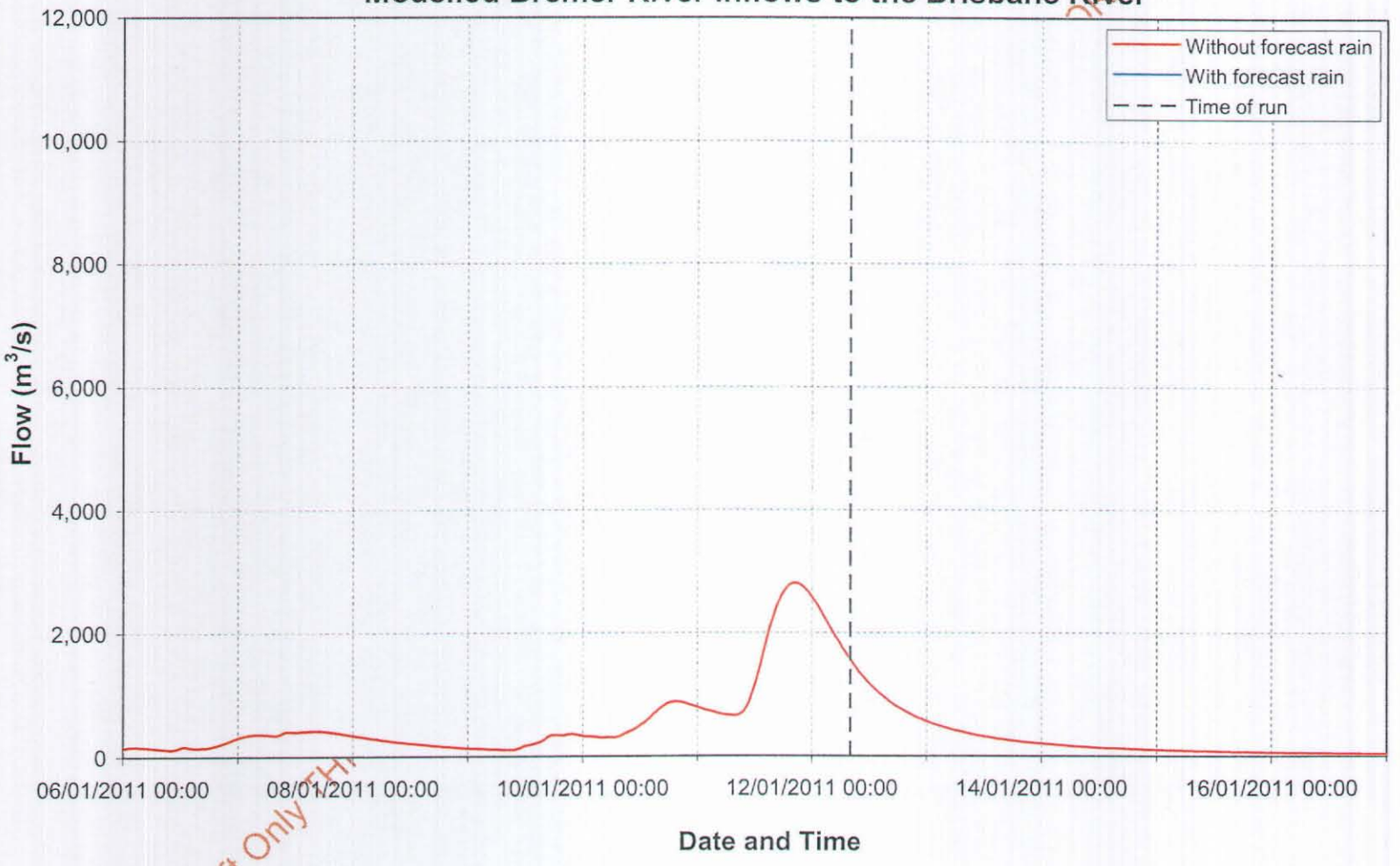
Draft Only TH
ORMATION


Modelled Somerset Dam Inflows
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

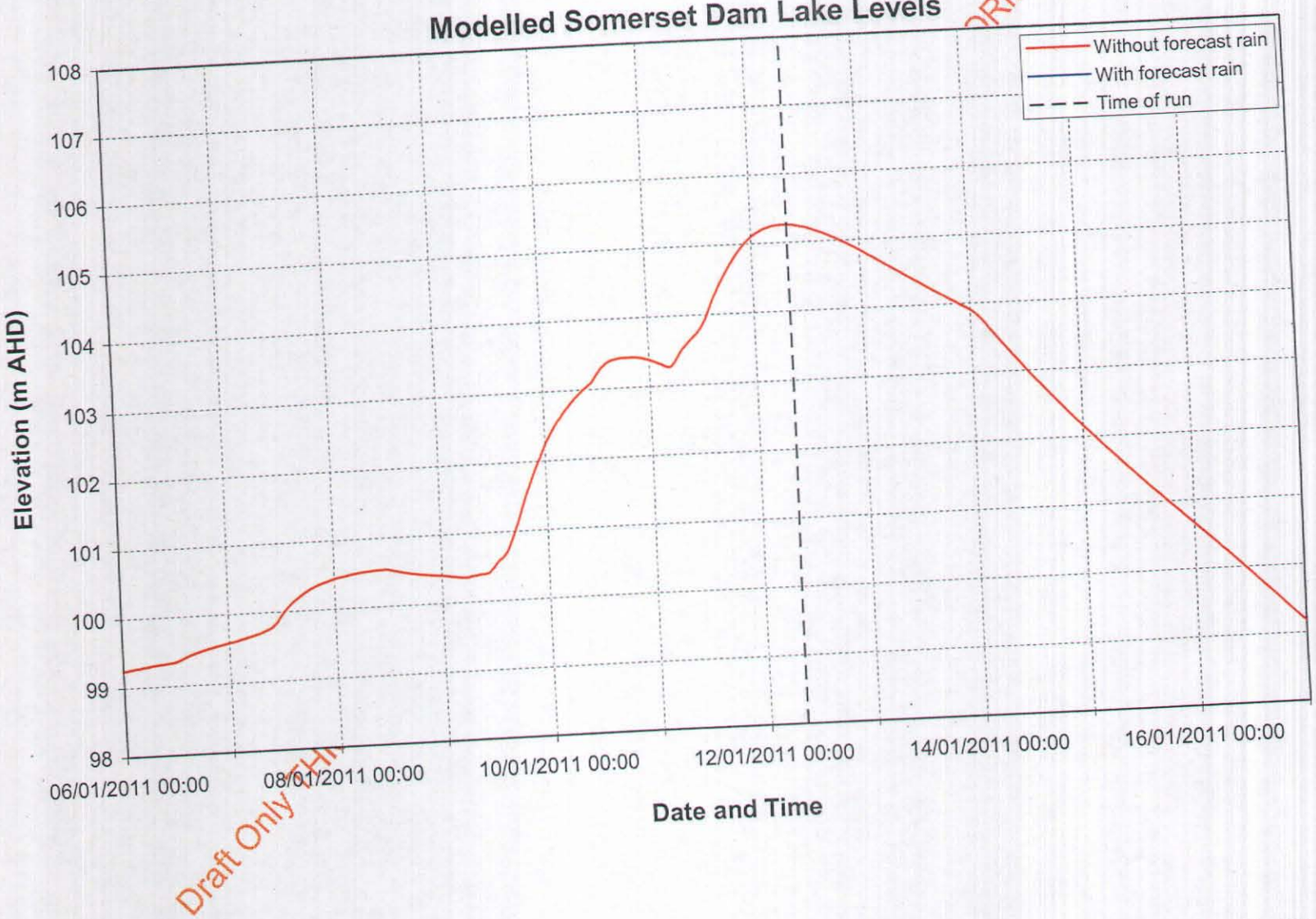
Draft Only


Modelled Lockyer Creek Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

Draft Only


Modelled Bremer River Inflows to the Brisbane River
Without forecast rain
With forecast rain
Time of run
12,000
10,000
8,000
6,000
4,000
2,000
0
Flow (m3/s)
06/01/2011 00:00
08/01/2011 00:00
10/01/2011 00:00
12/01/2011 00:00
14/01/2011 00:00
16/01/2011 00:00
Date and Time

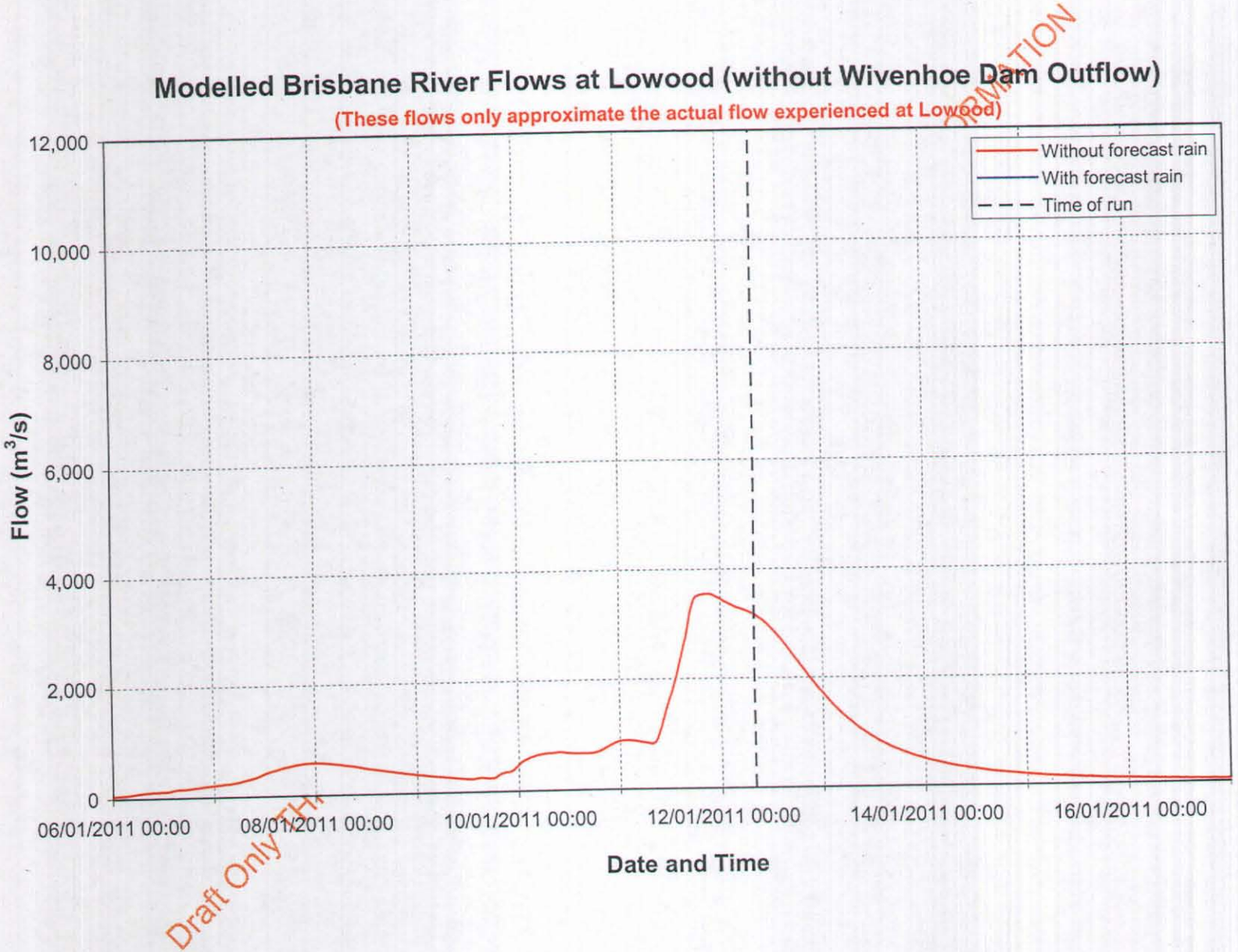
Draft Only



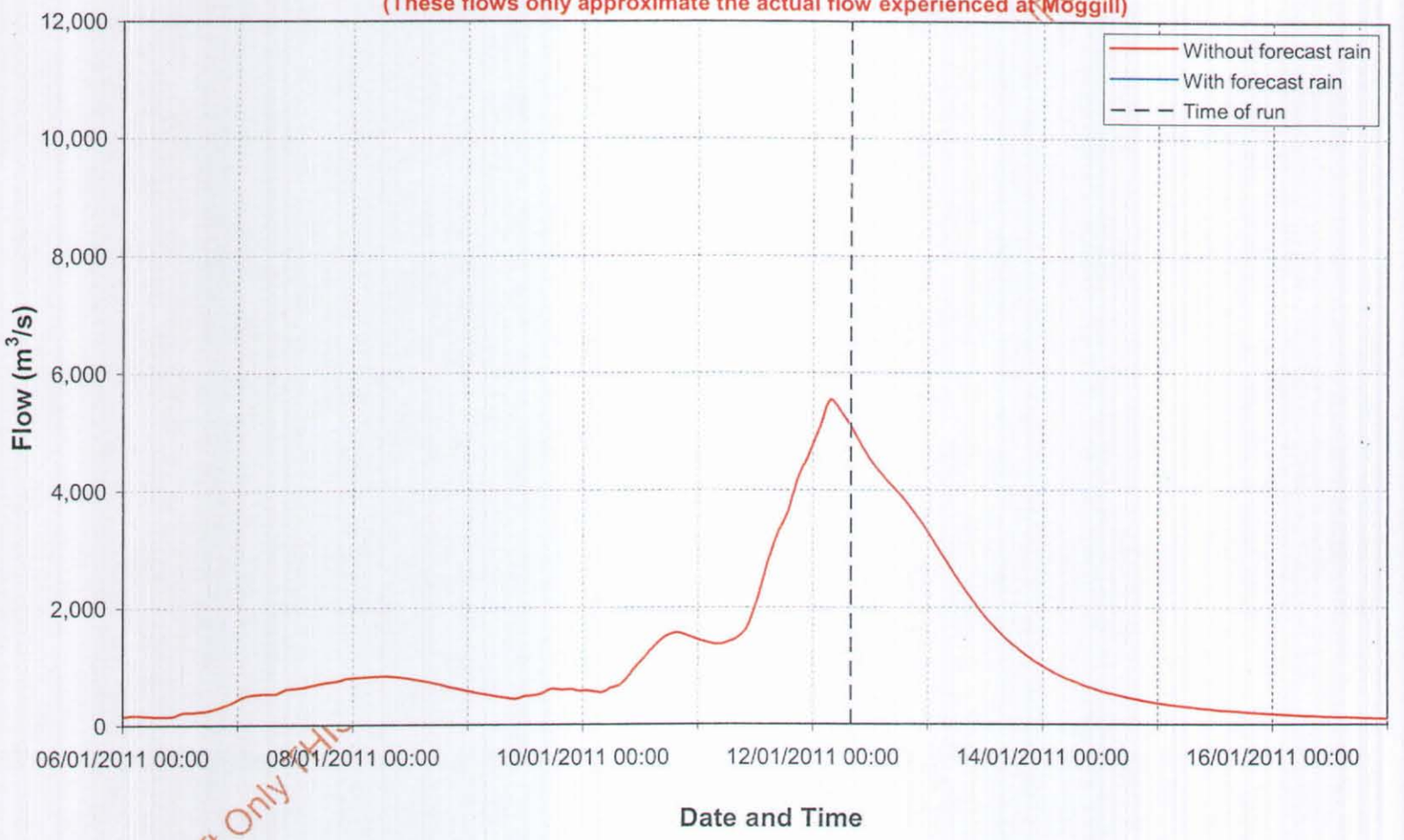
ORMATION
Draft Only - FH



ORMATION
Draft Only



Draft Only FH
ORMATION



FORMATION
Draft Only - THIS

APPENDIX B

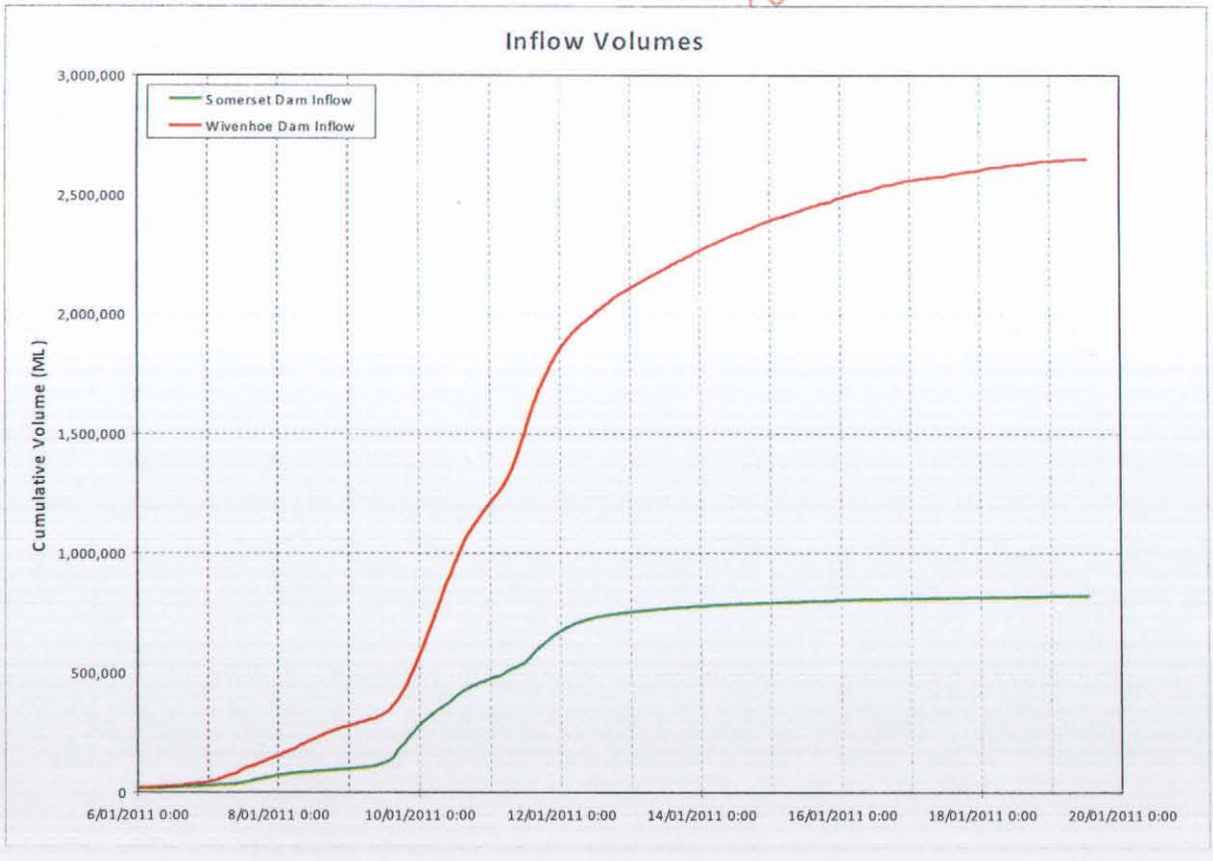
Flood Volume Summary

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

Event	Somerset Dam			Wivenhoe Dam			
	Peak Elevation	Inflow	Outflow	Peak Elevation	Inflow*	Total	Outflow
	m AHD	ML	ML	m AHD	ML		ML
Feb 1893		1,361,000			1,383,000	2,744,000	
Jan 1974	106.57	620,000	450,000		960,000	1,410,000	1,410,000
Jun 1983	101.58	260,000	280,000	na	800,000	1,080,000	470,000
Mar 1989	102.59	370,000	380,000	69.78	310,000	690,000	660,000
Apr 1989	102.69	340,000	350,000	71.45	520,000	870,000	820,000
Feb 1999	102.96	450,000	280,000	70.45	940,000	1,220,000	900,000
May 2009	99.62	110,000	110,000	62.19	125,000	235,000	0
Mar 2010	99.41	210,000	200,000	66.43	190,000	390,000	0
Oct 2010	101.37	250,000	270,000	69.61	360,000	630,000	630,000
Mid Dec 2010	100.42	150,000	140,000	67.50	220,000	360,000	330,000
Late Dec 2010	99.98	120,000	130,000	69.35	370,000	500,000	460,000
Jan 2011	105.11	825,000	820,000	74.97	1,830,000	2,650,000	2,650,000

* Upper Brisbane R only

ED OR VERIFIED INFORMATION



Note: Wivenhoe Inflow includes releases from Somerset.

APPENDIX C

Quantitative Precipitation Forecasts

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

Somerset & Wivenhoe Catchments

Catchment Average Rainfall

Date / Time of Issue	Forecast for 24 hours to	Forecast Rainfall				Recorded for 24 hours to	Recorded
		Min	Max	Isolated	Average		
		mm	mm	mm	mm		mm
Mon 03-01-2011 11:36	04/01/2011 09:00	5	10		8	04/01/2011 09:00	5
Mon 03-01-2011 16:00	04/01/2011 15:00	10	20		15	04/01/2011 15:00	4
Tue 04-01-2011 11:30	05/01/2011 09:00	10	20		15	05/01/2011 09:00	0
Tue 04-01-2011 16:00	05/01/2011 15:00	5	15		10	05/01/2011 15:00	2
Wed 05-01-2011 10:03	06/01/2011 09:00	20	30		25	06/01/2011 09:00	26
Wed 05-01-2011 16:00	06/01/2011 15:00	30	50		40	06/01/2011 15:00	44
Thu 06-01-2011 10:21	07/01/2011 09:00	30	50		40	07/01/2011 09:00	38
Thu 06-01-2011 16:00	07/01/2011 15:00	20	30		25	07/01/2011 15:00	43
Fri 07-01-2011 10:03	08/01/2011 10:00	20	30		25	08/01/2011 10:00	26
Fri 07-01-2011 16:04	08/01/2011 16:00	20	30		25	08/01/2011 16:00	6
Sat 08-01-2011 10:03	09/01/2011 09:00	30	50		40	09/01/2011 09:00	28
Sat 08-01-2011 16:00	09/01/2011 15:00	30	50		40	09/01/2011 15:00	80
Sun 09-01-2011 10:03	10/01/2011 09:00	40	60		50	10/01/2011 09:00	149
Sun 09-01-2011 16:00	10/01/2011 15:00	50	80		65	10/01/2011 15:00	125
Mon 10-01-2011 10:03	11/01/2011 10:00	50	100		75	11/01/2011 10:00	120
Mon 10-01-2011 16:00	11/01/2011 16:00	25	50	100	38	11/01/2011 16:00	129
Tue 11-01-2011 10:13	12/01/2011 10:00		>100		100	12/01/2011 10:00	51
Tue 11-01-2011 16:13	12/01/2011 16:00	50	100		75	12/01/2011 16:00	12
Wed 12-01-2011 10:03	13/01/2011 10:00	10	10		10	13/01/2011 10:00	2
Wed 12-01-2011 16:00	13/01/2011 16:00	5	5		5	13/01/2011 16:00	1
Thu 13-01-2011 14:25	14/01/2011 16:00	5	5		5	14/01/2011 16:00	0
Thu 13-01-2011 16:00	14/01/2011 15:00	5	5		5	14/01/2011 15:00	0
Fri 14-01-2011 10:03	15/01/2011 09:00	3	3		3	15/01/2011 09:00	0
Fri 14-01-2011 16:00	15/01/2011 15:00	3	3		3	15/01/2011 15:00	0

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FORECAST 1

Date: Sunday, 2 January 2011

Time: 10:03 AM

From: Aifs Operational Manager[redacted]
Sent: Sunday, January 02, 2011 10:03:07 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 10:03am EST on Sunday the 2nd of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Monday.. Less than 5-10mm

NORTH PINE DAM CATCHMENT
Forecast of catchment average rainfall for the 24 hour period to
9am Monday.. 5-10mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 2

Date: Sunday, 2 January 2011

Time: 16:04 PM

From: Aifs Operational Manage[redacted]
Sent: Sunday, January 02, 2011 4:04:11 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:04pm EST on Sunday the 2nd of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Monday.. 5-10mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Monday.. 5-10mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 3

Date: Monday, 3 January 2011

Time: 11:36 AM

From: Aifs Operational Manager[redacted]
Sent: Monday, January 03, 2011 11:36:29 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 11:36am EST on Monday the 3rd of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Tuesday .. 5-10mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Tuesday 5-10mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 4

Date: Monday, 3 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Monday, January 03, 2011 4:00:34 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Monday the 3rd of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Tuesday .. 10-20mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Tuesday 10-20mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 5

Date: Tuesday, 4 January 2011

Time: 11:30 AM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 04, 2011 11:30:30 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 11:30am EST on Tuesday the 4th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Wednesday 10-20mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Wednesday 10-20mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 6

Date: Tuesday, 4 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 04, 2011 4:00:03 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 4:00pm EST on Tuesday the 4th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Wednesday 5-15mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Wednesday 5-15mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 7

Date: Wednesday, 5 January 2011

Time: 10:03 AM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 05, 2011 10:03:06 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Wednesday the 5th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Thursday 20-30mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Thursday 20-30mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 8

Date: Wednesday, 5 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Wednesday, January 05, 2011 4:00:05 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Wednesday the 5th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Thursday 30-50mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Thursday 30-50mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 9

Date: Thursday, 6 January 2011

Time: 10:21 AM

From: Aifs Operational Manager[redacted]
Sent: Thursday, January 06, 2011 10:21:18 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:21am EST on Thursday the 6th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Friday 30-50mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Friday 30-50mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 10

Date: Thursday, 6 January 2011

Time: 16:00 PM

From: Aifs Operational Manager[redacted]
Sent: Thursday, January 06, 2011 4:00:06 PM
To: weather
Subject: *BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]*
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 4:00pm EST on Thursday the 6th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Friday 20-30mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Friday 20-30mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 11

Date: Friday, 7 January 2011

Time: 10:03 AM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 10:03:06 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Friday the 7th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
10am Saturday: 20-30mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

10am Saturday: 40-50mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 12

Date: Friday, 7 January 2011

Time: 16:04 PM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 4:04:23 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:04pm EST on Friday the 7th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Saturday: 20-30mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

4pm Saturday: 40-50mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 13

Date: Saturday, 8 January 2011

Time: 10:03 AM

From: Aifs Operational Manage[redacted]
Sent: Saturday, January 08, 2011 10:03:04 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Saturday the 8th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Sunday: 30-50mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Sunday: 40-60mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 14

Date: Saturday, 8 January 2011

Time: 16:00 PM

From: Aifs Operational Manager [redacted]
Sent: Saturday, January 08, 2011 4:00:05 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Saturday the 8th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Sunday: 30-50mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Sunday: 40-60mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 15

Date: Sunday, 9 January 2011

Time: 10:03 AM

From: Aifs Operational Manage[redacted]
Sent: Sunday, January 09, 2011 10:03:02 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 10:03am EST on Sunday the 9th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Monday: 40-60mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Monday: 40-60mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 16

Date: Sunday, 9 January 2011

Time: 16:00 PM

From: Aifs Operational Manager [redacted]
Sent: Sunday, January 09, 2011 4:00:06 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Sunday the 9th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Monday: 50-80mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Monday: 60-100mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 17

Date: Monday, 10 January 2011

Time: 10:03 AM

From: Aifs Operational Manage[redacted]
Sent: Monday, January 10, 2011 10:03:02 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Monday the 10th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
10am Tuesday: 50-100mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

10am Tuesday: 75-150mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 18

Date: Monday, 10 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Monday, January 10, 2011 4:00:04 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Monday the 10th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Tuesday: 25-50mm, isolated falls to 100mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

4pm Tuesday: 25-50mm, isolated falls to 100mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 19

Date: Tuesday, 11 January 2011

Time: 10:14 AM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 11, 2011 10:14:02 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:13am EST on Tuesday the 11th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
10am Wednesday: Falls in excess of 100mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

10am Wednesday: Falls in excess of 100mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 20

Date: Tuesday, 11 January 2011

Time: 16:13 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 11, 2011 4:13:12 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:13pm EST on Tuesday the 11th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Wednesday: 50 to 100mm this evening and overnight, easing to less than 30mm during Wednesday

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

4pm Wednesday: 50 to 100mm this evening and overnight, easing to less than 30mm during Wednesday

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 21

Date: Wednesday, 12 January 2011

Time: 10:03 AM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 12, 2011 10:03:07 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Wednesday the 12th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
10am Thursday: 10mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

10am Thursday: 10mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 22

Date: Wednesday, 12 January 2011

Time: 16:00 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 12, 2011 4:00:02 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Wednesday the 12th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Thursday: 5mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

4pm Thursday: 5mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 23

Date: Thursday, 13 January 2011

Time: 14:25 PM

From: Aifs Operational Manage[redacted]
Sent: Thursday, January 13, 2011 2:25:34 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 2:25pm EST on Thursday the 13th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Friday 5mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

4pm Friday 5mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 24

Date: Thursday, 13 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Thursday, January 13, 2011 4:00:05 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Thursday the 13th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Friday 5mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Friday 5mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 25

Date: Friday, 14 January 2011

Time: 10:03 AM

From: Aifs Operational Manage[redacted]
Sent: Friday, January 14, 2011 10:03:06 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Friday the 14th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Saturday <3mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Saturday <3mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 26

Date: Friday, 14 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Friday, January 14, 2011 4:00:05 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Friday the 14th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Saturday <3mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Saturday <3mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 27

Date: Saturday, 15 January 2011

Time: 10:03 AM

From: Aifs Operational Manage[redacted]
Sent: Saturday, January 15, 2011 10:03:03 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Saturday the 15th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
10am Sunday: < 3mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

10am Sunday: < 3mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 28

Date: Saturday, 15 January 2011

Time: 16:00 PM

From: Aifs Operational Manager [redacted]
Sent: Saturday, January 15, 2011 4:00:02 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 4:00pm EST on Saturday the 15th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Sunday: < 3mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

4pm Sunday: < 3mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 29

Date: Sunday, 16 January 2011

Time: 10:03 AM

From: Aifs Operational Manager [redacted]
Sent: Sunday, January 16, 2011 10:03:02 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 10:03am EST on Sunday the 16th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
10am Monday: < 2mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

10am Monday: < 2mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 30

Date: Sunday, 16 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Sunday, January 16, 2011 4:00:07 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 4:00pm EST on Sunday the 16th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Monday: 2 to 5mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

4pm Monday: < 2mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 31

Date: Monday, 17 January 2011

Time: 10:03 AM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 17, 2011 10:03:03 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:03am EST on Monday the 17th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Tuesday: to 5mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Tuesday: to 5mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 32

Date: Monday, 17 January 2011

Time: 16:00 PM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 17, 2011 4:00:03 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Monday the 17th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Tuesday: to 5mm

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Tuesday: to 5mm

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 33

Date: Tuesday, 18 January 2011

Time: 10:50 AM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 10:50:09 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 10:50am EST on Tuesday the 18th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
9am Wednesday: 10-15mm generally, isolated heavier falls [-40mm]

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

9am Wednesday: 10-15mm, isolated heavier falls [-40mm]

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 34

Date: Tuesday, 18 January 2011

Time: 16:00 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 18, 2011 4:00:05 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Tuesday the 18th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
3pm Wednesday: 20-25mm generally, isolated heavier falls [40-50mm]

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

3pm Wednesday: 20-25mm, isolated heavier falls [40-50mm]

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 35

Date: Wednesday, 19 January 2011

Time: 10:43 AM

From: Aifs Operational Manage[redacted]
Sent: Wednesday, January 19, 2011 10:43:15 AM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB(SUNWATER)
Issued at 10:43am EST on Wednesday the 19th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
10am Thursday: 15-25mm generally, heavier falls to about 50mm with storms

NORTH PINE DAM CATCHMENT

Forecast of catchment average rainfall for the 24 hour period to

10am Thursday: 15-25mm generally, heavier falls to about 50mm with storms

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FORECAST 36

Date: Wednesday, 19 January 2011

Time: 16:00 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 4:00:04 PM
To: weather
Subject: BOM: SEQWB Quantitative Precipitation [SEC=UNCLASSIFIED]
Auto forwarded by a Rule

IDQ10003
BUREAU OF METEOROLOGY
Queensland Region
Brisbane Office

QUANTITATIVE PRECIPITATION FORECAST FOR SEQWB/SUNWATER)
Issued at 4:00pm EST on Wednesday the 19th of January 2011

SOMERSET DAM AND WIVENHOE DAM CATCHMENTS:
Forecast of catchment average rainfall for the 24 hour period to
4pm Thursday: 15-25mm generally, heavier falls to about 50mm with storms

NORTH PINE DAM CATCHMENT
Forecast of catchment average rainfall for the 24 hour period to
4pm Thursday: 15-25mm generally, heavier falls to about 50mm with storms

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

APPENDIX E

Situation Reports

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

SITUATION REPORT 1

Date: Thursday, 6 January 2011

Time: 8:14 AM

From: Duty Engineer [redacted]
Sent: Thursday, 6 January 2011 8:14 AM
To: flood.qld[redacted] 'mfoster[redacted] Paul Bird (pbird[redacted] Preston.David[redacted] rdrury[redacted] Rohan Thorogood; 'cduncan[redacted] (Ken.Price[redacted] (kim.hang[redacted] Al Navaruk[redacted] Bill Stephens ([redacted] David Pokarier ([redacted] John West; Lou van Blerk[redacted] Mark Tan; Ney Ablitt[redacted] john.ruffini[redacted] jtibaldi[redacted] rob.ayre[redacted] tmalone[redacted] bschultz[redacted] Glenn Patterson (gpatterson[redacted] mlane[redacted] Murray Dunstan (mdunstan[redacted] Rob Gorian[redacted] adagan[redacted] Doug Grigg[redacted] gkeegan[redacted] Graham Francis[redacted] Jayam Tennakoon[redacted] Matthew O'Reilly[redacted]
Subject: Situation Report 0800 06/01/2011

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED INFORMATION

Rainfall

Since 9am Wednesday, there have been widespread falls of 30mm with isolated heavy falls up to 50mm in the Somerset and Wivenhoe catchments. Totals in the North Pine catchment have generally been below 10mm. Falls up to 60mm were recorded in the Leslie Harrion catchment.

The forecast for the next 24 to 48 hours is for totals up to 150mm in SE Qld.

The catchments remain wet and are likely to generate additional runoff in the event of rain.

North Pine Dam

At 0700 Thursday, North Pine Dam was 39.60m, 0.05m below gate trigger level and having risen 0.18m since 2/1/2011 due to a combination of baseflow and runoff from rain in the last 24 hours.

Given the forecast rain, gate operations will commence tonight. MBRC will be advised this morning

Somerset Dam

At 0700 Thursday, Somerset Dam was 99.34m, 0.34m above FSL, and rising slowly. The rain in the Stanley River catchment has produced a small amount of runoff in the upper Stanley but there have been significant rises in Kilcoy Ck. Further regulator operations will be required later Thursday.

Wivenhoe Dam

At 0700 Thursday, Wivenhoe Dam was 67.31m and rising slowly. This is 0.31m above FSL and above the gate trigger level of 67.25m. There have been rises recorded at rivers and

stream upstream of Wivenhoe Dam. Gates will be opened in the next 24 hours to manage the inflows from the upper Brisbane River and the outflow from Somerset.

Impacts of Wivenhoe Dam Releases

Somerset Regional, Ipswich City and Brisbane City Councils will be advised of the potential for gate operations after a full assessment of the situation this morning. At this stage it is anticipated that peak releases from Wivenhoe will be below 500m3/s but this will depend on the forecast rain and flows downstream of the dam.
The expected Wivenhoe release and local flows will at least impact upon Twin Bridges, Savages Crossing, Kholo Bridge and Colleges Crossing for several days. At this stage, there are not expected to be any adverse impacts upon Fernvale Bridge, Burtons Bridge or Mt Crosby Weir Bridge

Leslie Harrison Dam

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing. Given the forecast rainfall, gate operations are expected to continue for the next 24 to 48 hours.

The next situation report will be issued at 1800 Thursday 6/1/2011

Terry Malone
Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

SITUATION REPORT 2

Date: Thursday, 6 January 2011

Time: 2:54 PM

From: Duty Engineer [redacted]
Sent: Thursday, 6 January 2011 14:54
To: David Roberts; flood.qld[redacted] Mike Foster; Paul Bird; Preston.DavidG[redacted] Rob Drury; Rohan Thorogood; Ken.Price[redacted] kim.hang[redacted]l Navaruk; Bill Stephens; David Pokarier; John West; Louw Van Blerk; Mark Tan; Neville Ablitt; John.Ruffin[redacted] John Tibaldi; Rob.ayre[redacted] Terry Malone; Brett Schultz; Glenn Patterson; Malcolm Lane; Murray Dunstan; Rob Gorian; Agg Dagan; Doug Grigg; Graham Keegan; Graham Francis; Jayam Tennakoon; Matthew O'Reilly
Cc: Deb Chandler; Mailbox; Tony Trace; Chris Lavin; Craig Logan; Evan Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi
Subject: Situation Report 1500 06/02/2011

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

Rainfall

In the 6 hours since 9am Wednesday, there have been general totals around 30mm with isolated heavy falls up to 60mm in the Somerset and Wivenhoe catchments. Totals in the North Pine catchment have generally been between 20 and 30mm. Falls between 20 and 30mm were recorded in the Leslie Harrison catchment.

The forecast for the next 24 to 48 hours is for totals up to 100mm in SE Qld.

The catchments remain wet and are likely to generate additional runoff in the event of rain.

North Pine Dam

At 1400 Thursday, North Pine Dam was 39.66m, 0.01m above gate trigger level. Gate operations will commence at 1900 Thursday and will impact upon Youngs Crossing. MBRC have been advised and will confirm closure of Youngs Crossing prior to gate operations. Given the forecast rainfall during Friday, gate operations may continue into Saturday.

Somerset Dam

At 0700 Thursday, Somerset Dam was 99.34m, 0.34m above FSL, and rising slowly. The rain in the Stanley River catchment has produced a small amount of runoff in the upper Stanley but there have been significant rises in Kilcoy Ck, adding to the Somerset inflows. Further regulator/sluice operations will be required in the next 24 to 48 hours. The estimated event inflow volume into Somerset Dam is 50,000ML.

Wivenhoe Dam

At 0700 Thursday, Wivenhoe Dam was 67.31m and rising slowly. This is 0.31m above FSL and above the gate trigger level of 67.25m. There have been rises recorded at rivers and stream upstream of Wivenhoe Dam. The estimated event inflow volume into Wivenhoe Dam is 180,000ML including Somerset Dam outflow.

There has been significant rainfalls in the Lockyer Ck catchment since 0900 Thursday and a peak of about 600m3/s is expected from the Lockyer late Friday. Wivenhoe gates will be

opened after flood levels in the lower Lockyer subside. At this stage Wivenhoe releases during Saturday may be as high as 1,500m3/s and continue for a couple of days.

Impacts of Wivenhoe Dam Releases

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the potential for gate operations during the next 24 hours.

The will at least impact upon Twin Bridges, Savages Crossing, Kholo Bridge and Colleges Crossing for several days. The relatively high Lockyer flows will at least impact upon Twin Bridges, Savages Crossing, Kholo Bridge and Colleges Crossing for several days and may impact upon Burtons Bridge early Saturday. At this stage, there are not expected to be any adverse impacts upon Fernvale Bridge or Mt Crosby Weir Bridge.

Leslie Harrison Dam

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing. Given the forecast rainfall, gate operations are expected to continue for the next 24 to 48 hours.

The next situation report will be issued at 1800 Thursday 6/1/2011.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

SITUATION REPORT 3

Date: Thursday, 6 January 2011

Time: 5:33 PM

From: Duty Engineer [redacted]
Sent: Thursday, 6 January 2011 5:33 PM
To: David Roberts [redacted] flood.qld [redacted]
'mfoster [redacted] Paul Bird [redacted]
Preston.DavidG [redacted] drury [redacted] Rohan Thorogood; Deb
Chandler ([redacted] Mailbox [redacted] Tony
Trace [redacted] Chris Lavin; Craig Logan; Evan Caswell; James
Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi;
(Ken.Price [redacted] (kim.hang [redacted] Al Navaruk
(Albert.Navruk [redacted] Bill Stephens (Bill.Stephens [redacted] David
Pokarier [redacted] John West; Lou van Blerk
([redacted] Mark Tan; Nev Ablitt [redacted]
john.ruffini [redacted] jtibaldi [redacted] rob.ayre [redacted]
tmalone [redacted] bschultz [redacted] Glenn Patterson
[redacted] mlane [redacted] Murray Dunstan
[redacted] Rob Gorian [redacted]
adagan [redacted] Doug Grigg [redacted]
gkeegan [redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly [redacted]
Subject: Situation Report 1800 06/01/2011

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CRITICAL INFORMATION

Rainfall

In the 8 hours since 9am Wednesday, there have been general totals around 30mm with isolated heavy falls up to 60mm in the Somerset and Wivenhoe catchments. There have been significant rainfalls in the Lockyer Ck catchment in the last 24 hours with widespread falls of 50mm and isolated falls up to 75mm. Totals in the North Pine catchment have generally been about 30mm. Falls between 20 and 30mm were recorded in the Leslie Harrison catchment.

The forecast for the next 24 to 48 hours is for totals up to 100mm in SE Qld.

North Pine Dam

At 1700 Thursday, North Pine Dam was 39.68m, 0.03m above gate trigger level. Gate operations will commence at 1900 Thursday and will impact upon Youngs Crossing. Moreton Bay Regional Council has been advised and will confirm closure of Youngs Crossing prior to gate operations. Given the forecast rainfall during Friday, gate operations may continue into Saturday.

Somerset Dam

At 1700 Thursday, Somerset Dam was 99.45m, 0.45m above FSL, and rising slowly. The rain in the Stanley River catchment has produced a small amount of runoff in the upper Stanley but there have been significant rises in Kilcoy Ck, adding to the Somerset inflows. Further regulator/sluice operations will be required in the next 24 to 48 hours. The estimated event inflow volume into Somerset Dam is 50,000ML.

Wivenhoe Dam

At 1700 Thursday, Wivenhoe Dam was 67.39m and rising slowly. This is 0.39m above FSL and above the gate trigger level of 67.25m. Upstream of the dam river levels are still rising at the Linville and Gregors Ck gauges. The estimated event inflow volume into Wivenhoe Dam is 180,000ML including Somerset Dam outflow. .

A peak of about 600m3/s is expected from the Lockyer late Friday. At this stage there is some uncertainty associated with this estimate and it may or may not impact Burtons Bridge. Wivenhoe gates will be opened after the impact of Lockyer flows on Burtons Bridge has been ascertained and flood levels in the lower Lockyer subside. At this stage Wivenhoe releases will commence late Friday/early Saturday and may be as high as 1,500m3/s, similar to recent events, and continue for a couple of days.

Impacts of Downstream of Wivenhoe

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the potential for gate operations during the next 24 hours.

The relatively high Lockyer flows will adversely impact upon Twin Bridges, Savages Crossing, Kholo Bridge and Colleges Crossing for several days and may impact upon Burtons Bridge early Saturday. At this stage, there are not expected to be any adverse impacts upon Fernvale Bridge or Mt Crosby Weir Bridge.

Leslie Harrison Dam

Following the heavy rainfall Wednesday night, gate operations commenced at Leslie Harrison Dam late Wednesday night and are continuing. Given the forecast rainfall, gate operations are expected to continue for the next 24 to 48 hours.

The next situation report will be issued at 0600 Friday 7/1/2011.

Terry Malone

Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 4

Date: Friday, 7 January 2011

Time: 12:15 PM

From: Duty Engineer [redacted]
Sent: Friday, 7 January 2011 12:15 PM
To: bschultz [redacted] Glenn Patterson [redacted]
mlane [redacted] Murray Dunstan [redacted] Rob Gorian
[redacted] john.ruffin [redacted] jtibald [redacted]
rob.ayre [redacted] tmalone [redacted]
Subject: SitRep

There has been falls between 15 and 30mm in the North Pine catchment in the last 3 hours. This will cause renew rises and increased inflows.

There are no gate movements projected for the next 3 hours.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax: [redacted]

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SITUATION REPORT 5

Date: Friday, 7 January 2011

Time: 5:57PM

From: Duty Engineer [redacted]
Sent: Friday, 7 January 2011 5:57 PM
To: David Roberts [redacted] flood.qld [redacted]
'mfoster [redacted] Paul Bird [redacted] rdrury [redacted]
Rohan Thorogood; (Ken.Price [redacted] (kim.hang [redacted]; Al
Navaruk [redacted] Bill Stephens
[redacted] David Pokarier [redacted] John
West; Lou van Blerk [redacted] Mark Tan; Nev Ablitt
[redacted] john.ruffini [redacted] jtibaldi [redacted]
rob.ayre [redacted] tmalone [redacted] bschultz [redacted]
Glenn Patterson [redacted] mlane [redacted] Murray
Dunstan [redacted] Rob Gorian [redacted]
adagan [redacted] Doug Grigg [redacted]
gkeegan [redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly [redacted]
Deb Chandler [redacted] Mailbox [redacted]
Tony Trace [redacted] Chris Lavin; Craig Logan; Don Carroll; Evan
Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi
Subject: Situation Report 1800 Friday 07/01/2011

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Rainfall

Since 0900 Friday, there has been widespread 20 to 40mm throughout North Pine, Somerset and Wivenhoe catchments with isolated higher totals of 70mm in the upper reaches of the Brisbane R.

Advice from BoM indicates that SE Qld can expect further high rainfall totals over the next 4 days.

Saturday:	Rain light at times 15-50mm with higher falls along the coast
Sunday:	Widespread rain with totals between 50-100mm
Monday:	Widespread rain again with totals between 50-100mm
Tuesday:	Rain easing with totals between 25-50mm

Given the saturated conditions of the catchments, significant inflows to Seqwater dams will be generated, especially following the forecast rainfall on Sunday/Monday

North Pine (Full Supply Level 39.60 m AHD)

At 1700 Friday, North Pine currently has 5 gates open releasing runoff from rain on Wed/Thursday. Given the very high likelihood of significant runoff during the next 4 days, gates will be keep open to match inflows over the next few days, rather than opening and closing at various times with short notice. Youngs Crossing will remain adversely impacted for the duration of the gates being open. Moreton Bay Regional Council has been advised and concurs with this strategy.

Somerset (Full Supply Level 99.00 m AHD)

At 1700 Friday, Somerset Dam level was 100.04m AHD and rising steadily with one regulator open 100%. However, as the Wivenhoe headwater level is rising and may impact upon the operation of the regulator, this will be closed in the next few hours and a sluice gate opened. However, this strategy may need to be reviewed if significant runoff occurs in the Stanley and Upper Brisbane. Under circumstances of high inflows to Somerset and Wivenhoe, it is the usual practice to hold flood water in Somerset until there is a high level of confidence in the estimated inflows to Wivenhoe.

Since the commencement of the event on 02/01/2011, approximately 55,000ML has flowed into Somerset Dam with a further 25,000ML expected based on the recorded rainfall to date. Approximately 16,000ML has been released into Wivenhoe.

Wivenhoe (Full Supply Level 67.00 m AHD)

At 1700 Friday, Wivenhoe Dam was 68.10 m AHD and rising steadily with one gate open to 1.5 metres and releasing about 168m3/s. River levels upstream of Wivenhoe Dam were rising again, generating further inflow to the dam It is intended to ramp up the release from Wivenhoe to about 1,200m3/s during the next 18 hours. However, given the high likelihood of significant inflows in the next week, this may be increased later on the weekend.

Since the commencement of the event on 02/01/2011, approximately 140,000ML has flowed into Wivenhoe Dam with a further 160,000ML expected (including Somerset release) based on the recorded rainfall to date. Approximately 24,000ML has been released from Wivenhoe via the hydro and regulator at about 50m3/s.

Impacts downstream of Wivenhoe

The projected Wivenhoe release of 1,200m3/s combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted for several days. At this stage Fernvale and Mt Crosby Weir Bridge are not expected to be affected.

Discussions were held with Brisbane City Council and BoM with all agencies agreeing that the combined flow in the lower Brisbane R will only add 50mm to an upper limit of 100mm to the recorded water levels in the City Reach of the Brisbane River. However, it is noted that tides in the lower Brisbane R will be 0.4 to 0.5 metres higher than predicted tides

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

Leslie Harrison

Given its proximity to the coast Leslie Harrison is likely to be most impacted by the forecast rain over the next 4 days.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 6

Date: Friday, 7 January 2011

Time: 6:59 PM

From: Duty Engineer [redacted]
Sent: Friday, 7 January 2011 6:59 PM
To: flood.qld [redacted] john.ruffin [redacted] tibaldi [redacted]
rob.ayre [redacted] tmalone [redacted]
Cc: rdrury [redacted]
Subject: SitRep Clarification

BCC pointed out that they have not done any analysis and do not necessarily agree with the 50 to 100mm but have accepted the BoM and Seqwater estimate.

Terry Malone

Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax: [redacted]

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SITUATION REPORT 7

Date: Saturday, 8 January 2011

Time: 6:32 AM

From: Duty Engineer
Sent: Saturday, 8 January 2011 6:32 AM
To: 'Duty Engineer'; David Roberts flood.qld 'mfoster Paul Bird rdrur Rohan Thorogood; (Ken.Price (kim.hang Al Navaruk Bill Stephens David Pokarier John West; Lou van Blerk Mark Tan; Nev Ablitt john.ruffini jtibaldi rob.ayre tmalone bschultz Glenn Patterson mlane Murray Dunstan Rob Gorian adagan Doug Grigg gkeegan Graham Francis Jayam Tennakoon Matthew O'Reilly Deb Chandler (dchandler Mailbox Tony Trace Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi
Subject: Situation Report 0600 Saturday 08/01/2011

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Rainfall

Since 0900 Friday, there has been widespread 20 to 40mm throughout North Pine, Somerset and Wivenhoe catchments with isolated higher totals of 70mm in the upper reaches of the Brisbane R. No significant rain has fallen in the past 12 hours.

Advice from BoM indicates that SE Qld can expect further high rainfall totals over the next 4 days.

Saturday:	Rain light at times 5-50mm with higher falls along the coast
Sunday:	Widespread rain with totals between 50-100mm
Monday:	Widespread rain again with totals between 50-100mm
Tuesday:	Rain easing with totals between 25-50mm

Given the saturated conditions of the catchments, significant inflows to Seqwater dams will be generated, especially following the forecast rainfall on Sunday/Monday

North Pine (Full Supply Level 39.60 m AHD)

At 0600 Saturday, North Pine Lake Level was 39. 46 m AHD and slowly rising. Currently 3 gates are open to release runoff from rain on Wed/Thursday/Friday. Given the very high likelihood of significant runoff during the next 4 days, gates will be keep open to match inflows over the next few days, rather than opening and closing at various times with short notice. Youngs Crossing will remain adversely impacted for the duration of the gates being open. Moreton Bay Regional Council has been advised and concurs with this strategy.

Somerset (Full Supply Level 99.00 m AHD)

At 0500 Saturday, Somerset Dam level was 100.42m AHD and rising. The Dam is releasing into Wivenhoe through one open sluice gate. Water will be temporarily held in Somerset to allow the inflow from the upper Brisbane is passed through the system. However, this strategy may need to be reviewed if significant runoff occurs in the Stanley and Upper Brisbane. Under circumstances of high inflows to Somerset and Wivenhoe, it is the usual practice to hold flood water in Somerset until there is a high level of confidence in the estimated inflows to Wivenhoe.

Since the commencement of the event on 02/01/2011, approximately 85,000ML has flowed into Somerset Dam with a further 20,000ML expected based on the recorded rainfall to date. Approximately 25,000ML has been released into Wivenhoe.

Wivenhoe (Full Supply Level 67.00 m AHD)

At 0600 Saturday, Wivenhoe Dam was 68.45 m AHD and rising steadily with all five gates open and releasing about 890 m3/s. River levels upstream of Wivenhoe Dam were rising again, generating further inflow to the dam It is intended to ramp up the release from Wivenhoe to 1,200m3/s by midday Saturday 08/01/2011. Further assessments will be undertaken to determine increases above this level. However, given the high likelihood of significant inflows in the next week, this may be increased.

Since the commencement of the event on 02/01/2011, approximately 200,000ML has flowed into Wivenhoe Dam (including Somerset releases) with a further 180,000ML expected based on the recorded rainfall to date. Approximately 50,000ML has been released from Wivenhoe via the hydro and regulator at about 50m3/s.

Impacts downstream of Wivenhoe

The projected Wivenhoe release of 1,200m3/s combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted for several days. At this stage Fernvale and Mt Crosby Weir Bridge are not expected to be affected but they could potentially be affected if the predicted rainfall totals eventuate.

The current available assessments indicate that the combined flow in the lower Brisbane R would only add 50mm to an upper limit of 100mm to the recorded water levels in the City Reach of the Brisbane Rive. However, it is noted that tides in the lower Brisbane R will be 0.4 to 0.5 metres higher than predicted tides

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

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John Ruffini
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 8

Date: Saturday, 8 January 2011

Time: 2:22 PM

From: Duty Engineer [redacted]
Sent: Saturday, 8 January 2011 2:22 PM
To: Peter Allen [redacted]
Subject: Seqwater Situation Report at 12:00 on Saturday 8 January 2011

Peter

I have added you to the distribution list of the Situation Report for Seqwater dams. This is distributed every 12 hours (approximately) during gate releases. Let me know if you do not wish to get this.

Rainfall

No significant rain has fallen over the dam catchments in the past 48 hours.

Advice from BoM indicates that SE Qld can expect further high rainfall totals over the next 4 days.

Saturday:	Rain light at times 5-50mm with higher falls along the coast
Sunday:	Widespread rain with totals between 50-100mm
Monday:	Widespread rain again with totals between 50-100mm
Tuesday:	Rain easing with totals between 25-50mm

Given the saturated conditions of the catchments, significant inflows to Seqwater dams will be generated, especially following the forecast rainfall on Sunday/Monday.

North Pine (Full Supply Level 39.60 m AHD)

At 1200 Saturday, North Pine Lake Level was 39.46 m AHD and is steady. Currently 2 gates are open to release runoff generated from rainfall over the last three days. Given the very high likelihood of significant runoff during the next 4 days, gates will be kept open to match inflows over the next few days, rather than opening and closing at various times with short notice. Lake Kurwongbah spillway flows are also contributing to the adverse impacts experienced at Youngs Crossing.

Youngs Crossing will remain adversely impacted for the duration of the gates being open.

Moreton Bay Regional Council has been advised and concurs with this strategy.

Somerset (Full Supply Level 99.00 m AHD)

At 1000 Saturday, Somerset Dam level peaked at 100.47m AHD and is now slowly falling. At 1200 it is now 100.45m. Somerset Dam is releasing into Wivenhoe through two open sluice gates and over the fixed crest at a rate of about 415 m3/s.

Since the commencement of the event on 02/01/2011, approximately 91,000ML has flowed into Somerset Dam with a further 20,000ML expected based on the recorded rainfall to date. Approximately 29,000ML has been released into Wivenhoe.

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Wivenhoe (Full Supply Level 67.00 m AHD)

At 1200 Saturday, Wivenhoe Dam was 68.60 m AHD and rising steadily with all five gates open and releasing about 1,150 m3/s. River levels upstream of Wivenhoe Dam have peaked and are now receding. However the further inflows into the dam has led to elevated levels It is intended to increase the release from Wivenhoe to 1,250 m3/s by 14:00 on Saturday 08/01/2011. This will maintain flows of up to 1,600 m3/s in the mid-Brisbane River throughout the afternoon.
Further assessments will be undertaken to determine increases above this level given the high likelihood of significant inflows in the next few days. The interaction with runoff from the Bremer River and Warrill Creek catchment will also be assessed to determine an appropriate release strategy. Projections based upon the forecast rainfalls suggest flows of up to 1,200 m3/s will emanate from the Bremer River catchment.

Since the commencement of the event on 02/01/2011, approximately 202,000ML has flowed into Wivenhoe Dam (including Somerset releases) with a further 210,000ML expected based on the recorded rainfall to date. Approximately 66,000ML has been released from Wivenhoe via the radial gates, hydro and regulator.

Impacts downstream of Wivenhoe

The projected Wivenhoe release of 1,250m3/s and combined with Lockyer flows and local runoff will mean that all low level crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted for several days. At this stage Fernvale and Mt Crosby Weir Bridge are not expected to be affected, but they could potentially be affected if the predicted rainfall totals eventuate and higher releases from Wivenhoe Dam are considered necessary.

The current available assessments indicate that the combined flow in the lower Brisbane River would only add 50mm to an upper limit of 100mm to the recorded water levels in the City Reach of the Brisbane River. However, it is noted that tides in the lower Brisbane R will be 0.4 to 0.5 metres higher than predicted tides. The tide level at the Port Office Gauge at 1200 Saturday was 1.56 m and rising.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

Regards

Rob Ayre

Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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SITUATION REPORT 9

Date: Sunday, 9 January 2011

Time: 5:51 PM

From: Duty Engineer [redacted]
Sent: Sunday, 9 January 2011 5:51 PM
To: David Roberts [redacted] flood.qld [redacted]
'mfoster [redacted] Paul Bird [redacted] Peter Allen
(peter.allen [redacted] rdrury [redacted] Rohan Thorogood; Deb Chandler
[redacted] Mailbox [redacted] Tony Trase
[redacted] Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; James
Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi;
(Ken.Price [redacted] (kim.hang [redacted] ; Al Navaruk
[redacted] Bill Stephens [redacted] David
Pokarier [redacted] John West; Lou van Blerk
(Ivanblerk [redacted] ; Mark Tan; Ney Ablitt [redacted]
john.ruffini [redacted] jtibaldi [redacted] rob.ayre [redacted]
tmalone [redacted] bschultz [redacted] Glenn Patterson
[redacted] mlane [redacted] Murray Dunstan
[redacted] Rob Gorian
adagar [redacted] Doug Grigg [redacted]
gkeegan [redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly [redacted]
Cc: Peter Allen [redacted]
Subject: Situation Report 1700 Sunday 9/01/2011

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Rainfall

Catchment average rainfall for the past 12 hours is; North Pine Dam (60 mm); Somerset Dam (150 mm); Wivenhoe Dam (80 mm). The bulk of the rain that has fallen in the upper reaches of the Stanley and Brisbane Rivers.

The BOM rainfall forecast for the next few days is:-

Monday:	Very heavy rain periods with totals up to 300mm centred around North Pine.
Tuesday:	Rain periods with totals up to 150mm centred around North Pine.
Wednesday	A few showers less than 10mm
Thursday	A shower or two.
Friday	A shower or two.
Saturday	Mostly fine.

A severe whether warning remains current for heavy rainfall in the dam catchment areas. The dam catchments are relatively saturated and significant inflows will be generated if the forecast rainfall eventuates.

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is currently 39.65 m AHD and rising at 1600. Following the rain in the 9 hours, the number of open gates has been increased from 2 to 5 which are expected to remain open for the next 12 hours. Youngs Crossing will remain closed while releases are in progress.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 100.75 m AHD and rising quickly. Estimated peak inflow to the dam is about 3,000m3/s. Five sluice gates are open releasing about 1,100m3/s (95,000Ml/d) into Wivenhoe Dam. At this stage the dam will reach at least 101.5 during early Tuesday morning.

Since the commencement of the event on 02/01/2011approximately 80,000ML has been released from the dam, with an event total of at least 320,000ML based on the recorded rainfall to date. The event total is expected to increase significantly due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Wednesday.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is currently rising again, with the current level being 68.70m AHD. Estimated peak inflow to the dam just from the Upper Brisbane R is about 5,000m3/s and, at this stage, the dam will reach at least 72.5 m AHD during Wednesday morning. River levels upstream of the dam are rising quickly with significant inflow being generated from the intense heavy rainfall. The current gate operation strategy will maintain flows of around 1,600m^3/s in the mid-Brisbane River for the next 24 hours. This may mean temporarily reducing releases from Wivenhoe Dam as Lockyer flows increase. However, releases may have to be increased significantly during Monday depending on the rain in the next 12 to 24 hours. The current release rate from Wivenhoe Dam is 1,400m3/s (120,000ML/day).

Since the commencement of the event on 02/01/2011 approximately 210,000ML has been released from the dam, with an event total approaching 1,000,000ML (including Somerset outflow) based on the recorded rainfall to date. The total release for the event is likely to increase over the next few days based on the current rainfall forecasts. At this stage, releases will continue until at least Saturday 15th January 2011.

Impacts downstream of Wivenhoe Dam

The current Wivenhoe Dam release combined with Lockyer flows and local runoff will mean that all low level crossings downstream of Wivenhoe (Twin Bridges, Savages Crossing, Burtons Bridge, Kholo Bridge and Colleges Crossing) will be adversely impacted until at least Saturday 15 January.

At this stage Fernvale and Mt Crosby Weir Bridge will not be affected for the next 24 hours but there is a strong possibility that, if the predicted rainfall totals eventuate in the next 12 to 24 hours, higher releases from Wivenhoe Dam will be necessary. This may adversely impact upon Fernvale and Mt Crosby Weir Bridges as early as Tuesday morning.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the Wivenhoe operating strategy.

Terry Malone

Duty Engineer
Flood Operations Centre
Phone [redacted]

Fax:

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SITUATION REPORT 10

Date: Sunday, 9 January 2011

Time: 9:04 PM

From: Duty Engineer [redacted]
Sent: Sunday, 9 January 2011 9:04 PM
To: David Roberts [redacted]; flood.qld [redacted]
'mfoster [redacted] Paul Bird [redacted] Peter Allen
[redacted]; rdrury [redacted] Rohan Thorogood;
(Ken.Price [redacted] (kim.hang [redacted] Al Navaruk
[redacted] Bill Stephens [redacted] David
Pokarier [redacted] John West; Lou van Blerk
[redacted] Mark Tan; Nev Ablitt
john.ruffini [redacted] jtibaldi [redacted] rob.ayre [redacted]
tmalone [redacted] bschultz [redacted] Glenn Patterson
[redacted] mlane [redacted] Murray Dunstan
[redacted] Rob Gorian
adagan([redacted] Doug Grigg [redacted]
gkeegan [redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly [redacted]
Cc: Deb Chandler [redacted] Mailbox [redacted]
Tony Trace [redacted] Chris Lavin; Craig Logan; Don Carroll; Evan
Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi
Subject: Situation Report 2100 9/01/2011
Importance: High

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CREDIBLE INFORMATION

Rainfall

Very heavy rainfall has been recorded in the upper reaches of the Brisbane and Stanley in the last 6 hours with totals up to 140mm. Totals for the last 24 hours range from 100 to 300mm.

Rainfall of similar magnitudes is expected in the 12 to 24 hours, especially around the Bremer/Warrill catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 101.68 m AHD (about 500,000ML currently in storage) and rising quickly. Peak inflow to the dam is estimated to be about 4,000 m3/s based on observed rainfall and could be as high as 5,000m3/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m3/s (95,000Ml/d) into Wivenhoe Dam. At this stage the dam will reach at least 103.5 early Tuesday morning which will adversely impact areas around Kilcoy.

Since the commencement of the event on 02/01/2011approximately 100,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This may increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

River levels upstream of the dam are rising quickly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have already reached 6,700m3/s and the river is still rising.

The dam level is rising again, with the current level being 69.10m AHD (1,410,000ML with about 300,00 of flood storage). Estimated peak inflow to the dam just from the Upper Brisbane R alone may reach as high as 7,500m3/s and, at this stage, the dam will reach at least 73.0 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it will be necessary to increase the release from Wivenhoe Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, releases will be kept below 3,500m3/s and the combined flows is the lower Brisbane will be limited to 4,000m3/s. This is below the limit of urban damages in the City reaches.

The current release rate from Wivenhoe Dam is 1,400m3/s (120,000ML/day). Gate opening will start to be increased from noon Monday and the release is expected increase to at least 2,600m3/s during Tuesday morning.

Since the commencement of the event on 02/01/2011 approximately 220,000ML has been released from the dam, with an event total approaching 1,000,000ML without further rain and as much as 1,500,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16th January 2011.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone [redacted]
Fax:

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SITUATION REPORT 11

Date: Monday, 10 January 2011

Time: 1:14 AM

From: Duty Engineer [redacted]
Sent: Monday, 10 January 2011 1:14 AM
To: David Roberts [redacted] flood.qld [redacted]
'mfoster [redacted] Paul Bird [redacted] Peter Allen
[redacted] rdrury [redacted] Rohan Thorogood;
(Ken.Price [redacted] (kim.hang [redacted] Al Navaruk [redacted]
[redacted] Bill Stephens [redacted] David
Pokarier [redacted] John West; Lou van Blerk [redacted]
[redacted] Mark Tan; Nev Ablitt [redacted]
john.ruffini [redacted] jtibaldi [redacted] rob.ayre [redacted]
tmalone [redacted] bschultz [redacted] Glenn Patterson
[redacted] mlane [redacted] Murray Dunstan
[redacted] Rob Gorian [redacted]
adagan [redacted] Doug Grigg [redacted]
gkeegan [redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly [redacted]
Cc: Andy Bickerton [redacted] Deb Chandler
[redacted] Mailbox [redacted] Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; Tony Trace [redacted]
Subject: FOC Situation Report at 01:00 hrs on Monday 10 January 2011

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Rainfall

Very heavy rainfall has been recorded in the Upper Brisbane and Stanley Rivers in the last 12 hours with totals up 100 to 240mm. Totals for the last 24 hours range from 100 to 300mm.

Rainfall of similar magnitudes is expected in the 12 to 24 hours around the downstream catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level was 39.95 m and steady. Five gates are open releasing 445 m3/s. The inflow into the dam since the commencement of the event is 42,000 ML. Estimated event volume is 57,000 ML assuming no further rainfall. Gate operations will continue until at least Tuesday 11 January 2011.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 102.22 m AHD and rising quickly (storing 157,000 ML above FSL). Peak inflow to the dam is estimated to be about 4,200 m3/s based on observed rainfall and could be as high as 5,000m3/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m3/s (95,000Ml/d) into Wivenhoe Dam. At this stage the dam will reach at least 103.5 on Monday afternoon which will adversely impact areas around Kilcoy.

Since the commencement of the event on 02/01/2011approximately 115,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This is expected to increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

River levels upstream of the dam are rising quickly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have already reached 7,350m3/s and the river has just peaked at 23:00 on Sunday 9 January.

The dam level is rising quickly, with the current level being 69.60m AHD (storing 301,000 ML). Estimated peak inflow to the dam just from the Upper Brisbane R alone may reach as high as 8,800m3/s and, at this stage, the dam will reach at least 73.3 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it will be necessary to increase the release from Wivenhoe during Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, releases will be kept below 3,500m3/s and the combined flows in the lower Brisbane will be limited to 4,000m3/s if possible.

Fernvale Bridge approaches and Mt Crosby Weir Bridge have been inundated and both bridges are now closed or are in the process of being closed.

The current release rate from Wivenhoe Dam is 1,400m3/s (120,000ML/day). Gate opening will start to be increased during early Monday morning and the release is expected to increase to at least 2,600m3/s.

Since the commencement of the event on 02/01/2011 approximately 240,000ML has been released from the dam, with an event total approaching 1,500,000ML without further rain and as much as 2,100,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16th January 2011.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam. If the predicted rainfall eventuates in the downstream tributary catchments the resultant combined flows in the lower Brisbane may exceed the threshold of damaging discharge in the urban areas within the next 24 to 48 hours.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

Regards

John Ruffini
Duty Engineer
Flood Operations Centre

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Phone: [redacted]

Fax:

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SITUATION REPORT 12

Date: Monday, 10 January 2011

Time: 6:30 AM

From: Duty Engineer [redacted]
Sent: Monday, 10 January 2011 6:30 AM
To: John Ruffini (Home) [redacted] David Roberts (droberts [redacted] flood.qld [redacted] 'mfoster [redacted] Paul Bird [redacted] Peter Allen [redacted] rdrury [redacted] Rohan Thorogood; (Ken.Price [redacted] (kim.hang [redacted] Al Navaruk [redacted] Bill Stephens (Bill.Stephens [redacted] David Pokarier [redacted] John West; Lou van Blerk [redacted] Mark Tan; Nev Ablitt [redacted] john.ruffini [redacted] jtibaldi [redacted] rob.ayre [redacted] tmalone [redacted] bschultz [redacted] Glenn Patterson [redacted] mlane [redacted] Murray Dunstan [redacted] Rob Gorian [redacted] adagar [redacted] Doug Grigg [redacted] gkeegan [redacted] Graham Francis [redacted] Jayam Tennakoon [redacted] Matthew O'Reilly [redacted]
Cc: Andy Bickerton [redacted] Deb Chandler [redacted] Mailbox [redacted] Tony Trace [redacted] Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi
Subject: FOC Situation Report at 06:00 on Monday 10 January 2011

Rainfall

Moderate to heavy rainfall has been recorded in the Upper Brisbane and Stanley Rivers in the last 12 hours with totals up to 90 mm. Totals for the last 24 hours range from 100 to 325mm.

Mt Glorious recorded 100 mm in the last 12 hours.

Rainfall of similar magnitudes is expected in the 12 to 24 hours around the downstream catchments as the system tracks south.

A severe weather warning remains current for heavy rainfall in the dam catchment areas.

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level was 39.97 m and steady. Five gates are open releasing 475 m3/s. The inflow into the dam since the commencement of the event is 52,000 ML. Estimated event volume is 72,000 ML assuming no further rainfall. Gate operations will continue until at least Tuesday 11 January 2011.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level at 05:00 was 102.84 m AHD and rising (storing 193,000 ML above FSL). Peak inflow to the dam is estimated to be about 4,200 m3/s based on observed rainfall and could be as high as 5,000m3/s with additional forecast rainfall. Five sluice gates are open releasing about 1,100m3/s (95,000Ml/d) into Wivenhoe Dam. At this stage the dam lake

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level will reach about 103.5 mAHD on Monday afternoon. Areas around Kilcoy will continue to be adversely affected.

Since the commencement of the event on 02/01/2011approximately 142,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML expected. This is expected to increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

River levels upstream of the dam have peaked and are falling slowly with significant inflow being generated from the intense heavy rainfall. Flows in the Brisbane River at Gregor's Ck have peaked at 7,350m3/s at 23:00 on Sunday 9 January. This peak is bigger than January 1974 and February 1999 at this location.

The dam level is rising quickly, with the current level being 70.77m AHD (storing 450,000 ML). Estimated peak inflow to the dam just from the Upper Brisbane R is around 8,800m3/s and, at this stage, the dam will reach at least 73.3 m AHD during Tuesday morning. Given the rapid increase in inflow volumes, it was necessary to start to increase the release from Wivenhoe during Monday morning.

The objective for dam operations will be to minimise the impact of urban flooding in areas downstream of the dam and, at this stage, releases will be kept below 3,500m3/s and the combined flows in the lower Brisbane will be limited to 4,000m3/s if possible. This is significantly less than the current estimated combined pre-dam peak inflow of 12,000 m3/s.

Fernvale Bridge approaches and Mt Crosby Weir Bridge have been inundated and both bridges are now closed.

The current release rate from Wivenhoe Dam is 1,753m3/s (150,000ML/day). Gate opening will continue to be increased during Monday and the release is expected to increase to at least 2,600m3/s in the next 12 to 24 hours.

Since the commencement of the event on 02/01/2011 approximately 275,000ML has been released from the dam, with an event total approaching 1,600,000ML without further rain and as much as 2,100,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16th January 2011.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane R will be impacted by the combined flows of Lockyer Ck, Bremer River, local runoff and releases from Wivenhoe Dam. If the predicted rainfall eventuates in the downstream tributary catchments the resultant combined flows in the lower Brisbane may exceed the threshold of damaging discharge in the urban areas within the next 24 to 48 hours. Currently the estimate peak flow in the lower Brisbane River will be the highest since Wivenhoe Dam was completed in 1984 but still well below flows the 1974 levels.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

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Outlook

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate rapidly over the next 24 hours. The flood operation centre will continue to monitor the situation and provide every six hours until the situation stabilizes.

John Ruffini

Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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SITUATION REPORT 13

Date: Monday, 10 January 2011

Time: 12:16 PM

From: Duty Engineer
Sent: Monday, 10 January 2011 12:16 PM
To: John Ruffini (Home); David Roberts; flood.qld; mfoster; Paul Bird; Peter Allen; rdrury; Rohan Thorogood; (Ken.Price; (kim.hang; Al Navaruk; Bill Stephens; David Pokarier; John West; Lou van Blerk; Mark Tan; Nev Ablitt; john.ruffini; jtibaldi; rob.ayre; tmalone; bschultz; Glenn Patterson; mlane; Murray Dunstan; Rob Gorian; adagan; Doug Grigg; gkeegan; Graham Francis; Jayam Tennakoon; Matthew O'Reilly;
Cc: Andy Bickerton; Deb Chandler; Mailbox; Tony Trace; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; 'pborrows
Subject: FOC Situation Report at 12:00 on Monday 10 January 2011

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Rainfall

Rainfall has continued in the dam catchments over the last 6 hours, with approximate catchment averages as follows: North Pine (30mm); Wivenhoe Dam (20mm); Somerset Dam (40mm). A severe weather warning remains current for heavy rainfall in the dam catchment areas. The QPF issued by BOM at 10:00 estimates rainfalls for the 24 hours to 10:00 Tuesday as North Pine Dam (75mm to 150mm); Wivenhoe/Somerset Dam Catchments (50mm – 100mm).

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is 40.00m AHD and relatively steady (storing 9,000ML above FSL). Five gates are open and releasing 500 m3/s. The inflow into the dam since the commencement of the event is 63,000 ML. Estimated event volume is 77,000 ML assuming no further rainfall. Gate operations will continue until at least Wednesday 12 January 2011.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 103.11m AHD and rising (storing 210,000 ML above FSL). Peak inflow to the dam is estimated to be about 4,200 m3/s. Five sluice gates are open releasing about 1,100m3/s (95,000ML/day) into Wivenhoe Dam. At this stage the dam lake level will reach about 103.5m AHD on Monday afternoon. Areas around Kilcoy will continue to be adversely affected.

Since the commencement of the event on 02/01/2011approximately 182,000ML has been released from the dam into Wivenhoe, with an event total of the order of 520,000ML

expected. This is expected to increase due to the forecast rain in the next 24 to 48 hours. At this stage, releases will continue until at least Thursday 13 January 2011.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is 71.95m AHD and rising quickly (storing 610,000 ML above FSL). Peak inflow to the dam is estimated to be about 8,800m3/s. Five radial gates are open releasing about 2000m3/s (170,000ML/day) into the Brisbane River. At this stage, the dam will reach about 73.5m AHD during Tuesday morning. Flows in the Brisbane River above the dam at Gregor's Creek peaked at 7,350m3/s and this peak is bigger than both the January 1974 and February 1999 flood events at this location.

The objective for dam operations is to minimise the impact of urban flooding in areas downstream of the dam and the current aim is to keep river flows in the lower Brisbane River below 3,500m3/s if possible. This is significantly less than the current estimated combined pre-dam peak inflow of 12,000m3/s.

Since the commencement of the event on 02/01/2011 approximately 325,000ML has been released from the dam, with an event total approaching 1,600,000ML without further rain and as much as 2,100,000ML with forecast rainfall of (both including Somerset outflow). At this stage, releases will continue until at least Sunday 16 January 2011.

The volume between the expected peak (73.5m AHD) and the level at which the safety of the dam becomes the primary objective in managing flood releases (74.0m AHD) is 75,000ML. The volume between the expected peak (73.5m AHD) and initiation of the first Fuse Plug is 330,000ML.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer Creek flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Saturday 15 January in varying degrees.

Water levels in the lower Brisbane River will be impacted by the combined flows of Lockyer Creek, Bremer River, local runoff and releases from Wivenhoe Dam. If the predicted rainfall eventuates in the downstream tributary catchments the resultant combined flows in the lower Brisbane may exceed the threshold of damaging discharge in the urban areas within the next 24 to 48 hours. Currently the estimate peak flow in the lower Brisbane River will be the highest since Wivenhoe Dam was completed in 1984 but still well below flows the 1974 levels.

Somerset Regional, Ipswich City and Brisbane City Councils have been advised of the updated Wivenhoe operating strategy.

Outlook

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate rapidly over the next 24 hours. The flood operation centre will continue to monitor the situation and provide every six hours until the situation stabilizes.

Terry Malone
Duty Engineer
Flood Operations Centre

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Phone: [redacted]

Fax:

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SITUATION REPORT 14

Date: Monday, 10 January 2011

Time: 6:43 PM

From: Duty Engineer [redacted]
Sent: Monday, 10 January 2011 6:43 PM
To: 'Duty Engineer'; 'John Ruffini (Home)'; 'David Roberts'; 'flood.qld [redacted] 'mfoster [redacted] 'Paul Bird'; 'Peter Allen'; 'rdrury [redacted] 'Rohan Thorogood'; 'Ken.Price [redacted] 'kim.hang [redacted] 'Al Navaruk'; 'Bill Stephens'; 'David Pokarier'; 'John West'; 'Lou van Blerk'; 'Mark Tan'; 'Nev Ablitt'; 'john.ruffini [redacted] 'jtibaldi [redacted] 'rob.ayre [redacted] 'tmalone [redacted] 'bschultz [redacted] 'Glenn Patterson'; 'mlane [redacted] 'Murray Dunstan'; 'Rob Gorian'; 'adagan [redacted] 'Doug Grigg'; 'gkeegan [redacted] 'Graham Francis'; 'Jayam Tennakoon'; 'Matthew O'Reilly'
Cc: 'Andy Bickerton'; 'Deb Chandler'; 'Mailbox'; 'Tony Trace'; 'Chris Lavin'; 'Craig Logan'; 'Don Carroll'; 'Evan Caswell'; 'James Charalambous'; 'Ken Morris'; 'Robert McGlinn'; 'Santina Pennisi'; 'pborrows [redacted]
Subject: FOC Situation Report at 18:00 on Monday 10 January 2011

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Rainfall

Only minor rainfall has been experienced in the North Pine Dam and Somerset Dam catchments with a catchment averages of less than 20mm.

However, significant rain has fallen in the Wivenhoe Dam catchment over the last 6 hours, with isolated falls exceeding 100mm. This rainfall has significantly increase inflows into the dam. A severe weather warning remains current for heavy rainfall in the dam catchment areas. The QPF issued by BOM at 10:00 estimates rainfalls for the 24 hours to 10:00 Tuesday as North Pine Dam (25mm to 50mm, with isolated falls to 100mm); Wivenhoe/Somerset Dam Catchments (25mm to 50mm, with isolated falls to 100mm). Potentially significant rain moving towards the dam catchments is currently evident on the BOM radar.

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is 39.84m AHD and falling slowly (storing 9,000ML above FSL). Five gates are open and releasing 362 m3/s. The inflow into the dam since the commencement of the event is 73,000 ML. Estimated event volume is 84,000 ML assuming no further rainfall. Releases from the dam will continue until at least Wednesday 12 January 2011.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 103.46m AHD and rising slowly. Peak inflow to the dam is estimated to be about 4,200 m3/s. Total discharge into Wivenhoe Dam is currently 1700m3/s and this discharge will decrease slowly in the next 24 hours to be around 1200m3/s late Tuesday. The dam level will peak at 103.5m AHD in the next few hours, unless further significant rainfall is experienced. Areas around Kilcoy will continue to be adversely affected.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is 72.92m AHD and rising quickly. Releases from the dam have been increased over the last 3 hours in accordance with Flood Mitigation procedures and to

ensure that a fuse plug is not initiated. The initiation of a fuse plug will result in a rapid uncontrolled outflow from the dam of 2,000m3/s being added to the gate release outflow. Outflows into the Brisbane River from both Lockyer Creek and the Bremer River are also increasing. The flash flooding experienced in the upper areas of Lockyer Creek have been examined and are not expected to significantly increase Brisbane River flows above the current projection of 4000m3/s at Moggill.

Five radial gates are currently open at the dam releasing about 2,400m3/s into the Brisbane River and this will need to be increased steadily to an outflow of 2,800m3/s. At this stage, the dam will reach about 73.8m AHD during Tuesday morning.

The objective for dam operations is currently to minimise the impact of urban flooding in areas downstream of the dam and to keep river flows in the lower Brisbane River below 4,000m3/s if possible. This is significantly less than the current estimated combined pre-dam peak inflow of 12,000m3/s. If further rainfall occurs, dam releases may need to be increased further and this may result in river flows in the lower Brisbane River approaching or exceeding 5,000m3/s.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer Creek flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Sunday 16 January in varying degrees.

Water levels in the lower Brisbane River will be impacted by the combined flows of Lockyer Creek, Bremer River, local runoff and releases from Wivenhoe Dam.

Outlook

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate rapidly over the next 24 hours. The flood operation centre will continue to monitor the situation and provide every six hours until the situation stabilizes.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 15

Date: Monday, 10 January 2011

Time: 11:56 PM

From: Duty Engineer [redacted]
Sent: Monday, 10 January 2011 11:56 PM
To: David Roberts [redacted] flood.qld [redacted]
'mfoster[redacted] Paul Bird [redacted] Peter Allen
(peter.allen[redacted] rdrury[redacted] Rohan Thorogood;
(Ken.Price[redacted] (kim.hang[redacted] Al Navaruk
[redacted] Bill Stephens [redacted] David
Pokarier[redacted] John West; Lou van Blerk
[redacted] Mark Tan; Nev Ablitt [redacted]
john.ruffini[redacted] jtibald[redacted] rob.ayre[redacted]
tmalone[redacted] bschult[redacted] Glenn Patterson;
[redacted]; mlane[redacted] Murray Dunstan
([redacted] Rob Gorian
adagan[redacted] Doug Grigg [redacted]
gkeegan[redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly [redacted]
Cc: Andy Bickerton [redacted] Deb Chandler
[redacted] Mailbox [redacted] Tony Trace
[redacted] Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi
Subject: FOC Situation Report at 00:00 Tuesday 11 Janaury 2011

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Rainfall

Rainfall continues in the North Pine Dam, Somerset Dam and Wivenhoe Dam catchments with falls of generally less than 20mm since 18:00 today. However, some isolated falls in the Upper Brisbane River of up to 110 mm have been recorded at Monsildale in this time. This rainfall will increase inflows into the dam.

A severe weather warning remains current for heavy rainfall in the dam catchment areas. The QPF issued by BOM at 16:00 estimates rainfalls for the 24 hours to 10:00 Tuesday as North Pine Dam (25mm to 50mm, with isolated falls to 100mm); Wivenhoe/Somerset Dam Catchments (25mm to 50mm, with isolated falls to 100mm).

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is 39.80m AHD and falling slowly (storing 4,400ML above FSL). Five gates are open, releasing 153 m3/s. The inflow into the dam since the commencement of the event is 74,000 ML. Estimated event volume is 84,000 ML assuming no further rainfall. Releases from the dam will continue until at least Wednesday 12 January 2011.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 103.40m AHD and falling slowly. Peak inflow to the dam is estimated to be about 4,200 m3/s. Total discharge into Wivenhoe Dam is currently 1700m3/s and this discharge will decrease slowly in the next 24 hours to be around 1200m3/s late Tuesday. The dam level peaked at 103.52m AHD at 19:00 on Monday 10 January 2011, unless further significant rainfall is experienced. Areas around Kilcoy will continue to be adversely affected.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is 73.22m AHD and rising at about 50 mm/hour. Releases from the dam have been held at a rate of 2,750 m3/s since 19:30 hours. Outflows into the Brisbane River from both Lockyer Creek and the Bremer River are also increasing.

The BoM has provided further advice about the flash flooding experienced in the upper areas of Lockyer Creek. The rainfall responsible for this event was not observed at any rainfall stations but it is considered to be very significant. Flood levels in the Lockyer Creek catchment will exceed maximum recorded levels in some stations in the upper catchment. This flow may result in increases in Brisbane River levels below the junction of Lockyer Creek.

Five radial gates are currently open at the dam releasing about 2,750m3/s into the Brisbane River. At this stage, the dam will reach about 73.8m AHD during Tuesday afternoon.

The objective for dam operations is currently to minimise the impact of urban flooding in areas downstream of the dam and to keep river flows in the lower Brisbane River below 4,000m3/s if possible. This is significantly less than the current estimated combined pre-dam peak inflow of 12,000m3/s. If further rainfall occurs, dam releases may need to be increased further and this may result in river flows in the lower Brisbane River approaching or exceeding 5,000m3/s.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer Creek flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Sunday 16 January in varying degrees.

Water levels in the lower Brisbane River will be impacted by the combined flows of Lockyer Creek, Bremer River, local runoff and releases from Wivenhoe Dam.

The BoM will provide further information regarding the magnitude of the flash flood event occurring in Lockyer Creek early Tuesday morning. Consideration will be given to modifying the releases from Wivenhoe Dam to try to moderate the peak flows emanating from Lockyer Creek.

Outlook

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate over the next 24 hours. The flood operation centre will continue to monitor the situation and provide situation reports every six hours until the situation stabilizes.

Regards

Rob Ayre
Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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SITUATION REPORT 16

Date: Tuesday, 11 January 2011

Time: 6:12 AM

From: Duty Engineer [redacted]
Sent: Tuesday, 11 January 2011 6:12 AM
To: David Roberts [redacted]; flood.qld [redacted] 'mfoster [redacted] Paul Bird [redacted] Peter Allen [redacted] rdrury [redacted] Rohan Thorogood; (Ken.Price [redacted] (kim.hang [redacted] Al Navaruk ([redacted] Bill Stephens [redacted] David Pokarier [redacted] John West; Lou van Blerk [redacted] Mark Tan; Nev Ablitt [redacted] john.ruffin [redacted] jtibaldi [redacted] rob.ayre [redacted] tmalon [redacted] bschultz [redacted] Glenn Patterson [redacted] mlane [redacted] Murray Dunstan [redacted] Rob Gorian [redacted] adagan [redacted] Doug Grigg [redacted] gkeegan [redacted] Graham Francis [redacted] Jayam Tennakoon [redacted] Matthew O'Reilly [redacted]
Cc: Andy Bickerton [redacted] Deb Chandler [redacted] Mailbox [redacted]; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; Tony Trace [redacted]
Subject: FOC Situation Report at 06:00 on Tuesday 11 January 2011

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Rainfall

Rainfall continues in the North Pine Dam, Somerset Dam and Wivenhoe Dam catchments. Isolated falls in the Upper Brisbane River of up to 125 mm have been recorded with widespread falls of 40 to 70 mm in the Somerset Dam catchment. This rainfall will increase inflows into the dam.

There has also been 20 to 60 mm in the Lockyer Creek catchment in the last 12 hours with falls of up to 30 mm in the Bremer River.

A severe weather warning remains current for heavy rainfall in the dam catchment areas. The QPF issued by BOM at 16:00 estimates rainfalls for the 24 hours to 10:00 Tuesday as North Pine Dam (25mm to 50mm, with isolated falls to 100mm); Wivenhoe/Somerset Dam Catchments (25mm to 50mm, with isolated falls to 100mm).

North Pine Dam (Full Supply Level 39.60 m AHD)

The dam level is 39.80m AHD and has commenced rising again (storing 4,400ML above FSL). Five gates are open releasing 177 m3/s. The inflow into the dam since the commencement of the event is 77,000 ML. Estimated event volume is 88,000 ML assuming no further rainfall. Releases from the dam will continue until at least Wednesday 12 January 2011.

Somerset Dam (Full Supply Level 99.00 m AHD)

The dam level is 103.27m AHD and falling slowly. Peak inflow to the dam is estimated to be about 4,200 m3/s. Total discharge into Wivenhoe Dam is currently 1400 m3/s and this

discharge will be decreased in the next few hours to be around 500 m3/s later on Tuesday. This is to ensure that the combined flood mitigation capacity in Somerset and Wivenhoe Dam is maximized.

The dam level peaked at 103.52m AHD at 19:00 on Monday 10 January 2011, (unless further significant rainfall is experienced). Areas around Kilcoy will continue to be adversely affected.

Wivenhoe Dam (Full Supply Level 67.00 m AHD)

The dam level is 73.51m AHD and rising at about 25 mm/hour. Releases from the dam have been held at a rate of 2,750 m3/s since 19:30 hours on Monday 10 January 2011. Outflows into the Brisbane River from both Lockyer Creek and the Bremer River are also increasing.

The BoM has provided further advice about the flash flooding experienced in the upper areas of Lockyer Creek. The rainfall responsible for this event was not observed at any rainfall stations but it is considered to be extreme. Flood levels in the Lockyer Creek catchment will exceed maximum recorded levels in some stations in the upper catchment. This flow will result in increases in Brisbane River levels below the junction of Lockyer Creek.

Five radial gates are currently open at the dam releasing about 2,750m3/s into the Brisbane River. At this stage, the dam will reach just over 74.0m AHD during Tuesday evening.

Above EL 74.0m AHD the objective for dam operations is to maintain the security of the dam and minimise downstream flood flows if possible.

If further rainfall occurs, dam releases may need to be increased further and this may result in river flows in the lower Brisbane River approaching or exceeding 5,000m3/s.

Impacts downstream of Wivenhoe Dam

The projected Wivenhoe Dam releases combined with Lockyer Creek flows and local runoff will mean that all crossings downstream of Wivenhoe (Twin Bridges, Fernvale, Savages Crossing, Burtons Bridge, Kholo Bridge, Mt Crosby Weir and Colleges Crossing) will be adversely impacted until at least Sunday 16 January in varying degrees.

Water levels in the lower Brisbane River will be impacted by the combined flows of Lockyer Creek, Bremer River, local runoff and releases from Wivenhoe Dam.

The BoM will provide further information regarding the magnitude of the flash flood event occurring in Lockyer Creek early Tuesday morning. Consideration was given to modifying the releases from Wivenhoe Dam to try to moderate the peak flows emanating from Lockyer Creek but the rainfall in the past 12 hours in the catchment above the dam makes this option not possible. Therefore instead of decreasing releases to accommodate the Lockyer Creek flows, the strategy will endeavour to maintain the current releases until Lockyer Creek peaks.

Outlook

Heavy rainfall continues throughout South East Queensland and the situation could deteriorate over the next 24 hours. The flood operation centre will continue to monitor the situation and provide situation reports every six hours until the situation stabilizes.

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Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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SITUATION REPORT 17

Date: Tuesday, 11 January 2011

Time: 12:11 PM

From: Duty Engineer [redacted]
Sent: Tuesday, 11 January 2011 12:11 PM
To: David Roberts [redacted] Paul Bird [redacted] Peter Allen [redacted] rdrury [redacted] Rohan Thorogood; 'Tony Jacobs (private)'; (Ken.Price [redacted] (kim.hanc [redacted] Al Navaruk [redacted] Bill Stephens [redacted] David Pokarier [redacted] John West; Lou van Blerk [redacted] Mark Tan; Nev Ablitt [redacted] jtibald [redacted] rob.ayre [redacted] tmalone [redacted] bschultz [redacted] Glenn Patterson [redacted] mlane [redacted] Murray Dunstan [redacted] Rob Goriar [redacted] adagan [redacted] Doug Grigg [redacted] gkeegar [redacted] Graham Francis [redacted] Jayam Tennakoon [redacted] Matthew O'Reilly (moreilly [redacted]
Subject: SitRep 1200 11/1/2011

Somerset/Wivenhoe

Our current strategy revolves around trying to prevent initiation of the first fuse plug at EL 75.6m. If this happens we will get a rapid increase of about 2,000m3/s in outflow from the dam in addition to the gate release which could be as high as 4,500 to 5,000m3/s at the time. However, it may be that fuse plug initiation might provide a lower outflow than increasing the gate outflow to protect it. In this case, we would adopt an alternate scenario.

Sluices have been closed at Somerset and this will result in high upstream water levels affecting Kilcoy.

1. With no further rainfall, Wivenhoe will approach 75.0m AHD and there will be an attempt to limit the dam outflow to 4,500m3/s, however this strategy currently being reviewed on an hour by hour basis. The release will be 4,000m3/s by 1300.
2. With 50mm rainfall in the Stanley and Upper Brisbane in the next 12 to 24 hours, the release will need to be significantly increased to be in the order 6,000m3/s.

It should be noted that the flow in the lower Brisbane River in 1974 was about 9,500m3/s

Wivenhoe has lost incoming mains power and are on backup power. Energex are attempting to rectify.

North Pine

Inflows and outflows are increasing very rapid and will exceed 2,000m3/s.

Duty Engineer
Flood Operations Centre
Phone [redacted]

Fax:

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SITUATION REPORT 18

Date: Tuesday, 11 January 2011

Time: 6:00 PM

From: Duty Engineer [redacted]
Sent: Tuesday, 11 January 2011 6:00 PM
To: David Roberts [redacted]; flood.qld [redacted]
'mfoster [redacted] Paul Bird [redacted] Peter Allen
(peter.allen [redacted] rdrury@ [redacted] Rohan Thorogood; 'Tony Jacobs
(private)'; adagar [redacted] Doug Grigg
[redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly [redacted]
Tony Trace [redacted] Chris Lavin; Craig Logan; Don Carroll; Evan
Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn;
Santina Pennisi; (Ken.Price [redacted] (kim.hang [redacted] Al Navaruk
[redacted] Bill Stephens [redacted] David
Pokarier [redacted] John West; Lou van Blerk
[redacted] Mark Tan; Nev Ablitt [redacted]
john.ruffini [redacted] jtibaldi [redacted] rob.ayre [redacted]
tmalone [redacted] bschultz [redacted] Glenn Patterson
[redacted] mlane [redacted] Murray Dunstan
[redacted] Rob Gorian [redacted]
Subject: Situation Report 1800 12 Janaury 2011

In the last twelve hours totals of up to 370mm have fallen in the area around Wivenhoe Dam. In the last hour, rainfalls between 15 and 30mm have been recorded in the same area. At 1600, the BoM advised that falls between 50 to 100mm are still forecast for the 24hrs to 1600 Wednesday 12 January 2011 for the North Pine and Somerset/Wivenhoe catchments.

At 1730 Wivenhoe Dam was 74.92m AHD and rising slowly and releasing about 6,700m3/s.

The current expectation is that the dam will reach a steady state (outflow equals inflow) within the next 3 hours without further significant rainfall. At this time, release from the dam will be about 8,000m3/s.

If there is no further rainfall, it may be possible to then slowly reduce this release overnight.

The dam is expected to peak below 75.5m AHD which is 100mmm below the first fuse plug initiation level.

Note that the automatic recorder as indicated on the BoM website is affected by drawdown and is not reflecting the actual lake level and tendency.

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is also maintaining close contact with warning agencies and local councils.

The next report will be issued at 2100 12 January 2011.

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Terry Malone
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

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SITUATION REPORT 19

Date: Wednesday, 12 January 2011

Time: 5:49 AM

From: Duty Engineer [redacted]
Sent: Wednesday, 12 January 2011 5:49 AM
To: David Roberts [redacted] flood.qld [redacted] 'mfoster [redacted] Paul Bird [redacted] Peter Allen [redacted] rdrury [redacted] Rohan Thorogood; 'Tony Jacobs (private)'; Andy Bickerton [redacted] Deb Chandler [redacted] Mailbox [redacted] Tony Trace [redacted]; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; (Ken.Price [redacted] (kim.hang [redacted] Al Navaruk [redacted] Bill Stephens [redacted] David Pokarier [redacted] John West; Lou van Werk [redacted] Mark Tan; Nev Ablitt [redacted] john.ruffini [redacted] jtibald [redacted] rob.ayre [redacted] tmalone [redacted] bschult [redacted] Glenn Patterson [redacted] mlane [redacted] Murray Dunstan [redacted] Rob Gorian [redacted] adagar [redacted] Doug Grigg [redacted] Graham Francis [redacted] Jayam Tennakoon [redacted] Matthew O'Reilly [redacted]
Subject: Situation Report 0600 Wed 12/01/2011

No significant rain has fallen over the catchments in the past twelve hours. Less than 10 to 15 millimeters of rainfall is expected over the next 24-48 hours.

Wivenhoe Dam peaked on the 11th January, Tuesday night at 19:00 at 74.97 mAHD with a corresponding discharge of 7,450 m3/s. The release have now been scaled back to 4,300m3/s at 05:00 am. Wivenhoe Dam is currently 74.77 m AHD and falling slowly.

The releases from Wivenhoe Dam will be temporarily reduced to 2,500 m3/s to allow the peak of Lockyer Creek to enter the Brisbane River, after which they will be increased to maximum of 3,500 m3/s. This release will then be maintained to drain the flood storage component within the required 7 days.

Somerset Dam is at 105.10 mAHD and slowly rising. The dam is discharging 1,230 m3/s over the spillway. The dam is expected to peak this morning near its current level. Sluice gates will be utilised to assist the draining of the flood storage compartment commencing on Thursday.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2 million megalitres.

North Pine Dam is currently releasing 105 m3/s through five gates. At 17:00 the lake was 39.78 mAHD. The event has a volume of around 200,000 ML. The peak discharge from the dam was 2,800 m3/s. This is categorised as an extreme event in the order of 1 in 10,000.

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The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is also maintaining close contact with warning agencies and local councils.

The next report will be issued at 08:00 12 January 2011.

Regards

Rob Ayre
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 20

Date: Wednesday, 12 January 2011

Time: 7:57 AM

From: Duty Engineer [redacted]
Sent: Wednesday, 12 January 2011 7:57 AM
To: 'Duty Engineer'; David Roberts [redacted]; flood.qld [redacted]
'mfoster [redacted] aul Bird [redacted] Peter Allen
[redacted] rdrury [redacted] Rohan Thorogood; 'Tony Jacobs
(private)'; Andy Bickerton [redacted] Deb Chandler
[redacted] Mailbox [redacted]; Tony Trace
[redacted] Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood
Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi;
(Ken.Price [redacted] (kim.hang [redacted] Al Navarok
[redacted] Bill Stephens [redacted] David
Pokarier ([redacted]; John West; Lou van Blerk
[redacted] Mark Tan; Nev Ablitt [redacted]
john.ruffini [redacted] jtibald [redacted] rob.ayre [redacted]
tmalone [redacted] bschultz [redacted] Glenn Patterson
[redacted] mlane [redacted] Murray Dunstan
[redacted] Rob Gorian
adagan [redacted] Doug Grigg [redacted]
gkeegan [redacted] Graham Francis ([redacted] Jayam
Tennakoon (jtennakoon [redacted] Matthew O'Reilly (moreilly [redacted]
Subject: RE: Situation Report 0800 Wed 12/01/2011

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Rainfall

No significant rain has fallen over the catchments in the past twelve hours. Less than 10 to 15 millimeters of rainfall is expected over the next 24-48 hours.

Somerset/Wivenhoe

Somerset Dam has peaked at 105.11 mAHD at 06:00 on 12 January 2011 and the dam is discharging 1,230 m3/s over the spillway. Sluice gates will be utilised to assist the draining of the flood storage compartment commencing later Wednesday.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on 11 January 2011 with a corresponding discharge of 7,450 m3/s. Wivenhoe Dam was 74.75 m AHD at 07:30 and generally falling slowly.

The releases from Wivenhoe Dam have been temporarily reduced to 2,500 m3/s at 07:30 to allow the peak of Lockyer Creek to enter the Brisbane River. After the downstream peak in the lower Brisbane River has passed, releases will be increased to maximum of 3,500 m3/s. This release will then be maintained to drain the flood storage component within the required 7 days.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2 million megalitres.

North Pine

At 07:00 North Pine Dam was 39.78 mAHD falling and releasing about 105 m3/s. North Pine has peaked at 41.11 mAHD at 14:00 on 11 January 1974 with peak release of 2,800 m3/s. The event has a volume of around 200,000 ML. It is expected that gates will be close later Wednesday or early Thursday.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is maintaining close contact with warning agencies and local councils.

The next report will be issued at 12:00 12 January 2011.

Regards

Terry Malone

Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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SITUATION REPORT 21

Date: Wednesday, 12 January 2011

Time: 3:18 PM

From: Duty Engineer [redacted]
Sent: Wednesday, 12 January 2011 3:18 PM
To: 'Duty Engineer'; David Roberts [redacted] flood.qld [redacted]
'mfoster [redacted] Paul Bird [redacted] Peter Allen
[redacted] rdrury [redacted] Rohan Thorogood; 'Tony Jacobs
(private)'; Andy Bickerton [redacted] Deb Chandler
[redacted] Mailbox [redacted] Tony Trace
[redacted] Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood
Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Sahtina Pennisi;
(Ken.Price [redacted] (kim.hang [redacted] Al Navarro
[redacted] Bill Stephens [redacted] David
Pokarier [redacted] John West; Lou van Bjerk
[redacted] Mark Tan; Nev Ablitt [redacted]
john.ruffini [redacted] jtibaldi [redacted] rob.ayfe [redacted]
tmalone [redacted] bschultz [redacted] Glenn Patterson
[redacted] mlane [redacted] Murray Dunstan
(mdunstan [redacted] Rob Gorian
adagan [redacted] Doug Grigg
gkeegan [redacted] Graham Francis [redacted] Jayam
Tennakoon [redacted] Matthew O'Reilly ([redacted]
Cc: 'Paul.Bird [redacted]
Subject: Situation Report 1500 Wed 12/01/2011

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Rainfall

Rainfall in the last 12 hours is generally below 5mm with a couple of 10mm falls in the Stanley and North Pine catchments. There is no significant rain expected fin the next 4 days.

Somerset/Wivenhoe

Somerset Dam has peaked at 105.11 mAHD at 06:00 on 12 January 2011. One sluice was opened at 1030 12 January 2011 and the dam is discharging 1,440 m3/s. Sluice gates will be utilised to drain of the flood storage compartment during the next 5 days.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on 11 January 2011 with a corresponding discharge of 7,450 m3/s. Wivenhoe Dam was 74.81 m AHD at 15:00 and steady.

The releases from Wivenhoe Dam have been temporarily reduced to 2,500 m3/s at 07:30 12 January 2011 to allow the peak of Lockyer Creek to enter the Brisbane River. After the downstream peak in the lower Brisbane River has passed, releases will be increased to maximum of 3,500 m3/s. This release will then be maintained to drain the flood storage component within the required 7 days.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2 million megalitres.

North Pine

At 15:00 North Pine Dam was 39.74 mAHD falling with all gates open 1 increment, releasing about 80 m3/s. North Pine peaked at 41.11 mAHD at 14:00 on 11 January 1974 with peak release of 2,800 m3/s. The event has a volume of around 200,000 ML. It is expected that gates will be closed on Thursday or Thursday.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy every 30 minutes. The FOC is maintaining close contact with warning agencies and local councils.

The next report will be issued at 18:00 12 January 2011.

Regards

Terry Malone

Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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SITUATION REPORT 22

Date: Wednesday, 12 January 2011

Time: 5:57 PM

From: Duty Engineer [redacted]
Sent: Wednesday, 12 January 2011 5:57 PM
To: john.ruffini [redacted] jtibaldi [redacted] rob.ayre [redacted] tmalone [redacted] 'Arminda Roberts (private)'; David Roberts [redacted] flood.qld [redacted] 'mfoster [redacted] Paul Bird [redacted]; 'Paul Bird (Private)'; Peter Allen [redacted] rdrury [redacted] 'Rob D (Private)'; Rohan Thorogood; 'tararuffles [redacted] 'Tony Jacobs (private)'; (Ken.Price [redacted] (kim.hang [redacted] Al Navaruk (Albert.Navru [redacted] Bill Stephens [redacted]; David Pokarier (david.pokarier [redacted] John West; Lou van Blerk [redacted]; Mark Tan; Nev Ablitt [redacted] Glenn Patterson [redacted] mlane [redacted] Murray Dunstan [redacted] Rob Gorian (rgorian [redacted] adagan [redacted] Doug Grigg (dgrigg [redacted] gkeegan [redacted] Graham Francis (gfrancis [redacted] Jayam Tennakoon [redacted]; Matthew O'Reilly [redacted]
Cc: 'pborrows [redacted] 'Robert Drury'
Subject: Situation Report 1800 Wed 12/01/2011

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Rainfall

Rainfall in the last 12 hours is generally below 5mm with a couple of 10mm falls in the Stanley and North Pine catchments. There is no significant rain expected fin the next 4 days.

Somerset/Wivenhoe

Somerset Dam has peaked at 105.11 mAHD at 06:00 on 12 January 2011. One sluice was opened at 1030 12 January 2011. Somerset Dam was 104.87 mAHD at 1700 12 January 2011 and discharging 1,410 m3/s. Sluice gates will be utilised to drain of the flood storage compartment during the next 5 days.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on 11 January 2011 with a corresponding discharge of 7,450 m3/s. Wivenhoe Dam was 74.82 m AHD at 17:00 and steady.

The release from Wivenhoe Dam was reduced to 2,500 m3/s at 07:30 12 January 2011 to allow the peak of Lockyer Creek to enter the Brisbane River and this release has been maintained since. After the downstream peak in the lower Brisbane River has passed, releases will be increased to maximum of 3,500 m3/s. The release is expected to commence Thursday and then be maintained at this level to drain the flood storage component within the required 7 days. The releases will not result in any renewed rises at downstream locations.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be 2.6 million megalitres.

North Pine

At 17:00 North Pine Dam was 39.74 mAHD steady with all gates open 1 increment, releasing about 80 m3/s. North Pine peaked at 41.11 mAHD at 14:00 on 11 January 1974 with peak release of 2,800 m3/s. The event has a volume of around 200,000 ML. It is expected that gates will be closed on Thursday or Friday.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels through the Brisbane and Pine catchments and reviewing operating strategy regularly. The FOC is maintaining close contact with warning agencies and local councils.

The next report will be issued at 06:00 13 January 2011.

Regards

Terry Malone

Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 23

Date: Thursday, 13 January 2011

Time: 5:43 AM

From: DutyEngineer [redacted]
Sent: Thursday, 13 January 2011 5:43 AM
To: 'DutyEngineer'
Subject: Situation Report 0600 13 January 2011

Rainfall

Rainfall in the last 12 hours is generally below 5mm with isolated falls of up to 15mm in the Stanley, Lockyer and Pine River catchments. There is no significant rain expected fin the next 4 days.

Somerset/Wivenhoe

Somerset Dam peaked at 105.11 mAHD at 06:00 on Wednesday 12 January 2011. The current level is 104.34 mAHD. One sluice was opened at 10:30 on 12 January 2011 and the dam is currently discharging 1,130 m3/s. Sluice gates will be utilised to drain of the flood storage compartment during the next 5 days.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s. Wivenhoe Dam was 74.72 m AHD at 06:00 and commence to fall slowly.

The releases from Wivenhoe Dam have been temporarily reduced to 2,500 m3/s at 07:30 on Wednesday 12 January 2011 to allow the peak of Lockyer Creek to enter the Brisbane River. The Brisbane River has peaked at the Port Office Gauge early Thursday morning. Releases from Wivenhoe Dam will be managed to achieve a target flow of around 3,500 m3/s at Moggill. This release will then be maintained to drain the flood storage component within the required 7 days.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

North Pine

At 06:00 North Pine Dam was 39.70 mAHD falling with all gates open 1 increment, releasing about 80 m3/s. North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with peak release of 2,800 m3/s. The event has a volume of around 200,000 ML. It is expected that all gates will be closed on Friday.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and reviewing operating strategy. The FOC will continue to maintain close contact with warning agencies and local councils.

The next report will be issued at 18:00 on Thursday 13 January 2011.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

Regards

Rob Ayre

Duty Engineer
Flood Operations Centre

Phone [redacted]

Fax:

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SITUATION REPORT 24

Date: Thursday, 13 January 2011

Time: 6:43 PM

From: Duty Engineer
Sent: Thursday, 13 January 2011 6:43 PM
To: 'Arminda Roberts (private)'; David Roberts
flood.ql mfoster Paul Bird
'Paul Bird (Private)'; Peter Allen (peter.allen rdrury
'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms
'tararuffles 'Tony Jacobs (private)'; (Ken.Price
(kim.hang Al Navaruk Bill Stephens
(Bill.Stephens David Pokarier John
West; Lou van Blerk Mark Tan; Ney Ablitt
; john.ruffin jtibald
rob.ayre malone bschultz
Glenn Patterson ; mlane Murray
Dunstan Rob Gorian
adagan Doug Grigg (
gkeegan Graham Francis Jayam
Tennakoon Matthew O'Reilly
Subject: Situation Report 1830 13 January 2011

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED INFORMATION

Rainfall

There has been no significant rainfall in the last 12 hours and none is expected for the next 5 days.

Somerset/Wivenhoe

Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011. The current level is 103.60 mAHD and falling. Four sluices are open and the dam is currently discharging 1,528 m3/s.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s. Wivenhoe Dam was 74.5 mAHD at 18:00 and continuing to fall slowly.

The releases from Wivenhoe Dam are currently 2,888 m3/s and are being managed to achieve a target flow of around 3,500 m3/s at Moggill. This release will then be maintained to drain the flood storage component within the required 7 days.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

North Pine

At 18:00 North Pine Dam was 39.60 mAHD and falling with 5 gates open, releasing about 151 m3/s. North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with a peak release of 2,800 m3/s. The flood event volume is estimated to be around 200,000 ML.

All gates will be closed at 05:00 Friday to enable MMRC to consider reopening Youngs Crossing.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and reviewing operating strategy. The FOC will continue to maintain close contact with warning agencies and local councils.

The next report will be issued at 06:00 on Friday 14 January 2011.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 25

Date: Friday, 14 January 2011

Time: 5:35 AM

From: Duty Engineer [redacted]
Sent: Friday, 14 January 2011 5:35 AM
To: 'Arminda Roberts (private)'; David Roberts [redacted]; flood.qld [redacted] 'mfoster [redacted]; Paul Bird ([redacted] 'Paul Bird (Private)'; Peter Alle [redacted] rdrury [redacted] 'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms [redacted] 'tararuffles [redacted] 'Tony Jacobs (private)'; Andy Bickerton [redacted]; Deb Chandler [redacted] Mailbox [redacted] Tony Trace [redacted] Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; (Ken Price [redacted] (kim.hand [redacted] Al Navaruk [redacted] Bill Stephens [redacted] David Pokarier [redacted]; John West; Lou van Blerk [redacted]; Mark Tan; Nev Ablitt [redacted] john.ruffini [redacted] jtbaldi [redacted] rob.ayre [redacted] tmalone [redacted] kschultz [redacted] Glenn Patterson ([redacted] mlan[redacted] Murray Dunstan [redacted]; Rob Gorian [redacted] adagar [redacted] Doug Grigg (dgrigg [redacted] gkeega [redacted] Graham Francis ([redacted] Jayam Tennakoon [redacted] Matthew O'Re [redacted]
Subject: FOC Situation Report at 06:00 on Friday 14 Janaury 2011

DRAFT ONLY - THIS DOCUMENT CONTAINS [redacted] FOR FEBRUARY

Rainfall

There has been no significant rainfall in the last 12 hours and falls of only 5mm is expected in the next twenty-four hours. Mostly fine conditions are expected over the weekend, but showers will return early next week.

Somerset/Wivenhoe

Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011. The current level is 102.87 mAHD and falling. Four sluices are open and the dam is currently discharging about 1,300 m3/s.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s. At 05:00 Wivenhoe Dam was 74.74.08 mAHD and continuing to fall.

The releases from Wivenhoe Dam are currently about 3,500 m3/s and are being managed to achieve a target flow of around 3,500 m3/s at Moggill. This release will then be maintained to drain the flood storage component by Wednesday.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

North Pine

At 05:00 North Pine Dam was 39.40 mAHD and gate operations have ceased. The current level is expected to increase to just over 39.5 mAHD in the next few days due to base-flow. This could be higher if further rainfall occurs.
Fish recovery has commenced and MBRC have been advised that the gates have been closed. MBRC will inspect Youngs Crossing to determine if the crossing can be re-opened.

North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with a peak release of 2,800 m3/s. The flood event volume is estimated to be around 200,000 ML.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments. The FOC will continue to maintain close contact with warning agencies and local councils.

The next report will be issued at 18:00 on Friday 14 January 2011.

Regards

Rob Ayre

Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax:

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SITUATION REPORT 26

Date: Saturday, 15 January 2011

Time: 6:36 AM

From: Duty Engineer [redacted]
Sent: Saturday, 15 January 2011 6:36 AM
To: 'Arminda Roberts (private)'; David Roberts [redacted]; flood.qld@[redacted]; 'mfoster@[redacted]; Paul Bird [redacted]; 'Paul Bird (Private)'; Peter Allen [redacted]; rdrury@[redacted]; 'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms@[redacted]; 'tararuffles@[redacted]; 'Tony Jacobs (private)'; Andy Bickerton [redacted]; Deb Chandler [redacted]; Mailbox [redacted]; Tony Trace [redacted]; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; (Ken.Price@[redacted]; (kim.hang@[redacted]; Al Navaruk (Albert.Navruk@[redacted]; Bill Stephens (Bill.Stephens@[redacted]; David Pokarier [redacted]; John West; Lou van Blerk [redacted]; Mark Tan; Nev Ablitt [redacted]; john.ruffini@[redacted]; jtibaldi@[redacted]; rob.ayre@[redacted]; tmalone@[redacted]; bschultz@[redacted]; Glenn Patterson [redacted]); mlane@[redacted]; Murray Dunstan [redacted]; Rob Gorian [redacted]; adagan@[redacted]; Doug Grigg [redacted]; gkeegan@[redacted]; Graham Francis [redacted]; Jayam Tennakoon [redacted]; Matthew O'Reilly [redacted]
Subject: Situation Report 0630 Saturday 15 January 2011

DRAFT ONLY - THIS DOCUMENT CONTAINS KEY FLOOD INFORMATION

Rainfall

There has been no significant rainfall in the last 24 hours and no significant rainfall is expected in the next twenty-four hours. Mostly fine conditions are expected over the weekend, but showers will return early next week.

Somerset/Wivenhoe

At 06:00 Somerset Dam was 101.35 mAHD and falling. Four sluices are open and the dam is currently discharging about 920 m3/s. Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011.

At 05:00 Wivenhoe Dam was 72.86 mAHD and continuing to fall. The releases from Wivenhoe Dam are currently about 3,500 m3/s and are being managed to achieve a target flow of around 3,500 m3/s at Moggill. This release level is being maintained to drain the flood storage component by Wednesday.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

North Pine

At 05:00 North Pine Dam was 39.40 mAHD and gate operations have ceased. This level is expected to increase to just over 39.5 mAHD in the next few days due to base-flow. This could be higher if further rainfall occurs.

North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with a peak release of 2,800 m3/s. The flood event volume is estimated to be around 200,000 ML.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and is maintaining close contact with warning agencies and local councils.

The next report will be issued at 18:00 on Saturday 15 January 2011.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

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SITUATION REPORT 27

Date: Sunday, 16 January 2011

Time: 6:09 AM

From: Duty Engineer [redacted]
Sent: Sunday, 16 January 2011 6:09 AM
To: 'Duty Engineer'; 'Arminda Roberts (private)'; David Roberts [redacted]; flood.qld@[redacted]; 'mfoster@[redacted]; Paul Bird [redacted]; 'Paul Bird (Private)'; Peter Allen [redacted]; rdrury@[redacted]; 'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms@[redacted]; 'tararuffles@[redacted]; 'Tony Jacobs (private)'; Andy Bickerton (abickerton@[redacted]; Deb Chandler (dchandler@[redacted]; Mailbox [redacted]; Tony Trace [redacted]; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; (Ken.Price@[redacted]; (kim.hang@[redacted]; Al Navaruk [redacted]; Bill Stephens (Bill.Stephens@[redacted]; David Pokarier [redacted]; John West; Lou van Blerk [redacted]; Mark Tan; Nev Ablitt [redacted]; john.ruffini@[redacted]; jtibaldi@[redacted]; rob.ayre@[redacted]; tmalone@[redacted]; bschultz@[redacted]; Glenn Patterson [redacted]; mlane@[redacted]; Murray Dunstan [redacted]; Rob Gorian [redacted]; adagan@[redacted]; Doug Grigg (dgrigg@[redacted]; gkeegan@[redacted]; Graham Francis [redacted]; Jayam Tennakoon [redacted]; Matthew O'Reilly [redacted]
Subject: Situation Report 0600 Sunday 16 January 2011

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Rainfall

There has been no significant rainfall in the last 24 hours and no significant rainfall is expected in the next twenty-four hours. Mostly fine conditions are expected over the weekend, but showers will return early next week.

Somerset/Wivenhoe

At 06:00 Somerset Dam was 100.01 mAHD and falling. Four sluices are open and the dam is currently discharging about 820 m3/s. Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011.

At 06:00 Wivenhoe Dam was 71.3 mAHD and continuing to fall. The releases from Wivenhoe Dam are currently about 3,477 m3/s and are being managed to achieve a target flow of around 3,500 m3/s at Moggill. This release level is being maintained to drain the flood storage component by Wednesday.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

North Pine

At 06:00 North Pine Dam was 39.46 mAHD. All gates are closed. The lake level is expected to increase to just over 39.5 mAHD in the next few days due to base-flow. This could be higher if further rainfall occurs.

North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with a peak release of 2,800 m3/s. The flood event volume is estimated to be around 200,000 ML.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and is maintaining close contact with warning agencies and local councils.

The next report will be issued at 18:00 on Sunday 16 January 2011.

John Ruffini
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

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SITUATION REPORT 28

Date: Monday, 17 January 2011

Time: 4:56 PM

From: Duty Engineer [mailto:dutyseq@[redacted]
Sent: Monday, 17 January 2011 4:56 PM
To: 'Duty Engineer'; 'Arminda Roberts (private)'; 'David Roberts'; 'flood.qld@[redacted]; 'mfoster@[redacted]; 'Paul Bird'; 'Paul Bird (Private)'; 'Peter Allen'; 'rdrury@[redacted]; 'Rob D (Private)'; 'Rohan Thorogood'; 'seqwater.comms@[redacted]; 'tararuffles@[redacted]; 'Tony Jacobs (private)'; 'Andy Bickerton'; 'Deb Chandler'; 'Mailbox'; 'Tony Trace'; 'Chris Lavin'; 'Craig Logan'; 'Don Carroll'; 'Evan Caswell'; 'Flood Information Centre'; 'James Charalambous'; 'Ken Morris'; 'Robert McGlinn'; 'Santina Pennisi'; 'Ken.Price@[redacted]; 'kim.hang@[redacted]; 'Al Navaruk'; 'Bill Stephens'; 'David Pokarier'; 'John West'; 'Lou van Blerk'; 'Mark Tan'; 'Nev Ablitt'; 'john.ruffini@[redacted]; 'jtibaldi@[redacted]; 'rob.ayre@[redacted]; 'tmalone@[redacted]; 'bschultz@[redacted]; 'Glenn Patterson'; 'mlane@[redacted]; 'Murray Dunstan'; 'Rob Gorian'; 'adagan@[redacted]; 'Doug Grigg'; 'gkeegan@[redacted]; 'Graham Francis'; 'Jayam Tennakoon'; 'Matthew O'Reilly'
Subject: Situation Report 1700 Monday 16 January 2011

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Rainfall

There has been no significant rainfall in the last 24 hours and no significant rainfall is expected in the next twenty-four hours. Mostly fine conditions are expected over the weekend, but showers will return early next week.

Somerset/Wivenhoe

At 16:00 Somerset Dam was 99.02 mAHD and steady. The last sluice gate was closed at 7:00 17/01/2011 and one regulator was opened the base-flow into the Dam. Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011.

At 16:00 Wivenhoe Dam was 68.66 mAHD and continuing to fall. The releases from Wivenhoe Dam are currently about 2946 m3/s. Releases will be steadily reduced before final closure on Thursday morning. The Dam will be near full supply and releases will be made through the regulator to account for ongoing base-flow.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

It should be noted that the automatic recorder currently being reported on the BoM website is currently incorrect and has been since early Tuesday 11 2011.

North Pine

At 09:00 North Pine Dam was 39.5 mAHD. All gates are closed. No further gate operations are expected unless additional rainfall falls.

North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with a peak release of 2,800 m3/s. The flood event volume is estimated to be around 200,000 ML.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and is maintaining close contact with warning agencies and local councils. Councils have been informed of the current release strategy. The bridges below Wivenhoe Dam will progressively come out of water over the next few days.

John Ruffini
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

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SITUATION REPORT 29

Date: Tuesday, 18 January 2011

Time: 6:17 AM

From: Duty Engineer [mailto:dutyseq@[redacted]
Sent: Tuesday, 18 January 2011 6:17 AM
To: 'Arminda Roberts (private)'; David Roberts [redacted]; flood.qld@[redacted]; 'mfoster@[redacted]; Paul Bird [redacted]; 'Paul Bird (Private)'; Peter Allen [redacted]; rdrury@[redacted]; 'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms@[redacted]; 'tararuffles@[redacted]; 'Tony Jacobs (private)'; Andy Bickerton [redacted]; Deb Chandler [redacted]; Mailbox (mail@[redacted]; Tony Trace [redacted]; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; (Ken.Price@[redacted]; (kim.hang@[redacted]; Al Navaruk [redacted]; Bill Stephens [redacted]; David Pokarier [redacted]; John West; Lou van Blerk ([redacted]; Mark Tan; Nev Ablitt [redacted]; john.ruffini@[redacted]; jtinaldi@[redacted]; rob.ayre@[redacted]; tmalone@[redacted]; bschultz@[redacted]; Glenn Patterson [redacted]; mlane@[redacted]; Murray Dunstan [redacted]; Rob Gorian [redacted]; adagan@[redacted]; Doug Grigg [redacted]; gkeegan@[redacted]; Graham Francis [redacted]; Jayam Tennakoon [redacted]; Matthew O'Reilly [redacted]
Subject: Situation Report 0615 Tuesday 18 Janaury 2011

DRAFT ONLY - THIS DOCUMENT CONTAINS [illegible] INFORMATION

Rainfall

There has been no significant rainfall in the last 24 hours and no significant rainfall is expected in the next twenty-four hours. Mostly fine conditions are expected over the weekend, but showers will return early next week.

Somerset/Wivenhoe

At 16:00 Monday Somerset Dam was 99.02 mAHD and steady. The last sluice gate was closed at 07:00 17/01/2011 and one regulator remains open managing the base-flow into the Dam. Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011.

At 06:00 Tuesday Wivenhoe Dam was 67.82 mAHD and continuing to fall slowly. Releases were held constant overnight at about 2,050 m3/s to assist water supply pumping at Lowood. Following discussions with water supply operators, it has been decided to resume closing gates at 09:00 Tuesday before final closure on Thursday morning. The Dam will be near full supply and releases will be made through the regulator to account for ongoing base-flow.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

It should be noted that the Seqwater water level gauge currently being reported on the BoM website is currently slightly under reading by about 50mm.

North Pine

At 09:00 North Pine Dam was 39.5 mAHD. All gates are closed. No further gate operations are expected unless additional rainfall falls.

North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with a peak release of 2,800 m3/s. The flood event volume is estimated to be around 200,000 ML.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and is maintaining close contact with warning agencies and local councils. Councils have been informed of the current release strategy.

At 05:00, the Wivenhoe Dam operator reported that the Fernvale Bridge was out of water but water remained over the approaches from Fernvale. He also advised that there were power lines on the bridge and that Energex was advised.

The remaining bridges below Wivenhoe Dam will progressively come out of water over the next few days.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

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SITUATION REPORT 30

Date: Tuesday, 18 January 2011

Time: 5:40 PM

From: Duty Engineer
Sent: Tuesday, 18 January 2011 5:40 PM
To: 'Arminda Roberts (private)'; David Roberts; flood.qld@; 'mfoster@; Paul Bird; 'Paul Bird (Private)'; Peter Allen; rdrury@; 'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms@; 'tararuffles@; 'Tony Jacobs (private)'; (Ken.Price@; (kim.hang@; Al Navaruk; Bill Stephens; David Pokarier; John West; Lou van Blerk; Mark Tan; Nev Ablitt; john.ruffini@; jtibaldi@; rob.ayre@; tmalone@; bschultz@; Glenn Patterson; mlane@; Murray Dunstan; Rob Gorian; adagan@; Doug Grigg; gkeegan@; Graham Francis; Jayam Tennakoon; Matthew O'Reilly
Cc: Andy Bickerton; Deb Chandler; Mailbox; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; Tony Trace
Subject: FOC Situation Report at 18:00 on Tuesday 18 January 2011

DRAFT ONLY - THIS DOCUMENT CONTAINS INFORMATION

Rainfall

Severe thunderstorms are passing over Wivenhoe, Somerset and North Pine Dams this afternoon. To 17:00 falls of 20 to 30 mm where recorded at isolated locations including Mt Pechey and Kluvers Lookout.

A severe thunderstorm warning remains in place for the Stanley River Valley near Kilcoy.

Somerset/Wivenhoe

At 16:00 Tuesday Somerset Dam was 98.95 mAHD and steady. The last sluice gate was closed at 07:00 17/01/2011 and one regulator remains open managing the base-flow into the Dam. Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011.

At 16:00 Tuesday Wivenhoe Dam was 66.31 mAHD and continuing to fall slowly. Releases were held constant since 15:00 at about 1,450 m3/s to assist water supply pumping at Lowood. The shutdown sequence is scheduled to re-commence at 03:00 on Wednesday 19 January 2011 morning before final closure on Thursday morning. The Dam will be lowered to 66.5 mAHD (95% capacity) and releases will be made through the regulator to account for ongoing base-flow.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s.

The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

It should be noted that the Seqwater water level gauge currently being reported on the BoM website is currently slightly under reading by about 50mm.

North Pine

At 09:00 North Pine Dam was 39.56 mAHD and rising slowly. All gates are closed. No further gate operations are expected unless additional rainfall falls. This situation will be closely monitored whilst storms remain in the vicinity.

North Pine peaked at 41.11 mAHD at 14:00 on Tuesday 11 January 2011 with a peak release of 2,800 m3/s. The flood event volume is estimated to be around 200,000 ML.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and is maintaining close contact with warning agencies and local councils. Councils have been informed of the current release strategy.

The remaining bridges below Wivenhoe Dam will progressively come out of water over the next few days.

Regards

Rob Ayre

Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

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SITUATION REPORT 31

Date: Wednesday, 19 January 2011

Time: 5:28 AM

From: Duty Engineer [mailto:dutyseq@[redacted]
Sent: Wednesday, 19 January 2011 5:28 AM
To: 'Arminda Roberts (private)'; David Roberts [redacted]; flood.qld@[redacted] 'mfoster@[redacted]; Paul Bird [redacted] 'Paul Bird (Private)'; Peter Allen [redacted]; rdrury@[redacted] 'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms@[redacted]; 'tararuffles@[redacted]; 'Tony Jacobs (private)'; (Ken.Price@[redacted] (kim.hang@[redacted]; Al Navaruk [redacted] Bill Stephens [redacted]; David Pokarier [redacted]; John West; Lou van Bierk [redacted]; Mark Tan; Nev Ablitt [redacted]; john.ruffini@[redacted]; jtibaldi@[redacted]; rob.ayre@[redacted] tmalone@[redacted]; bschultz@[redacted]; Glenn Patterson [redacted]; mlane@[redacted]; Murray Dunstan (mdunstan@[redacted]; Rob Gorian [redacted]; adagan@[redacted]; Doug Grigg [redacted]; gkeegan@[redacted]; Graham Francis [redacted]; Jayam Tennakoon [redacted]; Matthew O'Reilly [redacted])
Cc: Andy Bickerton [redacted]; Deb Chandler [redacted]; Mailbox (mail@[redacted]; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; Tony Trace [redacted]
Subject: FOC Situation Report at 06:00 on Wednesday 19 January 2011

DRAFT ONLY - THIS DOCUMENT CONTAINS [illegible]

Rainfall

Severe thunderstorms passed over the Wivenhoe, Somerset and North Pine dam catchments yesterday afternoon and evening. Falls of 20mm to 30mm where recorded at isolated locations.

North Pine

A decision was made at 1900 yesterday to drain the dam down to 39.40m AHD overnight to cater for the inflow resulting from yesterday's storms and ensure that Youngs Crossing remains open during the day today. All gates were closed at 0500 today and a fish recovery operation also commenced at this time. Youngs Crossing will be reopened by the MBRC at around 0700. The dam level will rise slowly during the day and further releases may be required again tonight with more rainfall forecast. The current lake level is 39.42m AHD.

Somerset Dam

All regulators were closed at 2000 yesterday. The dam level is currently 98.95m AHD and rising slowly. Further regulator releases will take place today and again over the next few days to maintain the dam at the full supply level. Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011; all sluice gates were closed on Monday 17 January 2011.

Wivenhoe Dam

The Lowood temporary pump station was relocated at 2100 yesterday. This relocation removed the need to continue high flow releases from the dam to ensure treated water supplies to Lowood are maintained. Discussions with BCC last night also concluded that tidal variations are primarily back to normal patterns and having a greater impact on the foundation conditions of Coronation Drive than the tapering of releases from the dam. Accordingly the radial gate close down sequence recommenced at 21:45 last night and all gates will be closed by 1600 today. The dam level when the last gate is closed will be around 66.90m AHD and a fish recovery operation will continue through most of the day during the close down sequence. Releases will continue through the regulator cone valve and possibly the Mini-Hydro (depending on when it can be re-started) to account for ongoing base-flow once all radial gates are closed.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s. The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres. It should be noted that the Seqwater water level gauge currently being reported on the BoM website is currently slightly under reading by about 50mm.

Strategy

The Flood Operations Centre is continuing to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments and is maintaining close contact with warning agencies and local councils. Councils have been informed of the current release strategy. A summary of the bridge status along the Brisbane River between Wivenhoe Dam and Moggill is as follows, with the exact timing of water coming clear of bridges depending on how the radial gate close down sequence progresses during the day:

- Water is clear of Fernvale Bridge and Mt Crosby Weir Bridge.
- Water should be clear of Burtons Bridge, Kholo Bridge and Savages Crossing tonight.
- Water should be clear of Colleges Crossing tomorrow.
- It is not yet certain when water will be clear of Twin Bridges as this will depend on base flow draining requirements and a decision will be made on this later today. The earliest that Twin Bridges would be clear of water is late this afternoon.

John Tibaldi
Duty Engineer
Flood Operations Centre

Phone: [redacted]
Fax: [redacted]

DRAFT ONLY - THIS DOCUMENT CONTAINS UNCHECKED OR VERIFIED INFORMATION

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SITUATION REPORT 31

Date: Wednesday, 19 January 2011

Time: 1:45 PM

From: Duty Engineer
Sent: Wednesday, 19 January 2011 1:45 PM
To: 'Arminda Roberts (private)'; David Roberts; flood.qld@; 'mfoster@; Paul Bird; 'Paul Bird (Private)'; Peter Allen; rdrury@; 'Rob D (Private)'; Rohan Thorogood; 'seqwater.comms@'; 'tararuffles@; 'Tony Jacobs (private)'; Andy Bickerton; Deb Chandler; Mailbox; Tony Trace; Chris Lavin; Craig Logan; Don Carroll; Evan Caswell; 'Flood Information Centre'; James Charalambous; Ken Morris; Robert McGlinn; Santina Pennisi; (Ken.Price@; (kim.hang@; Al Navaruk; Bill Stephens; David Pokarier; John West; Lou van Blerk; Mark Tan; Neil Ablitt; john.ruffini@; jtibaldi@; rob.ayre@; tmalone@; bschultz@; Glenn Patterson); mlane@; Murray Dunstan; Rob Gorian; adagan@; Doug Grigg; gkeegan@; Graham Francis; Jayam Tennakoon; Matthew O'Reilly
Subject: Situation Report 1345 Wednesday 2011

DRAFT ONLY - THIS DOCUMENT CONTAINS CABINET INFORMATION

Rainfall

No significant rainfall has been recorded in Wivenhoe, Somerset and North Pine dam catchments since 0900 Thursday. The forecast rainfall indicates that falls between 15 to 25mm with isolated heavier falls to 50mm are expected in the next 24 hours.

North Pine

A decision was made at 1900 Wednesday to drain the dam down to 39.40m AHD overnight to cater for the inflow resulting from Wednesday's storms and ensure that Youngs Crossing remains open during the day Thursday. All gates were closed at 0500 Thursday and a fish recovery operation also commenced at this time. Youngs Crossing was expected to be reopened by the MBRC at around 0700. The dam level will rise slowly during the day and further releases may be required again tonight with more rainfall forecast. The lake level was 39.43m AHD at 0700.

Somerset Dam

All regulators were closed at 2000 Wednesday. The dam level was 99.00 m AHD at 0700 Thursday and rising slowly. Further regulator releases may take place over the next few days to maintain the dam at the full supply level. Somerset Dam peaked at 105.11 mAHD at 18:00 on Wednesday 12 January 2011; all sluice gates were closed on Monday 17 January 2011.

Wivenhoe Dam

All gates were closed at Wivenhoe at 1200 Thursday, with the dam level at 66.89m AHD at 1300. Following fish recovery and inspections, minor ongoing releases will be made for through the centre gate to account for ongoing small inflows. It is intended to drain down to 95%, approximately 66.5 m AHD.

Wivenhoe Dam peaked at 74.97 mAHD at 19:00 on Tuesday 11 January 2011 with a corresponding discharge of 7,450 m3/s. The combined flood event volume in Somerset and Wivenhoe Dams is estimated to be in excess of 2.6 million megalitres.

Strategy

A summary of the bridge status along the Brisbane River between Wivenhoe Dam and Moggill is as follows, with the exact timing of water coming clear of bridges depending on how the radial gate close down sequence progresses during the day:

- Water is clear of Fernvale Bridge and Mt Crosby Weir Bridge.
- Water should be clear of Burtons Bridge, Kholo Bridge and Savages Crossing tonight.
- Water should be clear of Colleges Crossing tomorrow.
- It is not yet certain when water will be clear of Twin Bridges as this will depend on base flow draining requirements and a decision will be made on this later Thursday.

The Flood Operations Centre is now closed and control of the dams has reverted to normal Seqwater operations. However, the FOC will continue to monitor rainfalls and water levels throughout the Brisbane and Pine River catchments.

Terry Malone
Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

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APPENDIX G

Severe Weather Warnings

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THUNDERSTORM WARNINGS

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 1

Date: Wednesday, 5 January 2011

Time: 16:22 PM

From: Aifs Operational Manage[redacted]
Sent: Wednesday, January 05, 2011 4:22:08 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the BRISBANE CITY, LOCKYER VALLEY, MORETON BAY and SOMERSET Council Areas.

Issued at 4:19 pm Wednesday, 5 January 2011.

The Bureau of Meteorology warns that, at 4:20 pm, severe thunderstorms were detected on weather radar near Esk and northern Lake Wivenhoe.

They are forecast to affect the area south of Esk by 4:50 pm and southern Lake Wivenhoe by 5:20 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:20 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

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THUNDERSTORM WARNING 2

Date: Wednesday, 5 January 2011

Time: 17:12 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 05, 2011 5:12:36 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 5:11 pm Wednesday, 5 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but further severe thunderstorms are possible and the situation will continue to be monitored and further warnings will be issued if necessary.

Emergency Management Queensland advises that people should:
* Beware of fallen trees and powerlines.
* Avoid driving, walking or riding through flood waters.
* For emergency assistance contact the SES on 132 500.

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THUNDERSTORM WARNING 3

Date: Tuesday, 18 January 2011

Time: 12:48 PM

From: Aifs Operational Manager[redacted]
Sent: Tuesday, January 18, 2011 12:48:39 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the SCENIC RIM Council Area.

Issued at 12:47 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 12:50 pm, severe thunderstorms were detected on weather radar near Mount Barney and the NSW border. These thunderstorms are slow moving. Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 1:50 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

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THUNDERSTORM WARNING 4

Date: Tuesday, 18 January 2011

Time: 13:22 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 1:22:54 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the GOLD COAST CITY and SCENIC RIM Council Areas.

Issued at 1:22 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 1:25 pm, severe thunderstorms were detected on weather radar near Mount Barney and Rathdowney.

These thunderstorms are moving towards the east.

They are forecast to affect Border Ranges National Park and the area south of Canungra by 1:55 pm and Numinbah Valley, Little Nerang Dam and Laravale by 2:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

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THUNDERSTORM WARNING 5

Date: Tuesday, 18 January 2011

Time: 13:57 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 18, 2011 1:57:21 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the SCENIC RIM and parts of the GOLD COAST CITY and LOGAN CITY Council Areas.

Issued at 1:56 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 2:00 pm, severe thunderstorms were detected on weather radar near Boonah, the area between Boonah and Beaudesert and Laravale. These thunderstorms are slow moving. They are forecast to affect the McPherson Range and the area south of Canungra by 2:30 pm and Beaudesert, Springbrook and Numinbah Valley by 3:00 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:00 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

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THUNDERSTORM WARNING 6

Date: Tuesday, 18 January 2011

Time: 14:32 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 2:32:04 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

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Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY and parts of the GOLD COAST CITY, IPSWICH CITY and SCENIC RIM Council Areas.

Issued at 2:31 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 2:35 pm, severe thunderstorms were detected on weather radar near the area between Boonah and Beaudesert.

These thunderstorms are moving towards the northeast.

They are forecast to affect Jimboomba by 3:05 pm and Logan Village, Bundamba Lagoon and Greenbank by 3:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:30 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

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THUNDERSTORM WARNING 7

Date: Tuesday, 18 January 2011

Time: 14:53 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 2:53:40 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY and parts of the BRISBANE CITY, GOLD COAST CITY, IPSWICH CITY and SCENIC RIM Council Areas.

Issued at 2:52 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 2:55 pm, very dangerous thunderstorms were detected on weather radar near the area between Boonah and Beaudesert and Peak Crossing.

These thunderstorms are slow moving.

Very dangerous thunderstorms are forecast to affect Tamborine, Jimboomba and Bundamba Lagoon by 3:25 pm and Greenbank, Redbank Plains and Amberley by 3:55 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 3:55 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DO NOT RELY ON THIS DOCUMENT CONTAINING NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 8

Date: Tuesday, 18 January 2011

Time: 15:05 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 3:05:26 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY, IPSWICH CITY and parts of the BRISBANE CITY, GOLD COAST CITY, MORETON BAY, SOUTHERN DOWNS, SCENIC RIM, SOMERSET and REDLAND Council Areas.

Issued at 3:04 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 3:05 pm, very dangerous thunderstorms were detected on weather radar near Peak Crossing and Amberley.

These thunderstorms are moving towards the north to northeast.

Very dangerous thunderstorms are forecast to affect Ipswich and Bundamba Lagoon by 3:35 pm and Redbank Plains, Lake Manchester and Fernvale by 4:05 pm.

Other severe thunderstorms were located near Jimboomba.

They are forecast to affect Logan Village by 3:35 pm and Beenleigh, Logan City and Sunnybank Hills by 4:05 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:05 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

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THUNDERSTORM WARNING 9

Date: Tuesday, 18 January 2011

Time: 15:41 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 18, 2011 3:41:19 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the BRISBANE CITY and parts of the LOGAN CITY, MORETON BAY, IPSWICH CITY, SOMERSET and REDLAND Council Areas.

Issued at 3:40 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 3:45 pm, severe thunderstorms were detected on weather radar near Ipswich and Upper Brookfield.

These thunderstorms are moving towards the north.

They are forecast to affect Brisbane CBD, Albany Creek and the D'Aguilar Ranges by 4:15 pm and Strathpine, Redcliffe and Mount Mee by 4:45 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:40 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 10

Date: Tuesday, 18 January 2011

Time: 15:48 PM

From: Aifs Operational Manager[redacted]
Sent: Tuesday, January 18, 2011 3:48:32 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the BRISBANE CITY and parts of the LOCKYER VALLEY, LOGAN CITY, MORETON BAY, IPSWICH CITY, SOMERSET, TOOWOOMBA and REDLAND Council Areas.

Issued at 3:47 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 3:55 pm, severe thunderstorms were detected on weather radar near Toowoomba, Highfields and Sunnybank Hills.

These thunderstorms are moving towards the north to northeast.

They are forecast to affect Brisbane CBD, Logan City and the area north of Toowoomba by 4:25 pm and Cleveland, Albany Creek and Crows Nest by 4:55 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:50 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

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THUNDERSTORM WARNING 11

Date: Tuesday, 18 January 2011

Time: 16:17 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 4:17:23 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the MORETON BAY and parts of the BRISBANE CITY, LOCKYER VALLEY, IPSWICH CITY, SOMERSET and TOOWOOMBA Council Areas.

Issued at 4:16 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 4:25 pm, severe thunderstorms were detected on weather radar near Brisbane CBD, the area south of Esk and Highvale.

These thunderstorms are moving towards the north to northeast.

They are forecast to affect Strathpine, Esk and Dayboro by 4:55 pm and Redcliffe, Caboolture and Wamuran by 5:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:20 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 12

Date: Tuesday, 18 January 2011

Time: 16:19 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 4:19:21 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the MORETON BAY and parts of the BRISBANE CITY, LOCKYER VALLEY, SUNSHINE COAST, SOMERSET and TOOWOOMBA Council Areas.

Issued at 4:18 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 4:25 pm, severe thunderstorms were detected on weather radar near Brisbane CBD, the area south of Esk, the D'Aguilar Ranges and the area north of Toowoomba.

These thunderstorms are moving towards the north to northeast.

They are forecast to affect Strathpine, Esk and the area southwest of Esk by 4:55 pm and Redcliffe, Caboolture and the area northwest of Esk by 5:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:20 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS UNCHECKED OR UNVERIFIED INFORMATION

THUNDERSTORM WARNING 13

Date: Tuesday, 18 January 2011

Time: 16:43 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 4:43:06 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, MORETON BAY, IPSWICH CITY, SOMERSET and parts of the BRISBANE CITY, LOGAN CITY, SUNSHINE COAST, SCENIC RIM, SOUTH BURNETT and TOOWOOMBA Council Areas.

Issued at 4:41 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 4:40 pm, severe thunderstorms were detected on weather radar near Esk, the area south of Esk, Hampton and the area northwest of Cunninghams Gap. These thunderstorms are moving towards the north to northeast. They are forecast to affect the area southwest of Esk, the area west of Kilcoy and Lake Somerset by 5:10 pm and Ipswich, Kilcoy and the area northwest of Esk by 5:40 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm
3-4 cm hail reported at Bridgeman Downs

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:45 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY, THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 14

Date: Tuesday, 18 January 2011

Time: 17:28 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 18, 2011 5:28:43 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the MORETON BAY, SUNSHINE COAST and SOMERSET Council Areas.

Issued at 5:28 pm Tuesday, 18 January 2011.

The Bureau of Meteorology warns that, at 5:35 pm, severe thunderstorms were detected on weather radar near Kilcoy.

These thunderstorms are moving towards the north.

They are forecast to affect the area west of Kilcoy and Mount Kilcoy by 6:05 pm and the ranges south of Jimna and the area west of Conondale by 6:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Wind gust of 95kmhr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm
3-4 cm hail reported at Bridgeman Downs

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:30 pm.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 15

Date: Tuesday, 18 January 2011

Time: 18:56 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 18, 2011 6:56:49 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 6:55 pm Tuesday, 18 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.

Wind gust of 95km/hr was observed at Amberley at 3:01pm 2cm hail reported at Gatton at 3:42pm
3-4 cm hail reported at Bridgeman Downs

Emergency Management Queensland advises that people should:
* Beware of fallen trees and powerlines.
* Avoid driving, walking or riding through flood waters.
* For emergency assistance contact the SES on 132 500.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

BRIEF ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 16

Date: Tuesday, 18 January 2011

Time: 14:57 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 2:57:16 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 2:56 pm Wednesday, 19 January 2011

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Toowoomba, Dalby, Gympie, Bundaberg, Rockhampton, Kingaroy and Stanthorpe.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:00 pm.

At 2:56 pm Wednesday, 19 January 2011 a separate, more detailed Severe Thunderstorm Warning was current for the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe]. Refer to this product for more information.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 17

Date: Wednesday, 19 January 2011

Time: 15:27 PM

From: Aifs Operational Manage[redacted]
Sent: Wednesday, January 19, 2011 3:27:28 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 3:26 pm Wednesday, 19 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.

Emergency Management Queensland advises that people should:
* Beware of fallen trees and powerlines.
* Avoid driving, walking or riding through flood waters.
* For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 18

Date: Wednesday, 19 January 2011

Time: 15:28 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 3:28:14 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 3:27 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Toowoomba, Dalby, Gympie, Bundaberg, Rockhampton, Kingaroy and Stanthorpe.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:30 pm.

If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 19

Date: Wednesday, 19 January 2011

Time: 15:39 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 3:39:20 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the TOOWOOMBA Council Area.

Issued at 3:38 pm Wednesday, 19 January 2011.

Thunderstorms are moving towards the southeast. They are forecast to affect Oakey by 4:05 pm and the area northwest of Toowoomba by 4:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 4:40 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett and parts of the Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 20

Date: Wednesday, 19 January 2011

Time: 15:49 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 3:49:36 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the Wide Bay and Burnett and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego, Darling Downs and Granite Belt and Southeast Coast Forecast Districts.

Issued at 3:48 pm Wednesday, 19 January 2011

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Toowoomba, Dalby, Gympie, Bundaberg, Rockhampton, Kingaroy, Stanthorpe, Cairns and Port Douglas.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:50 pm.

If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY, THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 21

Date: Wednesday, 19 January 2011

Time: 16:28 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 4:28:22 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the LOCKYER VALLEY, IPSWICH CITY, SOUTHERN DOWNS, SCENIC RIM and TOOWOOMBA Council Areas.

Issued at 4:27 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 4:25 pm, severe thunderstorms were detected on weather radar near the area northwest of Toowoomba and Oakey.

They are forecast to affect Toowoomba and the area west of Toowoomba by 4:55 pm and the area south of Toowoomba, the area southwest of Toowoomba and Cambooya by 5:25 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:30 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 22

Date: Wednesday, 19 January 2011

Time: 16:36 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 4:36:52 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in parts of the GOLD COAST CITY, LOCKYER VALLEY, IPSWICH CITY, SOUTHERN DOWNS, SCENIC RIM and TOOWOOMBA Council Areas.

Issued at 4:36 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 4:35 pm, severe thunderstorms were detected on weather radar near Little Nerang Dam, Tallebudgera and Numinbah Valley.

They are forecast to affect Coolangatta, the area northwest of Toowoomba and Mudgeeraba by 5:05 pm and Toowoomba, Maroon Dam and Miami by 5:35 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:35 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 23

Date: Wednesday, 19 January 2011

Time: 16:48 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 4:48:25 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the SCENIC RIM and parts of the GOLD COAST CITY, LOCKYER VALLEY, IPSWICH CITY, SOUTHERN DOWNS and TOOWOOMBA Council Areas.

Issued at 4:47 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 4:50 pm severe thunderstorms were detected on weather radar near Coolangatta, the area southwest of Toowoomba, Border Ranges National Park and the NSW border.

These thunderstorms are moving towards the east to northeast.

They are forecast to affect the area northwest of Toowoomba, Laravale and Miami by 5:20 pm and Toowoomba, the area south of Toowoomba and Highfields by 5:50 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 5:50 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 24

Date: Wednesday, 19 January 2011

Time: 17:26 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 5:26:17 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY and parts of the IPSWICH CITY, SCENIC RIM and SOMERSET Council Areas.

Issued at 5:25 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 5:30 pm, severe thunderstorms were detected on weather radar near the area northwest of Cunninghams Gap and the area south of Helidon. These thunderstorms are moving towards the northeast.
They are forecast to affect Gatton, Mulgowie and Helidon by 6:00 pm and Boonah, Laidley and Hatton Vale by 6:30 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:25 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Northern Tropical Coast and Tablelands, Central Highlands and Coalfields, Central West, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NOT CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 25

Date: Wednesday, 19 January 2011

Time: 17:32 PM

From: Aifs Operational Manage[redacted]
Sent: Wednesday, January 19, 2011 5:32:18 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 5:31 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Roma, Goondiwindi, Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Rockhampton and Kingaroy.

2cm hail was observed at Oakey.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:35 pm.

If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 26

Date: Wednesday, 19 January 2011

Time: 17:55 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 5:55:02 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOMERSET and TOOWOOMBA Council Areas.

Issued at 5:54 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 5:55 pm severe thunderstorms were detected on weather radar near Mulgowie, Helidon, Maroon Dam and Rosevale.

These thunderstorms are moving towards the northeast.

They are forecast to affect Boonah, Laidley and Gatton by 6:25 pm and Beaudesert, the area between Boonah and Beaudesert and Hampton by 6:55 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 6:55 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 27

Date: Wednesday, 19 January 2011

Time: 18:13 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 6:13:13 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOUTHERN DOWNS, SOMERSET and TOOWOOMBA Council Areas.

Issued at 6:12 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 6:15 pm, very dangerous thunderstorms were detected on weather radar near Laidley and Gatton.

These thunderstorms are moving towards the northeast.

Very dangerous thunderstorms are forecast to affect Rosewood, Hatton Vale and the area north of Gatton by 6:45 pm and Amberley, Marburg and Hampton by 7:15 pm.

Other severe thunderstorms were located near Boonah, the area between Boonah and Beaudesert and the area southwest of Stanthorpe.

They are forecast to affect Beaudesert and Aratula by 6:45 pm and Rathdowney, Cunninghams Gap and Canungra by 7:15 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:15 pm.

DRAFT ONLY - THIS DOCUMENT CONTAINS NOT CHECKED OR VERIFIED INFORMATION

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 28

Date: Wednesday, 19 January 2011

Time: 18:16 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 6:16:35 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOUTHERN DOWNS, SOMERSET and TOOWOOMBA Council Areas.

Issued at 6:15 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 6:15 pm, very dangerous thunderstorms with intense rainfall were detected on weather radar near Laidley and Gatton.
These thunderstorms are moving towards the northeast. Very dangerous thunderstorms are forecast to affect Rosewood, Hatton Vale and the area north of Gatton by 6:45 pm and Amberley, Marburg and Hampton by 7:15 pm.

Other severe thunderstorms were located near Boonah, the area between Boonah and Beaudesert and the area southwest of Stanthorpe. They are forecast to affect Beaudesert and Aratula by 6:45 pm and Rathdowney and Canungra by 7:15 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

2cm hail was observed at Oakey

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:15 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

DRAFT ONLY - THIS DOCUMENT CONTAINS UNCHECKED OR UNVERIFIED INFORMATION

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 29

Date: Wednesday, 19 January 2011

Time: 18:21 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 6:21:44 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOCKYER VALLEY, IPSWICH CITY, SCENIC RIM and parts of the LOGAN CITY, SOUTHERN DOWNS, SOMERSET and TOOWOOMBA Council Areas.

Issued at 6:20 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 6:15 pm, a very dangerous thunderstorm with intense rainfall was detected on weather radar near Laidley and Gatton.
This thunderstorm is moving towards the northeast. This very dangerous thunderstorm is forecast to affect Rosewood, Hatton Vale and the area north of Gatton by 6:45 pm and Amberley, Marburg and Hampton by 7:15 pm.

Other severe thunderstorms were located near Boonah, the area between Boonah and Beaudesert and the area southwest of Stanthorpe. They are forecast to affect Beaudesert and Aratula by 6:45 pm and Rathdowney and Canungra by 7:15 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Rainfall rates of 60mm/hr and 40mm/30 min have been observed near Tenthill [southwest of Gatton]

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 7:15 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

DRAFT ONLY - THIS DOCUMENT CONTAINS UNCHECKED OR UNVERIFIED INFORMATION

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 30

Date: Wednesday, 19 January 2011

Time: 19:08 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 7:08:44 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY, IPSWICH CITY and parts of the BRISBANE CITY, GOLD COAST CITY, LOCKYER VALLEY, SCENIC RIM, SOMERSET and REDLAND Council Areas.

Issued at 7:07 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 7:05 pm, very dangerous thunderstorm with intense rainfall was detected on weather radar near Amberley, Rosewood, Hatton Vale, Marburg and Harrisville. This thunderstorm is moving towards the northeast. This thunderstorm is forecast to affect Ipswich, Redbank Plains, Lowood and Fernvale by 7:35 pm and Beenleigh, Logan City, Enoggera Reservoir and Mount Nebo by 8:05 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:05 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia, Maranoa and Warrego and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 31

Date: Wednesday, 19 January 2011

Time: 19:14 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 7:14:44 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt Forecast Districts.

Issued at 7:13 pm Wednesday, 19 January 2011

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Kingaroy and Roma.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 10:15 pm.

If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY. THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 32

Date: Wednesday, 19 January 2011

Time: 19:26 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 7:26:20 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND, FLASH FLOODING and LARGE HAILSTONES For people in the LOGAN CITY, IPSWICH CITY and parts of the BRISBANE CITY, LOCKYER VALLEY, MORETON BAY, SCENIC RIM and SOMERSET Council Areas.

Issued at 7:25 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 7:05 pm, very dangerous thunderstorms were detected on weather radar near Ipswich, Amberley, Rosewood and Marburg.

These thunderstorms are moving towards the north.

Very dangerous thunderstorms are forecast to affect Wacol, Lake Manchester, Lowood and Fernvale by 7:35 pm and Logan City, the area south of Esk, southern Lake Wivenhoe and the D'Aguilar Ranges by 8:05 pm.

Damaging winds, very heavy rainfall, flash flooding and large hailstones are likely.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 8:25 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Maranoa and Warrego and Darling Downs and Granite Belt districts.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 33

Date: Wednesday, 19 January 2011

Time: 20:02 PM

From: Aifs Operational Manager [redacted]
Sent: Wednesday, January 19, 2011 8:02:11 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the
Wide Bay and Burnett,
Southeast Coast and parts of the
Darling Downs and Granite Belt Forecast Districts

Issued at 8:01 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Kingaroy and Hervey Bay waters.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:05 pm.

If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 34

Date: Wednesday, 19 January 2011

Time: 20:04 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 8:04:45 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND and FLASH FLOODING For people in the BRISBANE CITY, MORETON BAY and parts of the IPSWICH CITY and SOMERSET Council Areas.

Issued at 8:03 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 8:05 pm, severe thunderstorms were detected on weather radar near Enoggera Reservoir, Mount Nebo, Highvale, Samford and Wacol.

These thunderstorms are moving towards the north to northeast.

They are forecast to affect Albany Creek, the D'Aguilar Ranges, Lake Samsonvale and Dayboro by 8:35 pm and Brisbane CBD, Strathpine, Burpengary and Mount Mee by 9:05 pm.

Damaging winds, very heavy rainfall and flash flooding are likely.

Rainfall rates of 52mm in 30 minutes has been observed at Romani, SSE of Ipswich.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:05 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NOT CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 35

Date: Wednesday, 19 January 2011

Time: 20:36 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 8:36:25 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND for DAMAGING WIND and FLASH FLOODING For people in the MORETON BAY and parts of the BRISBANE CITY, SUNSHINE COAST and SOMERSET Council Areas.

Issued at 8:35 pm Wednesday, 19 January 2011.

The Bureau of Meteorology warns that, at 8:35 pm, a severe thunderstorm is detected on weather radar near Strathpine, Kallangur, Narangba and Dayboro. This thunderstorm is moving towards the northeast. This thunderstorm is forecast to affect Redcliffe, Caboolture, Mount Mee and Wamuran by 9:05 pm and Deception Bay waters, Bribie Island, Beerburrum and Woodford by 9:35 pm.

Damaging winds, very heavy rainfall and flash flooding are likely.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 9:35 pm.

A more general severe thunderstorm warning is also current for the Wide Bay and Burnett, Southeast Coast and parts of the Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINING UNCHECKED OR UNVERIFIED INFORMATION

THUNDERSTORM WARNING 36

Date: Wednesday, 19 January 2011

Time: 20:38 PM

From: Aifs Operational Manage[redacted]
Sent: Wednesday, January 19, 2011 8:38:33 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the
Wide Bay and Burnett,
Southeast Coast and parts of the
Darling Downs and Granite Belt Forecast Districts.

Issued at 8:37 pm Wednesday, 19 January 2011

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Gold Coast, Toowoomba, Brisbane, Maroochydore, Gympie, Bundaberg, Kingaroy and Fraser Island.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 11:40 pm.

If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 37

Date: Wednesday, 19 January 2011

Time: 21:12 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 9:12:39 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20041
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

SEVERE THUNDERSTORM WARNING
for DAMAGING WIND and FLASH FLOODING
For people in the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia and Darling Downs and Granite Belt Forecast Districts.

Issued at 9:11 pm Wednesday, 19 January 2011.

Severe thunderstorms are likely to produce damaging winds, very heavy rainfall and flash flooding in the warning area over the next several hours. Locations which may be affected include Warwick, Toowoomba, Brisbane, Dalby, Maroochydore, Gympie, Bundaberg and Kingaroy.

Emergency Management Queensland advises that people should:
* Move your car under cover or away from trees.
* Secure loose outdoor items.
* Avoid driving, walking or riding through flood waters.
* Seek shelter, preferably indoors and never under trees.
* Avoid using the telephone during a thunderstorm.
* Beware of fallen trees and powerlines.
* For emergency assistance contact the SES on 132 500.

The next warning is due to be issued by 12:15 am Thursday.

If severe thunderstorms develop in the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe], a more detailed Severe Thunderstorm Warning will be issued to people in this area.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

THUNDERSTORM WARNING 38

Date: Wednesday, 19 January 2011

Time: 21:13 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 19, 2011 9:13:49 PM
To: weather
Subject: BOM: Severe Thunderstorm Warning - SE Qld 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20038
Bureau of Meteorology
Queensland Regional Office

TOP PRIORITY FOR IMMEDIATE BROADCAST

CANCELLATION SEVERE THUNDERSTORM WARNING - SOUTHEAST QUEENSLAND

Issued at 9:12 pm Wednesday, 19 January 2011.

Severe thunderstorms are no longer affecting the Southeast Queensland area [east of Dalby from Rainbow Beach to Stanthorpe].

The immediate threat of severe thunderstorms has passed, but the situation will continue to be monitored and further warnings will be issued if necessary.

Emergency Management Queensland advises that people should:
* Beware of fallen trees and powerlines.
* Avoid driving, walking or riding through flood waters.
* For emergency assistance contact the SES on 132 500.

A more general severe thunderstorm warning remains current for the Wide Bay and Burnett, Southeast Coast and parts of the Central Highlands and Coalfields, Capricornia and Darling Downs and Granite Belt districts.

Warnings are also available through TV and Radio broadcasts, the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and Emergency Management Queensland would appreciate warnings being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNINGS

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 1

Date: Wednesday, 5 January 2011

Time: 16:59 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 05, 2011 4:59:15 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Darling Downs and Granite Belt, Southeast Coast, Wide Bay and Burnett, Capricornia and Central Highlands and Coalfields district.

Issued at 5:00 pm on Wednesday 5 January 2011

Synoptic Situation: At 4pm EST, a trough extended from northwestern Queensland into the Darling Downs. The trough is expected to intensify as it moves slowly east over the next 24 hours.

Thundery rain areas with some heavy falls are occurring over the Darling Downs and Granite Belt, Southeast Coast districts and southern parts of the Wide Bay and Burnett and Central Highlands and Coalfields districts. This heavy rain is expected to extend to the Capricornia and remaining parts of the Wide Bay and Burnett and eastern Central Highlands and Coalfields during Thursday. The rain will ease over the western Darling Downs and southwestern Central Highlands and Coalfields on Thursday.

Heavy rainfall may lead to localised flash flooding and/or worsen current river flooding.

Heavy rainfall has eased over the Maranoa District and a Severe Weather Warning for this area is no longer current.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 pm Wednesday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 2

Date: Wednesday, 5 January 2011

Time: 23:27 PM

From: Aifs Operational Manager[redacted]
Sent: Wednesday, January 05, 2011 11:27:31 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding, this may add to the existing river flood situation For people in the Eastern Darling Downs, Granite Belt, Southeast Coast, Wide Bay and Burnett and the Capricornia districts.

Issued at 11:30 pm on Wednesday 5 January 2011

Synoptic Situation: At 11pm EST, a developing upper level low over southern Queensland and a surface trough will combine to concentrate heavier weather over the SE region during Thursday morning which will then contract towards the Capricorn and Wide Bay coasts later in the day.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11:00 pm Wednesday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 3

Date: Wednesday, 5 January 2011

Time: 23:55 PM

From: Aifs Operational Manage[redacted]
Sent: Wednesday, January 05, 2011 11:55:13 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding, this may add to the existing river flood situation For people in the Eastern Darling Downs, Granite Belt, Southeast Coast, Wide Bay and Burnett and the Capricornia districts.

Issued at 11:55 pm on Wednesday 5 January 2011

Synoptic Situation: At 11pm EST, a developing upper level low over southern Queensland and a surface trough will combine to concentrate heavier weather over the SE region during Thursday morning which will then contract towards the Capricorn and Wide Bay coasts later in the day.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS TO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 4

Date: Thursday, 6 January 2011

Time: 3:38 AM

From: Aifs Operational Manager[redacted]
Sent: Thursday, January 06, 2011 3:38:41 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding, this may add to the existing river flood situation For people in the Southeast Coast, Wide Bay and Burnett and the Capricornia districts.

Issued at 3:40 am on Thursday 6 January 2011

Synoptic Situation: At 0330AM EST, a developing upper level low over southern Queensland and a surface trough will combine to concentrate heavier weather over the SE region during Thursday which will then contract towards the Capricorn, Wide Bay and Sunshine coasts later in the day.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 5

Date: Thursday, 6 January 2011

Time: 8:33 AM

From: Aifs Operational Manager [redacted]
Sent: Thursday, January 06, 2011 8:33:11 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district and eastern parts of the Wide Bay and Burnett District.

Issued at 8:30 am on Thursday 6 January 2011

Synoptic Situation: At 8am EST, an upper level low was developing over the southeastern interior of Queensland. A slow moving surface trough extended from northwestern Queensland into the Darling Downs.

Rain areas and thunderstorms are expected to increase through the Southeast Coast District and eastern parts of the Wide Bay and Burnett District this afternoon. Some heavy falls are expected which may lead to localised flash flooding and/or worsen existing river flooding.

Isolated thunderstorms are expected through the Capricornia and remaining parts of the Wide Bay and Burnett District. Locally heavy falls may occur with these thunderstorms and Severe Thunderstorm Warnings will be issued as necessary.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NOT CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 6

Date: Thursday, 6 January 2011

Time: 10:46 AM

From: Aifs Operational Manager[redacted]
Sent: Thursday, January 06, 2011 10:46:04 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast District and eastern parts of the Wide Bay and Burnett District.

Issued at 10:45 am on Thursday 6 January 2011

Synoptic Situation: At 10am EST, an upper level low was developing over the southeastern interior of Queensland. A slow moving surface trough extended from northwestern Queensland into eastern Darling Downs.

Rain areas and thunderstorms will increase further through the Southeast Coast District and eastern parts of the Wide Bay and Burnett District today. Some heavy falls are expected which may lead to localised flash flooding and/or worsen existing river flooding.

Rainfall is expected to ease about the Southeast Coast District during Friday.

Isolated thunderstorms are expected through the Capricornia and remaining parts of the Wide Bay and Burnett District. Locally heavy falls may occur today with these thunderstorms and Severe Thunderstorm Warnings will be issued as necessary.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 7

Date: Thursday, 6 January 2011

Time: 16:50 PM

From: Aifs Operational Manage[redacted]
Sent: Thursday, January 06, 2011 4:50:02 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and eastern parts of the Wide Bay and Burnett districts.

Issued at 4:50 pm on Thursday 6 January 2011

Synoptic Situation: At 4pm EST, an upper level low was developing over the southeastern interior of Queensland and is forecast to move in a north northeast direction overnight. A slow moving surface trough extended from northwestern parts of the state down into the southeast.

Rain areas and thunderstorms will continue through parts of the Southeast Coast district north of Brisbane and eastern parts of the Wide Bay and Burnett district this evening and overnight. Some heavy falls are expected which may lead to localised flash flooding and/or worsen existing river flooding.

Rain areas and thunderstorms have eased in parts of the Southeast Coast district south of Brisbane but may redevelop overnight. Heavy rain areas are forecast to contract into eastern parts of the Wide Bay and Burnett district on Friday.

Isolated thunderstorms are expected through the Capricornia and remaining parts of the Wide Bay and Burnett District. Locally heavy falls may occur today with these thunderstorms and Severe Thunderstorm Warnings will be issued as necessary.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 8

Date: Thursday, 6 January 2011

Time: 22:54 PM

From: Aifs Operational Manager[redacted]
Sent: Thursday, January 06, 2011 10:54:22 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and eastern parts of the Wide Bay and Burnett districts.

Issued at 10:55 pm on Thursday 6 January 2011

Synoptic Situation: At 1030pm EST, an upper level low over the southeastern interior will move north into the Capricorn district during Friday. Current rain areas near the coast will develop back inland over the SE region during Friday.

Some heavy falls may occur about the eastern Burnett, Wide Bay and northern parts of the Sunshine coast later on Friday with the potential for flash flooding and this may contribute to existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NOT CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 9

Date: Friday, 7 January 2011

Time: 5:25 AM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 5:25:51 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and eastern parts of the Wide Bay and Burnett districts.

Issued at 5:25 am on Friday 7 January 2011

Synoptic Situation: At 0420am EST, an upper level low occurs over the Capricorn region at present and will contribute to further rain areas over southeastern region today.

Some heavy falls may occur about the eastern Burnett, Wide Bay and northern parts of the Sunshine coast later today with the potential for flash flooding and this may contribute to existing flooding situation.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 10

Date: Friday, 7 January 2011

Time: 8:26 AM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 8:26:56 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett forecast districts.

Issued at 8:25 am on Friday 7 January 2011

Synoptic Situation: At 7am EST, an upper level low was located over the Capricornia district while a low level trough was located off the Capricorn coast. These systems will combine to produce further rain areas and thunderstorms over the Southeast Coast and Wide Bay and Burnett forecast districts.

Some heavy falls are currently occurring about southern parts of the Southeast Coast District. Heavy rainfall is also expected to develop further north about the Sunshine Coast and Wide Bay and Burnett district through today. Rainfalls should ease south of the Sunshine Coast later today.

Heavy rainfalls may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 11

Date: Friday, 7 January 2011

Time: 11:25 AM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 11:25:01 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 11:25 am on Friday 7 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the Capricornia district while a low level trough was located near the Queensland east coast. These systems will combine to produce further rain areas and thunderstorms over the Southeast Coast and Wide Bay and Burnett districts.

Heavy rain and isolated thunderstorms are currently occurring about the Southeast Coast district. These conditions are expected to develop in the Wide Bay and Burnett district during this afternoon and evening. Rainfall is expected to ease south of the Sunshine Coast later today.

Heavy rainfall may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Thursday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 12

Date: Friday, 7 January 2011

Time: 15:32 PM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 3:32:35 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 3:35 pm on Friday 7 January 2011

Synoptic Situation: At 3pm EST, an upper level low was located over the Capricornia district while a low level trough was located near the Queensland east coast. The upper level low is forecast to move off the Capricornia coast on Saturday while the low level trough remains slow moving.

Heavy rain and isolated thunderstorms are currently occurring about the Wide Bay and Burnett and Southeast Coast districts north of Brisbane. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

These conditions are expected to persist about the Wide Bay and Burnett district on Saturday while redeveloping throughout the Southeast Coast district during the afternoon and evening.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Friday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 13

Date: Friday, 7 January 2011

Time: 15:37 PM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 3:37:06 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 3:40 pm on Friday 7 January 2011

Synoptic Situation: At 3pm EST, an upper level low was located over the Capricornia district while a low level trough was located near the Queensland east coast. The upper level low is forecast to move off the Capricornia coast on Saturday while the low level trough remains slow moving.

Heavy rain and isolated thunderstorms are currently occurring about the Wide Bay and Burnett and Southeast Coast districts north of Brisbane. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

These conditions are expected to persist in these areas on Saturday while redeveloping throughout the Southeast Coast district during the afternoon and evening.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Friday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 14

Date: Friday, 7 January 2011

Time: 22:50 PM

From: Aifs Operational Manager [redacted]
Sent: Friday, January 07, 2011 10:50:00 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 10:50 pm on Friday 7 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located offshore from the Capricornia district while a low level trough was located near the Wide Bay coast.

Heavy rain and isolated thunderstorms are currently occurring about the southern Wide Bay and Burnett district and are forecast to develop about the Sunshine Coast during Saturday morning, and remaining parts of the Southeast Coast district on Saturday afternoon. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Saturday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 15

Date: Saturday, 8 January 2011

Time: 4:52 AM

From: Aifs Operational Manage[redacted]
Sent: Saturday, January 08, 2011 4:52:00 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 4:55 am on Saturday 8 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located offshore from the Capricornia district while a low level trough was located near the Wide Bay coast.

Heavy rain and isolated thunderstorms are currently occurring about the southern Wide Bay and Burnett district and are forecast to develop about the Sunshine Coast during Saturday morning, and remaining parts of the Southeast Coast district on Saturday afternoon. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall of up to 220mm over the Mary River catchment since 9am Friday has caused rapid river rises there, see separate Flood Warning for details.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Saturday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NOT CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 16

Date: Saturday, 8 January 2011

Time: 11:00 AM

From: Aifs Operational Manager [redacted]
Sent: Saturday, January 08, 2011 11:00:01 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 11:00 am on Saturday 8 January 2011

Synoptic Situation: At 10am EST, an upper level low was located offshore from the Capricornia district while a low level trough was located off the southern coast.

Heavy rain overnight has weakened recently to showers and isolated thunderstorms. Rain areas are expected to return to the Southeast Coast and Wide Bay and Burnett districts from this afternoon, and increase to moderate to heavy falls at times tonight and Sunday. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall of up to 304mm over the Mary River catchment in the 24 hours to 9am Saturday. A Flood Warning is current for this area.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Saturday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 17

Date: Saturday, 8 January 2011

Time: 17:12 PM

From: Aifs Operational Manager [redacted]
Sent: Saturday, January 08, 2011 5:12:38 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast and Wide Bay and Burnett districts.

Issued at 5:15 pm on Saturday 8 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located offshore from the Capricornia district while a low level trough was located off the southern coast.

Rain areas are expected to return to the Southeast Coast and Wide Bay and Burnett districts tonight, and are likely to increase to moderate to heavy falls at times during Sunday. Heavy rain may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall of up to 304mm over the Mary River catchment in the 24 hours to 9am Saturday. A Flood Warning is current for this area.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Saturday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 18

Date: Saturday, 8 January 2011

Time: 22:18 PM

From: Aifs Operational Manager [redacted]
Sent: Saturday, January 08, 2011 10:18:13 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district and southern parts of the Wide Bay and Burnett.

Issued at 10:20 pm on Saturday 8 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located well offshore of the Fraser coast.
Both of these systems are expected to move closer to the coast overnight and during Sunday.

Rain areas and thunderstorms are expected to increase through the Southeast Coast district and southern parts of the Wide Bay and Burnett district from early Sunday. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Sunday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 19

Date: Sunday, 9 January 2011

Time: 4:40 AM

From: Aifs Operational Manager [redacted]
Sent: Sunday, January 09, 2011 4:40:04 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district and southern parts of the Wide Bay and Burnett.

Issued at 4:40 am on Sunday 9 January 2011

Synoptic Situation: At 4am EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located offshore of the southern Queensland coast. Both of these systems are expected to move closer to the coast today.

Rain areas and thunderstorms are expected to increase further through the Southeast Coast district and southern parts of the Wide Bay and Burnett district today. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/old] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Sunday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 20

Date: Sunday, 9 January 2011

Time: 10:54 AM

From: Aifs Operational Manager [redacted]
Sent: Sunday, January 09, 2011 10:54:34 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District.

Issued at 10:55 am on Sunday 9 January 2011

Synoptic Situation: At 10am EST, an upper level low was located offshore of the Capricorn coast. A surface trough was located offshore of the southern Queensland coast. Both of these systems are expected to move closer to the coast today.

Rain areas and thunderstorms are expected to increase further through the Southeast Coast district and southern parts of the Wide Bay and Burnett district today. The heavy rain areas are expected to move into the eastern parts of the Darling Downs and Granite Belt District overnight. Some heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: Rainfall over 100mm was recorded in the last 24 hours about parts of the Sunshine Coast and Hinterland.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5pm Sunday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 21

Date: Sunday, 9 January 2011

Time: 16:55 PM

From: Aifs Operational Manager [redacted]
Sent: Sunday, January 09, 2011 4:55:08 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett, and eastern Darling Downs and Granite Belt District.

Issued at 4:55 pm on Sunday 9 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located near the Wide Bay coast. A surface trough was located near the southern Queensland coast. Both of these systems are moving towards the west and southwest.

Rain areas and thunderstorms are expected to continue about the northern and central parts of the Southeast Coast District, southern parts of the Wide Bay and Burnett District, and northeastern parts of the Darling Downs and Granite Belt district. The heavy rain areas are expected to move into the southern parts towards the border with New South Wales and west to the Granite Belt overnight.
Heavy falls are likely which may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, Maleny has recorded 239mm, West Bellthorpe 233mm and Lindfield 226mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Sunday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 22

Date: Sunday, 9 January 2011

Time: 22:58 PM

From: Aifs Operational Manager [redacted]
Sent: Sunday, January 09, 2011 10:58:25 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:00 pm on Sunday 9 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located over the southern Capricornia. A surface trough was located near the Fraser coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue about northern and central parts of the Southeast Coast District, southern parts of the Wide Bay and Burnett District, and northeastern parts of the Darling Downs and Granite Belt district. The heavy rain areas are expected to extend further south to the New South Wales border and west to the Granite Belt overnight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, Maleny has recorded 336mm, West Bellthorpe 331mm and Lindfield 301mm

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Monday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

BRIEF ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 23

Date: Monday, 10 January 2011

Time: 4:58 PM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 10, 2011 4:58:14 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 5:00 am on Monday 10 January 2011

Synoptic Situation: At 4am EST, an upper level low was located over the southern Capricornia. A surface trough was located near the Fraser coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

Recent events: In the past 24 hours, West Bellthorpe recorded 343mm, Maleny 337mm, and Lindfield 313mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Monday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 24

Date: Monday, 10 January 2011

Time: 11:01 AM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 10, 2011 11:01:52 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:00 am on Monday 10 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the southwest of the Capricornia District. A surface trough was located off the southeast coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards into the Southeast Coast district and southeast parts of the Darling Downs and Granite Belt district during Tuesday.

Recent events: In the 24 hours to 9am EST Monday morning, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Monday

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 25

Date: Monday, 10 January 2011

Time: 11:04 AM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 10, 2011 11:04:39 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 11:05 am on Monday 10 January 2011

Synoptic Situation: At 10am EST, an upper level low was located over the southwest of the Capricornia District. A surface trough was located off the southeast coast. Both of these systems are moving slowly west.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district, far southern parts of the Wide Bay and Burnett District and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards into the Southeast Coast district and southeast parts of the Darling Downs and Granite Belt district during Tuesday.

Recent events: In the 24 hours to 9am EST Monday morning, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm Monday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 26

Date: Monday, 10 January 2011

Time: 17:06 PM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 10, 2011 5:06:14 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast district, far southern parts of the Wide Bay and Burnett district and eastern parts of the Darling Downs and Granite Belt district.

Issued at 5:05 pm on Monday 10 January 2011

Synoptic Situation: At 4pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast district and eastern parts of the Darling Downs and Granite Belt district. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract southwards and gradually ease in the Southeast Coast district and eastern parts of the Darling Downs and Granite Belt district later on Tuesday.

Rainfall has eased in far southern parts of the Wide Bay and Burnett district and therefore the warning for this district is now CANCELLED.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.
In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

The next warning is due to be issued by 11pm Monday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 27

Date: Monday, 10 January 2011

Time: 18:29 PM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 10, 2011 6:29:54 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts.

Issued at 6:30 pm on Monday 10 January 2011

Synoptic Situation: At 6pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt and eastern parts of the Maranoa and Warrego districts this evening. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.
In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 28

Date: Monday, 10 January 2011

Time: 19:51 PM

From: Aifs Operational Manager [redacted]
Sent: Monday, January 10, 2011 7:51:20 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 7:50 pm on Monday 10 January 2011

Synoptic Situation: At 7pm EST, an upper level low was located over the west of the Wide Bay and Burnett district. A surface trough was located off the east Queensland coast. The upper low is forecast to move southwest over the southern interior of Queensland while the surface trough remains slow moving.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts this evening and overnight. Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 24 hours to 9am EST Monday, Maleny received 321mm, West Bellthorpe 310 mm and Peachester 298 mm.
In the 7 hours since 9am EST Monday, Redbank Creek received 126mm, Toowoomba Airport 88mm and Mt Castle 80mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11pm Monday.

DRAFT ONLY THIS DOCUMENT CONTAINS NOT CHECKED OR VERIFIED INFORMATION

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 29

Date: Monday, 10 January 2011

Time: 22:57 PM

From: Aifs Operational Manage[redacted]
Sent: Monday, January 10, 2011 10:57:26 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 11:00 pm on Monday 10 January 2011

Synoptic Situation: At 10pm EST, an upper level low was located over the far southeast of the Central Highlands and Coalfields district. The upper low is forecast to move southwest over the southern interior of Queensland while weakening during Tuesday.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts tonight.
Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract into the Southeast Coast and eastern parts of the Darling Downs and Granite Belt districts during Tuesday. These conditions should gradually ease later in the day.

Recent events: In the 1 hour to 11pm EST Monday, Monsildale and Mt Stanley [situated in northern parts of the Southeast Coast district] both received 58mm.
In the 13 hours since 9am EST Monday, Redbank Creek received 132mm, Ballon 124mm and Mt Castle 103mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5am Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY THIS DOCUMENT IS NOT CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 30

Date: Tuesday, 11 January 2011

Time: 5:04 AM

From: Aifs Operational Manager[redacted]
Sent: Tuesday, January 11, 2011 5:04:24 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and potentially worsening the existing river flood situation For people in the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts.

Issued at 5:05 am on Tuesday 11 January 2011

Synoptic Situation: At 4am EST, an upper level low was located over the Darling Downs and Granite Belt district. The upper low is forecast to move southwest over the southern interior of Queensland while weakening during the day.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast, Darling Downs and Granite Belt, far southern parts of the Wide Bay and Burnett and eastern parts of the Maranoa and Warrego districts today.
Heavy falls may lead to localised flash flooding and/or worsen existing river flooding.

The heavy rain areas and thunderstorms are expected to contract to the south by late today, before gradually easing.

Recent events: Rainfall since 9am Monday Monsildale 160mm, Mt Stanley 135mm, and Redbank Creek 134mm.

Flood warnings are current for various rivers and streams in these districts; refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS UNCHECKED OR UNVERIFIED INFORMATION

WEATHER WARNING 31

Date: Tuesday, 11 January 2011

Time: 7:59 AM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 11, 2011 7:59:22 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to localised flash flooding and worsening the existing river flood situation For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 8:00 am on Tuesday 11 January 2011

Synoptic Situation: At 8am AEST, an upper level low was located over the Darling Downs and Granite Belt district and is forecast to move to the southwest and slowly weaken.

Heavy rain areas and thunderstorms are expected to continue through the Southeast Coast and Darling Downs and Granite Belt today. Heavy falls will lead to localised flash flooding and will worsen existing river flooding.

Currently, an intense slow moving band of rainfall extends from about Maroochydore to Warwick. Rainfall rates in this band are reaching 80 to 100 mm per hour.

Flood warnings are current for various rivers and streams in these districts.
Please refer to these products [www.bom.gov.au/qld] for further information.

The Severe Weather Warning for the southern parts of Wide Bay and Burnett and eastern Maranoa and Warrego and northwestern parts of Darling Downs and Granite Belt districts has been cancelled. However showers and thunderstorms will persist through the area and may produce heavy rainfall in these parts.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11am Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 32

Date: Tuesday, 11 January 2011

Time: 10:59 AM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 11, 2011 10:59:37 AM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to flash flooding and worsening the existing river flood situation For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 11:00 am on Tuesday 11 January 2011

Synoptic Situation: At 10am AEST, an upper level low was located over the southern Queensland interior and is forecast to move to the southwest and continue weakening. A surface trough lying over the Southeast Queensland Coast is expected to weaken overnight.

Heavy rain areas and local thunderstorms are expected to continue through the Southeast Coast and Darling Downs and Granite Belt today. Heavy falls will lead to flash flooding and will worsen existing river flooding.

Currently, an intense band of rainfall extends from about Tewantin to Warwick.
Recent rainfall rates in this band have reached 80 to 100 mm per hour, particularly about the Brisbane and Lockyer Valleys. This rainfall band is expected to remain slow moving during the remainder of today.

Flood warnings are current for various rivers and streams in these districts.
Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 2pm AEST Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 33

Date: Tuesday, 11 January 2011

Time: 13:59 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 11, 2011 1:59:04 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

Transmitters in the areas of the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to flash flooding and worsening the existing river flood situation For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 2:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 2 pm AEST, a surface trough was lying over the Southeast Queensland Coast and is expected to weaken overnight.

Heavy rain areas and local thunderstorms are expected to continue through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to flash flooding and will worsen existing river flooding.

Currently the focus of the heaviest rainfall extends from about Maroochydore to Warwick, including the Brisbane and Lockyer Valleys and Ipswich area. Recent rainfall rates in this band have reached 60 to 80 mm per hour. This rainfall band is expected to remain slow moving during the remainder of today and gradually weaken overnight and during Wednesday morning.

Flood warnings are current for various rivers and streams in these districts.
Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 5 pm AEST Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast *regularly.*

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 34

Date: Tuesday, 11 January 2011

Time: 17:00 PM

From: Aifs Operational Manager [redacted]
Sent: Tuesday, January 11, 2011 5:00:33 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

Transmitters in areas of the Southeast Coast district and the Darling Downs and Granite Belt district southeast of Dalby to Goondiwindi are REQUESTED TO USE THE STANDARD EMERGENCY WARNING SIGNAL BEFORE BROADCASTING.

TOP PRIORITY FOR IMMEDIATE BROADCAST
SEVERE WEATHER WARNING
for heavy rainfall leading to flash flooding and worsening the existing river flood situation For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 5:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 4 pm AEST, southeast Queensland was under the influence of a deep moist easterly airstream, with an upper trough located over the Darling Downs.

Heavy rain areas and local thunderstorms are expected to continue tonight through the Southeast Coast and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi. Heavy falls will lead to further localised flash flooding and will worsen existing river flooding.

The heavy rain areas are expected to gradually weaken overnight and during Wednesday morning.

Flood warnings are current for various rivers and streams in these districts.
Please refer to these products [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters take care on the roads, especially in heavy downpours avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

The next warning is due to be issued by 11 pm AEST Tuesday.

This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted] The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

BRIEF ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WEATHER WARNING 35

Date: Tuesday, 11 January 2011

Time: 21:59 PM

From: Aifs Operational Manage[redacted]
Sent: Tuesday, January 11, 2011 9:59:57 PM
To: weather
Subject: BOM: Severe Weather Warning 1 [SEC=UNCLASSIFIED] Auto forwarded by a Rule

IDQ20032
Australian Government Bureau of Meteorology Queensland

Note: The Standard Emergency Warning Signal is no longer required.

TOP PRIORITY FOR IMMEDIATE BROADCAST
CANCELLATION - SEVERE WEATHER WARNING

For people in the Southeast Coast District and the Darling Downs and Granite Belt District southeast of Dalby to Goondiwindi.

Issued at 10:00 pm on Tuesday 11 January 2011

Synoptic Situation: At 10 pm AEST, southeast Queensland was under the influence of a deep moist east to northeast airstream. A weakening upper trough was moving south.

Heavy rain areas have eased during the past few hours and further flash flooding due to rainfall is no longer expected.

Note that an extremely serious river and stream flood situation still exists.
Refer to flood warnings [www.bom.gov.au/qld] for further information.

The State Emergency Service advises that people in the affected area should:
avoid driving, walking or riding through flood waters avoid swimming in swollen rivers and creeks

Contact the SES on 132 500 for emergency assistance if required.

No further warnings are expected to be issued for this event

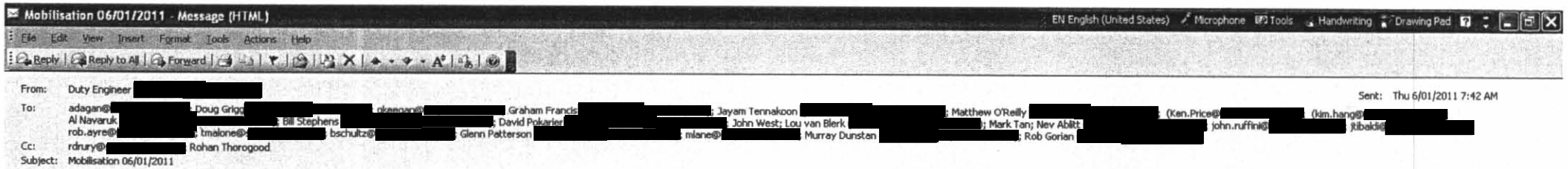
This warning is also available through TV and Radio broadcasts; the Bureau's website at www.bom.gov.au or call [redacted]. The Bureau and State Emergency Service would appreciate this warning being broadcast regularly.

BRIEF ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

APPENDIX H

Flood Event Notification Email

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION



Mobilisation 06/01/2011 - Message (HTML)

EN English (United States) Microphone Tools Handwriting Drawing Pad

File Edit View Insert Format Tools Actions Help

Reply | Reply to All | Forward

From: Duty Engineer [redacted]

Sent: Thu 6/01/2011 7:42 AM

To: adagan@[redacted]; Doug Grigg [redacted]; dkeegan@[redacted]; Graham Francis [redacted]; Jayam Tennakoon [redacted]; Matthew O'Reilly [redacted]; (Ken.Price@[redacted]; (kim.hang@[redacted]; Al Navaruk [redacted]; Bill Stephens [redacted]; David Pokarier [redacted]; John West; Lou van Blerk [redacted]; Mark Tan; Nev Ablitt [redacted]; john.ruffini@[redacted]; jtibaldi@[redacted]; rob.ayre@[redacted]; tmalone@[redacted]; bschultz@[redacted]; Glenn Patterson [redacted]; mlane@[redacted]; Murray Dunstan [redacted]; Rob Gorian [redacted]

Cc: rdrury@[redacted]; Rohan Thorogood

Subject: Mobilisation 06/01/2011

With Wednesday nights rainfall and further totals up to 150mm expected during the next 2 days, please mobilise staff for gate operations at North Pine, Somerset and Wivenhoe Dams.

First operations are expected later today and will continue at least until Saturday morning.

Terry Malone

Duty Engineer
Flood Operations Centre

Phone: [redacted]

Fax: [redacted]

Important information: This email and any attached information is intended only for the addressee and may contain confidential and or privileged information. If you are not the addressee, you are notified that any transmission, distribution, or other use of this information is strictly prohibited. The confidentiality attached to this email is not waived, lost or destroyed by reasons of mistaken delivery to you. If you have received this email in error please contact the sender immediately and delete the material from your email system. QLD Bulk Water Supply Authority ABN75450239876 (Trading as Seqwater).

APPENDIX L

Flood Operations Directives

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DAM

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 1

Date: Friday, 7 January 2011

Time: 12:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Engineer John Rufffini	Operations	Senior Flood Engineer Rob Ayre	Operations	Flood Operations Engineer Terry Malone	Flood Operations Engineer John Tibaldi
[redacted]		[redacted]		[redacted]	[redacted]

1.1.1 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 07/01/2011 Time: 12:00 Directive No: 01

This transmission comprises of this page and 0 other pages.

Message:

The Wivenhoe Dam lake level was 67.81m AHD and rising slowly at 11:00 Friday 07/01/2011.

Prior to gate operations, please close the regulator.

The following gate operations should be undertaken commencing at 15:00 07/01/2011

07/01/2011 15:00	Open Gate	3	from	0.0	metres	to	0.5	metres
07/01/2011 16:00	Open Gate	3	from	0.5	metres	to	1.0	metres
07/01/2011 17:00	Open Gate	3	from	1.0	metres	to	1.5	metres
07/01/2011 18:00	Open Gate	3	from	1.5	metres	to	2.0	metres
07/01/2011 19:00	Open Gate	3	from	2.0	metres	to	2.5	metres
07/01/2011 20:00	Open Gate	3	from	2.5	metres	to	3.0	metres
07/01/2011 21:00	Open Gate	3	from	2.5	metres	to	3.5	metres

By 21:30, Gate 3 will be open 3.5 metres and releasing approximately 400m^3/s.

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 2

Date: Friday, 7 January 2011

Time: 21:45 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

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1.1.2 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 07/01/2011 Time: 21:45 Directive No: 02

This transmission comprises of this page and 0 other pages.

Message:

The following gate operations should be undertaken commencing at 22:00 07/01/2011

07/01/2011 22:00	Open Gate	2	from	0.0	metres	to	0.5	metres
07/01/2011 23:00	Open Gate	4	from	0.0	metres	to	0.5	metres
08/01/2011 00:00	Open Gate	2	from	0.5	metres	to	1.0	metres
08/01/2011 01:00	Open Gate	4	from	0.5	metres	to	1.0	metres
08/01/2011 02:00	Open Gate	1	from	0.0	metres	to	0.5	metres
08/01/2011 03:00	Open Gate	5	from	0.0	metres	to	0.5	metres
08/01/2011 04:00	Open Gate	2	from	1.0	metres	to	1.5	metres

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Ruffini
Duty Engineer

WIVENHOE DIRECTIVE 3

Date: Saturday, 8 January 2011

Time: 04:50 AM

SEQWATER FLOOD OPERATIONS CENTRE

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.3 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 08/01/2011** **Time: 04:50** **Directive No: 03**

This transmission comprises of this page and 0 other pages.

Message:

The following gate operations should be undertaken commencing at 05:00 07/01/2011

08/01/2011 05:00	Open Gate	4	from	1.0	metres	to	1.5	metres
08/01/2011 06:00	Open Gate	1	from	0.5	metres	to	1.0	metres
08/01/2011 07:00	Open Gate	5	from	0.5	metres	to	1.0	metres
08/01/2011 08:00	Open Gate	3	from	3.5	metres	to	4.0	metres

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Ruffini
Duty Engineer

WIVENHOE DIRECTIVE 4

Date: Saturday, 8 January 2011

Time: 08:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

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1.1.4 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 08/01/2011** **Time: 08:15** **Directive No: 04**

This transmission comprises of this page and 0 other pages.

Message:

The following gate operations should be undertaken commencing at 09:00 08/01/2011

08/01/2011 09:00	Open Gate	2	from	1.5	metres	to	2.0	metres
08/01/2011 10:00	Open Gate	4	from	1.5	metres	to	2.0	metres
08/01/2011 11:00	Open Gate	1	from	1.0	metres	to	1.5	metres
08/01/2011 12:00	Open Gate	5	from	1.0	metres	to	1.5	metres
08/01/2011 13:00	Open Gate	2	from	2.0	metres	to	2.5	metres
08/01/2011 14:00	Open Gate	4	from	2.0	metres	to	2.5	metres

It is noted that the hydro will continuing releasing 13 m^3/s. At the completion of these gate operations the dam will be releasing 1,247 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Rob Ayre

Duty Engineer

WIVENHOE DIRECTIVE 5

Date: Sunday, 9 January 2011

Time: 01:00 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Ruffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

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1.1.5 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 09/01/2011**
	Time: 01:00
	Directive No: 05

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operation at 01:30 on 09/01/2011

Open Gate 3 from 4.0 metres to 4.5 metres

It is noted that the hydro will continuing releasing 13 m^3/s. Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Tibaldi
Duty Engineer

WIVENHOE DIRECTIVE 6

Date: Sunday, 9 January 2011

Time: 04:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

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1.1.6 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 09/01/2011**
	Time: 04:30
	Directive No: 06

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operation at 05:00 on 09/01/2011

Open Gate 1 from 1.5 metres to 2.0 metres

It is noted that the hydro will continuing releasing 13 m^3/s. Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Tibaldi
Duty Engineer

WIVENHOE DIRECTIVE 7

Date: Sunday, 9 January 2011

Time: 10:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

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1.1.7 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 09/01/2011**
	Time: 10:30
	Directive No: 07

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operation at 11:00 on 09/01/2011

Open Gate 5 from 1.5 metres to 2.0 metres

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

WIVENHOE DIRECTIVE 8

Date: Monday, 10 January 2011

Time: 02:00 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.8 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 10/01/2011**
	Time: 02:00
	Directive No: 08

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations at 02:00 on 10/01/2011

Open Gate	1	from	2.0	metres	To	2.5	metres	At 02:00
Open Gate	5	from	2.0	metres	To	2.5	metres	At 03:00
Open Gate	2	from	2.5	metres	To	3.0	metres	At 04:00
Open Gate	4	from	2.5	metres	To	3.0	metres	At 05:00
Open Gate	2	from	3.0	metres	To	3.5	metres	At 06:00

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Ruffini
Duty Engineer

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WIVENHOE DIRECTIVE 9

Date: Monday, 10 January 2011

Time: 06:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

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1.1.9 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 10/01/2011
	Time: 06:30
	Directive No: 09

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations at 07:00 on 10/01/2011

Open Gate	4	from	3.0	metres	To	3.5	metres	At 07:00
Open Gate	1	from	2.5	metres	To	3.0	metres	At 08:00
Open Gate	5	from	2.5	metres	To	3.0	metres	At 09:00
Open Gate	2	from	3.5	metres	To	4.0	metres	At 10:00
Open Gate	4	from	3.5	metres	To	4.0	metres	At 11:00

It is noted that the hydro will continuing releasing 13 m^3/s. At the end of these operations the dam will be releasing around 2,180 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

WIVENHOE DIRECTIVE 10

Date: Monday, 10 January 2011

Time: 08:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer John Rufffini	Senior Flood Operations Engineer Rob Ayre	Flood Operations Engineer Terry Malone	Flood Operations Engineer John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.10 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 10/01/2011** **Time: 08:30** **Directive No: 10**

This transmission comprises of this page and 0 other pages.

Message:

This directive replaces Directive #9

Please undertake the following gate operations at 07:00 on 10/01/2011

Open Gate	0	from	3.0	metres	To	3.5	metres	at 07:00
Open Gate	1	from	2.5	metres	To	3.0	metres	at 08:00
Open Gate	5	from	2.5	metres	To	3.0	metres	at 09:00

Following the gate movement at 09:00 10/01/2011 gate will be held at the levels below until further advised.

Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
3.0	3.5	4.5	3.5	3.0

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone

Duty Engineer

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WIVENHOE DIRECTIVE 11

Date: Monday, 10 January 2011

Time: 15:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer John Rufffini	Senior Flood Operations Engineer Rob Ayre	Flood Operations Engineer Terry Malone	Flood Operations Engineer John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

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1.1.11 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 10/01/2011 Time: 15:00 Directive No: 11

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations at 15:00 on 10/01/2011

- Open Gate 2 to 4.0 m at 15:00
- Open Gate 4 to 4.0 m at 15:30
- Open Gate 3 to 5.0 m at 16:00
- Open Gate 1 to 3.5 m at 16:30
- Open Gate 5 to 3.5 m at 17:00
- Open Gate 2 to 4.5 m at 17:30
- Open Gate 4 to 4.5 m at 18:00
- Open Gate 1 to 4.0 m at 18:30
- Open Gate 5 to 4.0 m at 19:00
- Open Gate 1 to 4.5 m at 19:30

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone

Duty Engineer

WIVENHOE DIRECTIVE 12

Date: Tuesday, 11 January 2011

Time: 08:00 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.12 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 08:00
	Directive No: 12

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations at 08:00 on 11/01/2011

- Open Gate 5 to 4.5 m at 08:00
- Open Gates 2 and 4 to 5.0 m at 08:30
- Open Gate 3 to 5.5 m at 09:00

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Tibaldi
Duty Engineer

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WIVENHOE DIRECTIVE 13

Date: Tuesday, 11 January 2011

Time: 09:00 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.13 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 09:00
	Directive No: 13

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 09:30 on 11/01/2011

- Open Gates 2 and 4 to 5.5 m at 09:30
- Open Gates 1 and 5 to 5.5 m at 10:00
- Open Gate 3 to 6.0 m at 10:30
- Open Gates 2 and 4 to 6.0 m at 11:00
- Open Gates 1 and 5 to 6.0 m at 11:30

It is noted that the hydro will continuing releasing 13 m^3/s.

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Tibaldi
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 14

Date: Tuesday, 11 January 2011

Time: 12:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

1.1.14 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 12:00
	Directive No: 14

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 12:00 on 11/01/2011

- Open Gates 2, 3 and 4 to 6.5 m at 12:00
- Open Gates 1 and 5 to 6.5 m at 12:30
- Open Gate 3 to 7.0 m at 13:00

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

John Tibaldi

Duty Engineer

WIVENHOE DIRECTIVE 15

Date: Tuesday, 11 January 2011

Time: 13:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.15 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 13:00
	Directive No: 15

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 13:15 on 11/01/2011

- Open Gates 1,2, 4 and 5 to 7.0 m at 13:15

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 16

Date: Tuesday, 11 January 2011

Time: 13:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.16 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 13:00
	Directive No: 16

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 14:00 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 7.5 m

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 17

Date: Tuesday, 11 January 2011

Time: 14:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.17 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 11/01/2011
	Time: 14:00
	Directive No: 17

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 14:15 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 8.0 m

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 18

Date: Tuesday, 11 January 2011

Time: 14:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.18 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 14:15
	Directive No: 18

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 15:00 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 8.5 m

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 19

Date: Tuesday, 11 January 2011

Time: 15:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.19 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 11/01/2011
	Time: 15:15
	Directive No: 19

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 15:30 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 9.0 m

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 20

Date: Tuesday, 11 January 2011

Time: 15:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.20 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 15:30
	Directive No: 20

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 16:00 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 9.5 m

Please advise the Flood Operations Centre by fax once you have opened the radial gate to each of the required opening.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 21

Date: Tuesday, 11 January 2011

Time: 16:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.21 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 16:15
	Directive No: 21

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 16:30 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 10.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 22

Date: Tuesday, 11 January 2011

Time: 16:45 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.22 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 16:45
	Directive No: 22

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 17:00 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 10.5 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 23

Date: Tuesday, 11 January 2011

Time: 17:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.23 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 17:15
	Directive No: 23

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 17:30 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 11.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 24

Date: Tuesday, 11 January 2011

Time: 18:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.24 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 11/01/2011
	Time: 18:00
	Directive No: 24

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 18:15 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 12.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 25

Date: Tuesday, 11 January 2011

Time: 21:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Ruffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.25 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011** **Time: 21:00** **Directive No: 25**

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 21:15 on 11/01/2011

- Close Gates 1,2, 3, 4 and 5 to 11.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 26

Date: Tuesday, 11 January 2011

Time: 21:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.26 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 11/01/2011
	Time: 21:30
	Directive No: 26

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 21:45 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 11.5 m

Please use a time interval

Please advise the Flood Operations Centre by fax once you have completed this operation.

Rob Ayre
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 25

Date: Tuesday, 11 January 2011

Time: 21:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.25 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 21:00
	Directive No: 25

This transmission comprises of this page and 0 other pages.

Message:

Please open all gates to undertake the following gate operations commencing at 21:15 on 11/01/2011

- Close Gates 1,2, 3, 4 and 5 to 11.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 26

Date: Tuesday, 11 January 2011

Time: 21:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.26 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 11/01/2011
	Time: 21:30
	Directive No: 26

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 21:45 on 11/01/2011

- Open Gates 1,2, 3, 4 and 5 to 11.5 m

Please use a time interval

Please advise the Flood Operations Centre by fax once you have completed this operation.

Rob Ayre
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 27

Date: Tuesday, 11 January 2011

Time: 23:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.27 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 23:00
	Directive No: 27

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 11:30 on 11/01/2011

- Close Gates 5,1,4,2 and 3 to 10.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

Rob Ayre

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 28 (DIRECTIVE NOT SENT)

Date: Tuesday, 11 January 2011

Time: 23:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Ruffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.28 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 11/01/2011**
	Time: 23:00
	Directive No: 28

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 11:30 on 11/01/2011

- Close Gates 5,1,4,2 and 3 to 10.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

Rob Ayre
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVNEHOE DIRECTIVE 29

Date: Wednesday, 12 January 2011

Time: 01:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.29 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 12/01/2011
	Time: 01:15
	Directive No: 29

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 01:30 on 12/01/2011

- Close Gates 5,1,4,2 and 3 to 9.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

Rob Ayre
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 30

Date: Wednesday, 12 January 2011

Time: 03:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.30 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date: 12/01/2011
	Time: 03:15
	Directive No: 30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 03:30 on 12/01/2011

- Close Gates 5,1,4,2 and 3 to 8.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

Rob Ayre
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 31

Date: Wednesday, 12 January 2011

Time: 04:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

1.1.31 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:** 12/01/2011
	Directive No: 31
	Time: 04:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 04:45 on 12/01/2011

- Close Gates 5,1,4,2 and 3 to 7.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

Rob Ayre
Duty Engineer

WIVENHOE DIRECTIVE 32

Date: Wednesday, 12 January 2011

Time: 05:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.32 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date:	12/01/201
	Directive No:	32
	Time:	05:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 05:45 on 12/01/2011

- Close Gates 5,1,4,2 and 3 to 6.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 33

Date: Wednesday, 12 January 2011

Time: 05:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffinl	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.33 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 12/01/201**
	Directive No: 33
	Time: 05:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 06:45 on 12/01/2011

- Close Gates 5,1,4,2 and 3 to 5.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 34

Date: Wednesday, 12 January 2011

Time: 07:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.34 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 12/01/201**
	Directive No: 34
	Time: 07:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 07:30 on 12/01/2011

- Close Gates 1 and 5 to 3.5 m
- Close Gates 2 and 4 to 4.0 m

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 35

Date: Thursday, 13 January 2011

Time: 12:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.35 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 13/01/201**
	Directive No: 35
	Time: 12:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 13:00 on 13/01/2011

- Open Gate 2 from 4.0 metres to 4.5 metres at 1300.
- Open Gate 4 from 4.0 metres to 4.5 metres at 1400.

Please advise the Flood Operations Centre by fax once you have completed this operation.

John Tibaldi
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 36

Date: Thursday, 13 January 2011

Time: 14:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.36 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 13/01/201**
	Directive No: 36
	Time: 14:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 1500 on 13/01/2011

- Open Gate 1 from 3.5 metres to 4.0 metres at 1500.
- Open Gate 5 from 3.5 metres to 4.0 metres at 1600.
- Open Gate 1 from 4.0 metres to 4.5 metres at 1700.
- Open Gate 5 from 4.0 metres to 4.5 metres at 1800.

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Tibaldi

Duty Engineer

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 37

Date: Thursday, 13 January 2011

Time: 18:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.37 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date:	13/01/201
	Directive No:	37
	Time:	18:00

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 1830 on 13/01/2011

- Open Gate 2 from 4.5 metres to 5.0 metres at 1830.
- Open Gate 4 from 4.5 metres to 5.0 metres at 1900.
- Open Gate 1 from 4.5 metres to 5.0 metres at 1930.
- Open Gate 5 from 4.5 metres to 5.0 metres at 2000.
- Open Gate 3 from 5.0 metres to 5.5 metres at 2030.

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Tibaldi

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHEC OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 38

Date: Thursday, 13 January 2011

Time: 20:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.38 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:** 13/01/201
	Directive No: 38
	Time: 20:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 2030 on 13/01/2011

- Open Gate 2 from 5.0 metres to 5.5 metres at 2100.
- Open Gate 4 from 5.0 metres to 5.5 metres at 2200.
- Open Gate 1 from 5.0 metres to 5.5 metres at 2300.
- Open Gate 5 from 5.0 metres to 5.5 metres at 0000 on 14/01/2011

- Open Gate 3 from 5.5 metres to 6.0 metres at 0100 on 14/01/2011
- Open Gate 2 from 5.5 metres to 6.0 metres at 0200.
- Open Gate 4 from 5.5 metres to 6.0 metres at 0300.

Please advise the Flood Operations Centre by fax once you have completed these operations.

Rob Ayre

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 39

Date: Friday, 14 January 2011

Time: 19:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.39 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 14/01/201**
	Directive No: 39
	Time: 19:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 1930 on 14/01/2011

- Open Gate 1 from 5.5 metres to 6.0 metres at 1930.

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Tibaldi
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 40

Date: Saturday, 15 January 2011

Time: 02:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.40 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 15/01/201**
	Directive No: 40
	Time: 02:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 02:30 on 15/01/2011

- Open Gate 5 from 5.5 metres to 6.0 metres at 0230.

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Tibaldi
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 41

Date: Saturday, 15 January 2011

Time: 10:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.41 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date:	15/01/201
	Directive No:	41
	Time:	10:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 10:30 on 15/01/2011

- Open Gate 3 from 6.0 metres to 6.5 metres at 1030.

Please advise the Flood Operations Centre by fax once you have completed these operations.

Terry Malone
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 42

Date: Saturday, 15 January 2011

Time: 15:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.42 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 15/01/201**
	Directive No: 42
	Time: 15:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 17:00 on 15/01/2011

- Open Gate 2 from 6.0 metres to 6.5 metres at 17:00.

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Ruffini

Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 43

Date: Saturday, 15 January 2011

Time: 22:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.43 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 15/01/201**
	Directive No: 43
	Time: 22:00

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 22:00 on 15/01/2011

- Open Gate 4 from 6.0 metres to 6.5 metres at 22:00.

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Ruffini
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

WIVENHOE DIRECTIVE 44

Date: Sunday, 16 January 2011

Time: 02:45 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.44 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date:	16/01/201
	Directive No:	44
	Time:	02:45

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 04:00 on 16/01/2011

- Open Gate 1 from 6.0 metres to 6.5 metres at 04:00 on 16/01/2011.

Please advise the Flood Operations Centre by fax once you have completed these operations.

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

John Ruffini
Duty Engineer

WIVENHOE DIRECTIVE 45

Date: Sunday, 16 January 2011

Time: 08:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.45 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:**	**16/01/201**
	Directive No:	**45**
	Time:	**08:30**

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 09:00 on 16/01/2011

- Open Gate 5 from 6.0 metres to 6.5 metres at 09:00 on 16/01/2011.

Please advise the Flood Operations Centre by fax once you have completed these operations.

Rob Ayre

Duty Engineer

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WIVENHOE DIRECTIVE 46

Date: Sunday, 16 January 2011

Time: 12:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.46 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:**	**16/01/201**
	Directive No:	**46**
	Time:	**12:15**

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 13:00 on 16/01/2011

- Open Gate 3 from 6.5 metres to 7.0 metres at 13:00 on 16/01/2011.

Please advise the Flood Operations Centre by fax once you have completed these operations.

Rob Ayre

Duty Engineer

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WIVENHOE DIRECTIVE 47

Date: Sunday, 16 January 2011

Time: 15:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.47 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 16/01/201**
	Directive No: 47
	Time: 15:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 16:00 on 16/01/2011

- Open Gate 2 from 6.5 metres to 7.0 metres at 16:00 on 16/01/2011.

Please advise the Flood Operations Centre by fax once you have completed these operations.

Rob Ayre

Duty Engineer

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WIVENHOE DIRECTIVE 48

Date: Sunday, 16 January 2011

Time: 18:45 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.48 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:** 16/01/201
	Directive No: 48
	Time: 18:45

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 20:00 on 16/01/2011

- Open Gate 4 from 6.5 metres to 7.0 metres at 20:00 on 16/01/2011.

Please advise the Flood Operations Centre by fax once you have completed these operations.

Rob Ayre

Duty Engineer

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WIVENHOE DIRECTIVE 49

Date: Monday, 17 January 2011

Time: 13:45 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Ruffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

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1.1.49 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 17/01/201**
	Directive No: 49
	Time: 13:45

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 14:00 on 17/01/2011

- Close Gate 4 from 7.0 metres to 6.5 metres at 14:00 on 17/01/2011.
- Close Gate 2 from 7.0 metres to 6.5 metres at 14:20 on 17/01/2011
- Close Gate 3 from 7.0 metres to 6.5 metres at 14:40 on 17/01/2011
- Close Gate 5 from 6.5 metres to 6.0 metres at 15:00 on 17/01/2011

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Ruffini

Duty Engineer

WIVENHOE DIRECTIVE 50

Date: Monday, 17 January 2011

Time: 14:45 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Ruffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.50 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:** 17/01/201
	Directive No: 50
	Time: 14
	14:45

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 15:15 on 17/01/2011

- Close Gate 4 from 6.5 metres to 6.0 metres at 15:20 on 17/01/2011.
- Close Gate 2 from 6.5 metres to 6.0 metres at 15:40 on 17/01/2011

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Ruffini

Duty Engineer

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WIVENHOE DIRECTIVE 51

Date: Monday, 17 January 2011

Time: 15:50 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.51 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:** 17/01/201
	Directive No: 51
	Time: 15:50

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 16:00 on 17/01/2011

- Close Gate 1 from 6.5 metres to 6.0 metres at 16:00 on 17/01/2011
- Close Gate 3 from 6.5 metres to 6.0 metres at 16:20 on 17/01/2011.
- Close Gate 5 from 6.0 metres to 5.5 metres at 16:40 on 17/01/2011
- Close Gate 1 from 6.0 metres to 5.5 metres at 17:00 on 17/01/2011
- Close Gate 4 from 6.0 metres to 5.5 metres at 17:20 on 17/01/2011
- Close Gate 2 from 6.0 metres to 5.5 metres at 17:40 on 17/01/2011
- Close Gate 3 from 6.0 metres to 5.5 metres at 18:00 on 17/01/2011

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Ruffini

Duty Engineer

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WIVENHOE DIRECTIVE 52

Date: Monday, 17 January 2011

Time: 17:50 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.52 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date:** 17/01/201
	Directive No: 52
	Time: 17:50

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 18:30 on 17/01/2011

- Close Gate 5 from 5.5 metres to 5.0 metres at 18:30 on 17/01/2011
- Close Gate 1 from 5.5 metres to 5.0 metres at 19:00 on 17/01/2011.
- Close Gate 4 from 5.5 metres to 5.0 metres at 19:30 on 17/01/2011
- Close Gate 2 from 5.5 metres to 5.0 metres at 20:00 on 17/01/2011
- Close Gate 3 from 5.5 metres to 5.0 metres at 20:30 on 17/01/2011
- Close Gate 5 from 5.0 metres to 4.5 metres at 21:00 on 17/01/2011
- Close Gate 1 from 5.0 metres to 4.5 metres at 21:30 on 17/01/2011
- Close Gate 2 from 5.0 metres to 4.5 metres at 22:00 on 17/01/2011
- Close Gate 4 from 5.0 metres to 4.5 metres at 22:30 on 17/01/2011
- Close Gate 5 from 4.5 metres to 4.0 metres at 22:00 on 17/01/2011

Please advise the Flood Operations Centre by fax once you have completed these operations.

John Ruffini

Duty Engineer

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WIVENHOE DIRECTIVE 53

Date: Monday, 17 January 2011

Time: 21:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.53 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 17/01/201**
	Directive No: 53
	Time: 21:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 23:00 on 17/01/2011

- Close Gate 5 from 4.5 metres to 4.0 metres at 23:00 on 17/01/2011
- Close Gate 1 from 4.5 metres to 4.0 metres at 23:30 on 17/01/2011
- Close Gate 5 from 4.0 metres to 3.5 metres at 00:00 on 18/01/2011
- Close Gate 1 from 4.0 metres to 3.5 metres at 00:30 on 18/01/2011
- Close Gate 4 from 4.5 metres to 4.0 metres at 01:00 on 18/01/2011
- Close Gate 2 from 4.5 metres to 4.0 metres at 01:30 on 18/01/2011
- Close Gate 5 from 3.5 metres to 3.0 metres at 02:00 on 18/01/2011
- Close Gate 1 from 3.5 metres to 3.0 metres at 03:00 on 18/01/2011
- Close Gate 3 from 5.0 metres to 4.5 metres at 04:00 on 18/01/2011
- Close Gate 4 from 4.0 metres to 3.5 metres at 05:00 on 18/01/2011
- Close Gate 2 from 4.0 metres to 3.5 metres at 06:00 on 18/01/2011
- Close Gate 5 from 3.0 metres to 2.5 metres at 07:00 on 18/01/2011
- Close Gate 1 from 3.0 metres to 2.5 metres at 08:00 on 18/01/2011

Please advise the Flood Operations Centre by fax once you have completed these operations.

Terry Malone

Duty Engineer

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WIVENHOE DIRECTIVE 54

Date: Tuesday, 18 January 2011

Time: 00:45 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.54 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date:	18/01/2011
	Directive No:	54
	Time:	00:45

This transmission comprises of this page and 0 other pages.

Message:

Please cease all gate operations as at 00:45 on 18/01/2011 until further notice.

The last gate operation undertaken from the previous directive (#53) should be as follows:

- Close Gate 1 from 4.0 metres to 3.5 metres at 00:30 on 18/01/2011

This directive supersedes all previous directives.

Please advise the Flood Operations Centre by fax once you have completed these operations.

Terry Malone
Duty Engineer

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WIVENHOE DIRECTIVE 55

Date: Tuesday, 18 January 2011

Time: 08:45 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	**Senior Flood Operations Engineer**	**Flood Operations Engineer**	**Flood Operations Engineer**
John Rufffini	**Rob Ayre**	**Terry Malone**	**John Tibaldi**
[redacted]	[redacted]	[redacted]	[redacted]

1.1.55 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 18/01/2011**
	Directive No: 55
	Time: 08:45

This transmission comprises of this page and 0 other pages.

Message:

Please re-commence gate operations as at 09:00 on 18/01/2011.

- Close Gate 4 from 4.5 metres to 4.0 metres at 09:00 on 18/01/2011
- Close Gate 2 from 4.5 metres to 4.0 metres at 09:30 on 18/01/2011
- Close Gate 5 from 3.5 metres to 3.0 metres at 10:00 on 18/01/2011
- Close Gate 1 from 3.5 metres to 3.0 metres at 10:30 on 18/01/2011
- Close Gate 3 from 5.0 metres to 4.5 metres at 11:00 on 18/01/2011
- Close Gate 4 from 4.0 metres to 3.5 metres at 11:30 on 18/01/2011
- Close Gate 2 from 4.0 metres to 3.5 metres at 12:00 on 18/01/2011

Please advise the Flood Operations Centre by fax/email once you have completed these operations.

Please continue to report levels at hourly intervals.

Rob Ayre

Duty Engineer

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WIVENHOE DIRECTIVE 56

Date: Tuesday, 18 January 2011

Time: 12:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.56 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 18/01/2011**
	Directive No: 56
	Time: 12:15

This transmission comprises of this page and 0 other pages.

Message:

Please re-commence gate operations as at 12:30 on 18/01/2011.

- Close Gate 3 from 3.0 metres to 2.5 metres at 12:30 on 18/01/2011
- Close Gate 1 from 3.0 metres to 2.5 metres at 13:00 on 18/01/2011
- Close Gate 4 from 3.5 metres to 3.0 metres at 14:00 on 18/01/2011
- Close Gate 2 from 3.5 metres to 3.0 metres at 14:30 on 18/01/2011
- Close Gate 4 from 3.0 metres to 2.5 metres at 15:00 on 18/01/2011
- Close Gate 2 from 3.0 metres to 2.5 metres at 15:30 on 18/01/2011

Please advise the Flood Operations Centre by fax/email once you have completed these operations.

Please continue to report levels at hourly intervals.

Rob Ayre

Duty Engineer

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WIVENHOE DIRECTIVE 57

Date: Tuesday, 18 January 2011

Time: 15:15 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.57 Flood Event - Operations Directive

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TO: Wivenhoe Dam Operators	Date:	18/01/2011
	Directive No:	57
	Time:	15:15

This transmission comprises of this page and 0 other pages.

Message:

Please cease gate operations as at 15:00 on 18/01/2011 so as to accommodate the repairs at Lowood pump station.

Current gate settings of :-

Gate 1 – Open 2.5 metres
Gate 2 – Open 3.0 metres
Gate 3 – Open 4.5 metres
Gate 4 – Open 3.0 metres
Gate 5 – Open 2.5 metres

Please confirm these current settings. It is expected these settings will be maintained for up to 12 hours.

Please continue to report levels at hourly intervals.

Rob Ayre

Duty Engineer

WIVENHOE DIRECTIVE 58

Date: Tuesday, 18 January 2011

Time: 20:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Ruffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.58 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 18/01/2011**
	Directive No: 58
	Time: 20:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 20:45 on 18/01/2011.

- Close Gate 4 from 3.0 metres to 2.5 metres at 20:45 on 18/01/2011
- Close Gate 2 from 3.5 metres to 2.5 metres at 21:15 on 18/01/2011

Please advise the Flood Operations Centre by fax/email once you have completed these operations.

John Tibaldi

Duty Engineer

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WIVENHOE DIRECTIVE 59

Date: Tuesday, 18 January 2011

Time: 21:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.59 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date:	18/01/2011
	Directive No:	59
	Time:	21:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 21:30 on 18/01/2011.

- Close Gate 5 from 2.5 metres to 2.0 metres at 22:00 on 18/01/2011
- Close Gate 1 from 2.5 metres to 2.0 metres at 22:30 on 18/01/2011

Please advise the Flood Operations Centre by fax/email once you have completed these operations.

John Tibaldi

Duty Engineer

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WIVENHOE DIRECTIVE 60

Date: Tuesday, 18 January 2011

Time: 22:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer John Rufffini	Senior Flood Operations Engineer Rob Ayre	Flood Operations Engineer Terry Malone	Flood Operations Engineer Jeff Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

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1.1.60 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 18/01/2011**
	Directive No: 60
	Time: 22:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 23:00 on 18/01/2011.

- Close Gate 5 from 2.0 metres to 1.5 metres at 23:00 on 18/01/2011
- Close Gate 1 from 2.0 metres to 1.5 metres at 23:30 on 18/01/2011
- Close Gate 3 from 4.5 metres to 4.0 metres at 00:00 on 19/01/2011
- Close Gate 4 from 2.5 metres to 2.0 metres at 00:30 on 19/01/2011
- Close Gate 2 from 2.5 metres to 2.0 metres at 01:00 on 19/01/2011
- Close Gate 5 from 1.5 metres to 1.0 metres at 01:30 on 19/01/2011
- Close Gate 1 from 1.5 metres to 1.0 metres at 02:00 on 19/01/2011
- Close Gate 4 from 2.0 metres to 1.5 metres at 02:30 on 19/01/2011
- Close Gate 2 from 2.0 metres to 1.5 metres at 03:00 on 19/01/2011
- Close Gate 5 from 1.0 metres to 0.5 metres at 03:30 on 19/01/2011
- Close Gate 1 from 1.0 metres to 0.5 metres at 04:00 on 19/01/2011
- Close Gate 4 from 1.5 metres to 1.0 metres at 04:30 on 19/01/2011
- Close Gate 2 from 1.5 metres to 1.0 metres at 05:00 on 19/01/2011

Please advise the Flood Operations Centre by fax/email once you have completed these operations.

John Tibaldi

Duty Engineer

WIVENHOE DIRECTIVE 61

Date: Wednesday, 19 January 2011

Time: 05:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.61 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	**Date: 19/01/2011**
	Directive No: 61
	Time: 05:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 05:30 on 19/01/2011.

- Close Gate 6 from 0.5 metres to fully closed at 05:30 on 19/01/2011
- Close Gate 1 from 0.5 metres to fully closed at 06:00 on 19/01/2011
- Close Gate 4 from 1.0 metres to 0.5 metres at 06:30 on 19/01/2011
- Close Gate 2 from 1.0 metres to 0.5 metres at 07:00 on 19/01/2011
- Close Gate 3 from 4.0 metres to 3.5 metres at 07:30 on 19/01/2011
- Close Gate 4 from 0.5 metres to fully closed at 08:00 on 19/01/2011
- Close Gate 2 from 0.5 metres to fully closed at 08:30 on 19/01/2011

Please advise the Flood Operations Centre by fax/email once you have completed these operations.

John Tibaldi
Duty Engineer

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WIVENHOE DIRECTIVE 62

Date: Wednesday, 19 January 2011

Time: 08:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.62 Flood Event - Operations Directive

TO: Wivenhoe Dam Operators	Date:	19/01/2011
	Directive No:	62
	Time:	08:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following gate operations commencing at 09:00 on 19/01/2011:

Time between successive gate movements is 30 minutes.

- Close Gate 3 from 3.5 metres to 3.0 metres at 09:00 on 19/01/2011
- Close Gate 3 from 3.0 metres to 2.5 metres at 09:30 on 19/01/2011
- Close Gate 3 from 2.5 metres to 2.0 metres at 10:00 on 19/01/2011
- Close Gate 3 from 2.0 metres to 1.5 metres at 10:30 on 19/01/2011
- Close Gate 3 from 1.5 metres to 1.0 metres at 11:00 on 19/01/2011
- Close Gate 3 from 1.0 metres to 0.5 metres at 11:30 on 19/01/2011
- Close Gate 3 from 0.5 metres to fully closed at 12:00 on 19/01/2011

Please advise the Flood Operations Centre by fax/email once you have completed these operations.

Terry Malone
Duty Engineer

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SOMERSET DIRECTIVE 1

Date: Friday, 7 January 2011

Time: 17:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffinl
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.63 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date: 07/01/2011** **Time: 17:00** **Directive No: 01**

This transmission comprises of this page and 0 other pages.

Message:

Please open a regulator 100%

Terry Malone
Duty Engineer

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SOMERSET DIRECTIVE 2

Date: Friday, 7 January 2011

Time: 18:00 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.64 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date: 07/01/2011** **Time: 18:00** **Directive No: 2**

This transmission comprises of this page and 0 other pages.

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Message:

Given the headwater level in Wivenhoe is still rising and may impact upon the open regulator at Somerset in the next 12 hours, it is preferable to close the regulator and open a sluice.

At 19:00, close Regulator #3 and open Sluice L.

Regards

Terry Malone
Duty Engineer

SOMERSET DIRECTIVE 3

Date: Saturday, 8 January 2011

Time: 11:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

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FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.65 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date: 08/01/2011**
	Time: 11:30
	Directive No: 3

This transmission comprises of this page and 0 other pages.

Message:

Somerset Dam is expected to peak at around mid-day at about EL 100.48 m. As we have exceeded EL 100.46 m (fixed crest level), but Wivenhoe Dam is still rising we will need to implement Strategy S2.

This strategy is aimed at maximising the benefits of the mitigation storage in both Somerset and Wivenhoe dams. Consequently we will endeavour to follow the target line as defined in the manual.

- Please open Sluice M to 100% at 12:00.

Please confirm this gate operation by fax once you have completed the opening.

Regards

Rob Ayre
Duty Engineer

SOMERSET DIRECTIVE 4

Date: Sunday, 9 January 2011

Time: 08:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.66 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date: 09/01/2011**
	Time: 08:15
	Directive No: 4

This transmission comprises of this page and 0 other pages.

Message:

Inflows to Somerset Dam are expected to increase in the next few hours due to rain in the last 6 hours with falls up to 75mm

- Please open Sluice K to 100% at 09:00.

Please confirm this gate operation by fax once you have completed the opening.

Regards

Terry Malone
Duty Engineer

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SOMERSET DIRECTIVE 5

Date: Sunday, 9 January 2011

Time: 12:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.67 Flood Event - Operations Directive

TO: Somerset Dam Operators	Date: 09/01/2011 Time: 12:30 Directive No: 5

This transmission comprises of this page and 0 other pages.

Message:

Inflows to Somerset Dam are expected to increase in the next few hours due to rain in the last 6 hours with falls up to 75mm

- Please open Sluice N to100% at 13:00
- Please open Sluice J to 100% at 14:00

Please confirm this gate operation by fax once you have completed the opening.

Regards

Terry Malone
Duty Engineer

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SOMERSET DIRECTIVE 6

Date: Tuesday, 11 January 2011

Time: 04:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.68 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date: 11/01/2011** **Time: 04:30** **Directive No: 6**

This transmission comprises of this page and 0 other pages.

Message:

Significant rainfall has fallen in the Upper Brisbane River in the last 12 hours. This has resulted in further inflows into Wivenhoe Dam. To prevent Wivenhoe Dam exceeding the trigger level for implementation of strategy W4 (EL74.00 m AHD) we will need to store floodwater in Somerset Dam.

Therefore we need to reduce releases from Somerset Dam so as to equalise the relative volumes in flood storage.

Please undertake the following operations:-

- Please close Sluice J at 05:00
- Please close Sluice N at 06:00
- Please close Sluice K at 07:00

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

Rob Ayre
Duty Engineer

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SOMERSET DIRECTIVE 7

Date: Tuesday, 11 January 2011

Time: 08:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.69 Flood Event - Operations Directive

TO: Somerset Dam Operators	Date:	12/01/2011
	Directive No:	7
	Time:	10:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following operations:-

- Fully Open Sluice L at 10:30.

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

John Tibaldi
Duty Engineer

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHEC[illegible]R VERIFIED INFORMATION

SOMERSET DIRECTIVE 8

Date: Wednesday, 12 January 2011

Time: 10:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.70 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date: 12/01/2011**
	Directive No: 8
	Time: 10:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following operations:-

- Fully Open Sluice L at 10:30.

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

John Tibaldi
Duty Engineer

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SOMERSET DIRECTIVE 9

Date: Thursday, 13 January 2011

Time: 8:15 AM

SEQWATER FLOOD OPERATIONS CENTRE

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.71 Flood Event - Operations Directive

TO: Somerset Dam Operators	Date:	13/01/2011
	Directive No:	9
	Time:	8:15

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following operations:-

- Fully Open Sluice M at 08:30.

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

John Tibaldi

Duty Engineer

SOMERSET DIRECTIVE 10

Date: Thursday, 13 January 2011

Time: 12:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.72 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date:** 13/01/2011
	Directive No: 10
	Time: 12:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following operations:-

- Fully Open Sluice K at 13:00.

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

John Tibaldi
Duty Engineer

DRAFT ONLY THIS DOCUMENT CONTAINS NO CHEC[illegible]R VE[illegible]ED INFORMATION

SOMERSET DIRECTIVE 11

Date: Thursday, 13 January 2011

Time: 20:45 PM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.73 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date:** 13/01/2011
	Directive No: 11
	Time: 20:45

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following operations:-

- Fully Open Sluice N at 21:00.

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

Rob Ayre
Duty Engineer

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHEC[illegible]R VERIFIED INFORMATION

SOMERSET DIRECTIVE 12

Date: Sunday, 16 January 2011

Time: 09:30 AM

SEQWATER FLOOD OPERATIONS CENTRE

FACSIMILE MESSAGE

Senior Flood Operations Engineer	Senior Flood Operations Engineer	Flood Operations Engineer	Flood Operations Engineer
John Rufffini	Rob Ayre	Terry Malone	John Tibaldi
[redacted]	[redacted]	[redacted]	[redacted]

1.1.74 Flood Event - Operations Directive

TO: Somerset Dam Operators	Date: 16/01/2011
	Directive No: 13
	Time: 21:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following operations:-

- Fully Close Sluice K at 22:00 on 16/01/2011
- Fully Close Sluice M at 03:00 on 17/01/2011
- Fully Close Sluice L at 07:00 on 17/01/2011
- Fully Open Regulator

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

John Tibaldi

Duty Engineer

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SOMERSET DIRECTIVE 13

Date: Sunday, 16 January 2011

Time: 12:30 PM

SEQWATER FLOOD OPERATIONS CENTRE

DRAFT ONLY - THIS DOCUMENT CONTAINS NO CHECKED OR VERIFIED INFORMATION

FACSIMILE MESSAGE

Senior Flood Operations Engineer
John Rufffini
[redacted]

Senior Flood Operations Engineer
Rob Ayre
[redacted]

Flood Operations Engineer
Terry Malone
[redacted]

Flood Operations Engineer
John Tibaldi
[redacted]

1.1.75 Flood Event - Operations Directive

TO: Somerset Dam Operators	**Date: 16/01/2011**
	Directive No: 13
	Time: 21:30

This transmission comprises of this page and 0 other pages.

Message:

Please undertake the following operations:-

- Fully Close Sluice K at 22:00 on 16/01/2011
- Fully Close Sluice M at 03:00 on 17/01/2011
- Fully Close Sluice L at 07:00 on 17/01/2011
- Fully Open Regulator 12 at 07:15 on 17/01/2011

Please confirm this gate operation by fax once you have completed the requested operations.

Regards

John Tibaldi

Duty Engineer

APPENDIX M

Flood Event Log

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DATE	TIME	ACTION	CATEGORY	INITIALS
	8:00 AM	SDWD Model Updated - SDWD-201101060800.xls	Model Run	JW
	8:00 AM	NPD model updated - NPD-201101060800.xls	Model Run	JW
	8:30 AM	MT spoke with Graham Keegan (Stand-in Central Coordinator) about readiness of staff for flood operations. Graham confirms that staff have been rostered and are ready.	Correspondence	MT
	8:50 AM	Andy Bickerton (MBRC) called to query about flows are Fernvale bridge. TM provided an update for possible gate operations.	Correspondence	MT
	9:05 AM	Glen Paterson called to inform that North Pine Dam staff have been rostered and are ready.	Correspondence	MT
	9:40 AM	Rob Drury called to inform that Tony Trace has returned to the office and is contactable. He also requested for a situation update.	Correspondence	MT
	11:00 AM	Tony Trace (Ipswich City Council (ICC)) called for a situation update. TM shared the release strategy for tonight.	Correspondence	MT
	11:49 AM	TM advised MBRC Call Centre that North Pine Dam will commence gate operations tonight. He requested for MBRC to call him.	Correspondence	MT
	12:00 PM	SDWD Model Updated - SDWD-201101061200.xls	Model Run	JW
	12:04 PM	Kerry (MBRC) called. TM advised her that the latest North Pine Dam gates may be opened will be 7:00pm today. FOC will advise them accordingly.	Correspondence	MT
	12:43 PM	Andy Bickerton (MBRC) called. TM advised that water will be over Savages Crossing until end of the week.	Correspondence	MT
	12:46 PM	TM advised Ken Marsh (BCC) Wivenhoe Dam will commence gate operations later today.	Correspondence	MT
	1:32 PM	TM left message for Tony Jacobs (SRC) to return his call.	Correspondence	MT
	1:35 PM	TM advised Andy Bickerton (MBRC) Wivenhoe gate operations will be delayed to Saturday morning. This is due to higher than expected inflows from Lockyer.	Correspondence	MT
	1:45 PM	TM advised Tony Trace (ICC) Wivenhoe's gate operations will be delayed till Saturday morning. This is due to higher than expected inflows from Lockyer.	Correspondence	MT
	1:46 PM	TM left message for Chris Levin (BCC) to return his call.	Correspondence	MT
	1:47 PM	TM left message for Ken Morris (BCC) to return his call.	Correspondence	MT
	2:41 PM	Andy Bickerton (MBRC) asked for TM's mobile. He wanted to share MBRC's text message informing people living downstream from North Pine Dam.	Correspondence	MT
	2:45 PM	Ken Morris (BCC) called for situation update. TM provided an update.	Correspondence	MT
	3:00 PM	SDWD Model Updated - SDWD-201101061500.xls	Model Run	JW
	3:11 PM	Jimmy Stewart (BoM) called to discuss with TM about readings from Upper Brisbane & Lockyer. Jimmy & TM are in agreement on readings.	Correspondence	MT
	3:19 PM	Kerry (MBRC) called. TM advised her North Pine Dam will commence gates operations from 19:00 hrs.	Correspondence	MT

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4:00 PM	SDWD Model Updated - SDWD-201101061600.xls	Model Run	JW
4:00 PM	NPD model updated - NPD-201101061600.xls	Model Run	
6:57 PM	Brett Schultz (North Pine Dam) called to inform that MBRC workmen were waiting until 19:00 hrs to close Young's Crossing boom gates. This delayed dam gate opening by 15 minutes.	Correspondence	NGA
7:45 PM	Graham Francis (Somerset Dam) called to enquire about the release strategy. RA advised the impacts of the Lockyer flow were being monitored. Communication by e-mail was O.K.'ed.	Correspondence	NGA
9:00 PM	NPD model updated - NPD-201101062100.xls	Model Run	
9:00 PM	SDWD Model Updated - SDWD-201101062100.xls	Model Run	JW
7:00 AM	TM and LVB commenced day shift.	Other	LVB
8:00 AM	Advice from BoM indicates that SEQ can expect some high rainfall totals over the next 5 days up to Tuesday 11/1/11 with the largest falls predicted for Sunday and Monday.	Correspondence	LVB
8:00 AM	NPD model updated - NPD-201101070800.xls	Model Run	
8:21 AM	Called Tony Jacobs @ Somerset Council to inform him that the Lockyer is running - all bridges in Somerset Region will be cut off this morning. Wivenhoe gates will be opened once the Lockyer peak is through.	Correspondence	LVB
8:40 AM	FOC called Kerry (MBRC) to inform them that North Pine will be operate for the next few days - probably till Tuesday.	Correspondence	LVB
8:44 AM	Called Chris Lavin (BCC) to inform that Wivenhoe gates will be opened again this afternoon and releases might peak at 1500m3/s. This might continue until the end of next week.	Correspondence	LVB
8:47 AM	Called Tony Trace (ICC) to inform him that Wivenhoe gates will be opened again this afternoon and releases might peak at 1500m3/s. This might continue until the end of next week.	Correspondence	LVB
10:12 AM	Called Robert Glen (BCC) to provide situation report.	Correspondence	LVB
12:00 PM	NPD model updated - NPD-201101071200.xls	Correspondence	
12:00 PM	SDWD Model Updated - SDWD-201101071200.xls	Model Run	JW
3:02 PM	Don Carrol (BCC) called FOC with concerns that dam release will add another 200mm on top of abnormal high tide. TM spoke to Jimmy Stewart (BoM) who advised that the effect could be around 50mm - if that can be measured.	Correspondence	LVB
6:00 PM	SDWD Model Updated - SDWD-201101071800.xls	Model Run	JW
7:55 AM	Agg Dagan from Somerset Dam rang enquiring on Somerset's strategy. RA advised possibly opening a gate later today.	Correspondence	AN
8:10 AM	RA advised Matthew O'Reilly (Wivenhoe Dam) on directive #4 and discussed strategy.	Correspondence	AN
8:20 AM	RA rang Brett Schultz (North Pine Dam) and advised on strategy.	Correspondence	AN
9:00 AM	SDWD Model Updated - SDWD-201101080900.xls	Model Run	JW
9:00 AM	Agg Dagan (Somerset Dam) rang to advise he is going into Kilcoy to see the treatment plant and will be off-site for a couple of hours.	Correspondence	AN
10:00 AM	NPD model updated - NPD-201101081000.xls	Model Run	JW
10:50 AM	Rob Drury rang. RA advised current status and strategy.	Correspondence	AN

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11:30 AM	Ken Morris (BCC) rang asking about combined flows down the Brisbane River (Wivenhoe, Warrill Creek and Bremer River). AN advised that at this stage flows would not exceed 1500m3/sec.	Correspondence	AN
3:00 PM	NPD model updated - NPD-201101081500.xls	Correspondence	
3:00 PM	SDWD Model Updated - SDWD-201101081500.xls, SDWD-201101081500-Forecast72hr.xls	Model Run	JW
6:50 AM	Rob Drury rang. JT advised Rob on current release strategy based on recent heavy overnight rainfall.	Correspondence	NGA
7:00 AM	SDWD Model Updated - SDWD-201101090700.xls	Model Run	JW
8:40 AM	TM called BoM regarding advice received that widespread rain was expected to continue in the catchment areas over the next 24 - 48 hours.	Correspondence	NGA
9:00 AM	SDWD Model Updated - SDWD-201101090900.xls	Model Run	JW
9:00 AM	NPD model updated - NPD-201101090900.xls	Model Run	JW
12:00 PM	SDWD Model Updated - SDWD-201101091200.xls	Model Run	JW
12:00 PM	RA scheduled meeting of Duty Engineers this afternoon to discuss current situation and forward release strategies.	Correspondence	NGA
2:00 PM	SDWD Model Updated - SDWD-201101091400.xls	Model Run	JW
2:00 PM	NPD model updated - NPD-201101091400.xls	Model Run	JW
2:30 PM	NA called Agg Dagan (Somerset Dam) and requested status readings be faxed to the FOC on an hourly basis until advised otherwise. Current Somerset lake level is EL 100.54 and rising fast.	Correspondence	NGA
2:42 PM	FOC called Brett Schultz (North Pine Dam) advising of impending gate openings due to recent heavy rainfall and subsequent projected inflows.	Correspondence	NGA
3:00 PM	NPD model updated - NPD-201101091500.xls	Model Run	JW
4:00 PM	SDWD Model Updated - SDWD-201101091600.xls	Model Run	JW
4:15 PM	TM called Tony Jacobs (Somerset RC) advising that the current strategy was to maintain a flow in the Brisbane River such that the Fernvale Bridge and the Mount Crosby Bridge could be kept open. However, future rainfall could well impact on those roads remaining open. Closure next Tuesday is a real possibility at this stage.	Correspondence	NGA
4:20 PM	Terry Malone phoned Tony Trace (ICC) advising that the current strategy was to maintain flow in the Brisbane River such that the Fernvale Bridge and the Mount Crosby Bridge could be kept open. However, future rainfall could well impact on those roads remaining open. Closure next Tuesday is a real possibility at this stage.	Correspondence	NGA
4:25 PM	TM called Chris Lavin (BCC). A message was left to phone FOC.	Correspondence	NGA
4:26 PM	TM called Ken Morris (BCC). A message was left to phone FOC.	Correspondence	NGA
4:27 PM	Ken Morris returned phone call. Ken was advised by TM that the current strategy was to maintain a flow in the Brisbane River such that the Fernvale Bridge and the Mount Crosby Bridge could be kept open. However, future rainfall could well impact on those road.s remaining open. Closure next Tuesday is a real possibility at this stage. Flow in the Lower Brisbane potentially might reach 3,000 cumecs by next Wednesday or Thursday.	Correspondence	NGA

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5:18 PM	NA left a message with Graham Keegan (A/Co-ord) regarding the potential for Fernvale Bridge and Mount Crosby Bridge to be closed, possibly from Tuesday. This may impact on staffing issues for both Wivenhoe and Somerset Dams during this flood event. Request for Graham to contact the FOC ASAP.	Correspondence	NGA
5:25 PM	Don Carroll (BCC) returned call to TM. TM advised potential for releasing up to 2,500 cumecs by Tuesday. With further heavy rainfall, as forecast, the flow in the Lower Brisbane could increase to 3,000 cumecs with potential for closure of Fernvale Bridge and Mount Crosby Bridge by Thursday (possibly Wednesday). Releases from Wivenhoe are dependant on flows from Lockyer Ck and inflow into Wivenhoe. FOC will continue to update BCC.	Correspondence	NGA
5:32 PM	Brett Schultz (NPD) phoned the FOC with a manual reading of EL 20.660 at Lake Kurwongbah. Brett noted that should NPD gates be closed in the near future, the Lake Kurwongbah tailwater would impact on Youngs Crossing.	Correspondence	NGA
5:40 PM	Rob Drury phoned TM for an update on the current situation.	Correspondence	NGA
5:45 PM	Graham Keegan returned call and NA advised that TM had requested Graham to factor into his staffing roster of Wivenhoe and Somerset Dams the potential for the Fernvale bridge and the Mount Crosby Bridge to be closed from mid-week sometime, depending on the likelihood of further heavy rainfall.	Correspondence	NGA
5:58 PM	TM called Jeff Perkins (BoM) to discuss Wivenhoe Dam's release strategy i.e. Major bridge open strategy Vs increased inflow into Wivenhoe resulting from current heavy rainfall. Situation will become clearer in 24 hours time.	Correspondence	NGA
6:00 PM	SDWD Model Updated - SDWD-201101091800.xls	Model Run	JW
6:00 PM	NPD model updated - NPD-201101091800.xls	Model Run	JW
6:35 PM	The caretaker from the house at the Colleges Crossing Reserve rang FOC to enquire about predicted flood height at the Colleges Crossing Bridge. TM referred him to Tony Trace (ICC) for an update on flood information affecting the Ipswich area. Advised no change in Wivenhoe releases at this stage and the future options were presently unknown.	Correspondence	NGA
7:00 PM	SDWD Model Updated - SDWD-201101091900.xls, SDWD-201101091900norain.xls, SDWD-201101091900withrain.xls	Model Run	JW
7:10 PM	FOC called Tony Jacobs (SRC) advising him that high releases from Wivenhoe (3000 cumecs) are expected to be necessary in view of heavy rain over the last 3 hours.	Correspondence	BS
7:15 PM	FOC called Peter Burrows (Seqwater) advising him that high rainfall is expected overnight and releases from Wivenhoe causing damaging flooding are likely to be necessary.	Correspondence	BS
7:15 PM	FOC called Peter Allen advising him that FOC is now looking at much larger flows and will have to ramp up releases to around 3000 cumecs as early as midnight which is likely to have flooding impacts on low-lying areas of Brisbane.	Correspondence	BS
7:20 PM	TM called Don Carroll (BCC) advising him of potential for high releases sooner than previously expected.	Correspondence	BS
7:25 PM	Mal Lane (North Pine Dam) called to advise dam level is at 39.82mAHD, 3 gates are at increment 2 and two are at increment 1. The two at increment 1 are currently being raised to increment 2 (next few minutes).	Correspondence	BS
8:00 PM	SDWD Model Updated - SDWD-201101092000withnorain.xls	Model Run	JW
8:05 PM	RA called Shane Watson (North Pine Dam) to confirm last directive is completed. All gates at increment 2.	Correspondence	BS

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8:30 PM	Darryl Hickey (ICC) returned call and spoke to JR. He was informed of current situation and the likelihood of high releases tomorrow causing flood damage.	Correspondence	BS
8:50 PM	RA called Ken Morris (BCC) to request copy of flood damages curve from 2007 study. Ken will send a copy tomorrow.	Correspondence	RA
8:55 PM	Ken Morris called back and spoke with JR. Confirmed BCC mobilisation triggers need to be in place. Status report is in preparation and will be emailed out shortly.	Correspondence	BS
9:10 PM	Rob Drury called and spoke with RA. Rob confirmed that releases will need to be ramped up from current 1400 cumecs to 2500 cumecs which will cause flooding in low lying areas of Brisbane. Brisbane flood information centre has not yet been mobilised. Somerset RC has no DTMR A/H contacts and will be contacting them in the morning. Rob will locate DTMR contacts. Confirmed volumes getting close to 1974 levels. Confirmed situation report has gone out.	Correspondence	BS
9:15 PM	Geoff Perkins (BoM) called and spoke with TM. They discussed on rainfall expectations and flood warning requirements for Brisbane. Bremer/Warrill situation being monitored. Actual and projected flows sent to Geoff.	Correspondence	BS
9:20 PM	Tony Trace (ICC) spoke with RA. Emailing DTMR A/H contact to floodroom. Kiosk caretaker at Colleges Crossing is being evacuated. **Contact Number for DTMR: Ron Hemley** [redacted]	Correspondence	BS
10:00 PM	SDWD Model Updated - SDWD-201101092200withnorain.xls, SDWD-201101092200-Forecast24hr.xls	Model Run	JW
10:00 PM	NPD model updated - NPD-201101092200.xls	Model Run	JW
10:00 PM	JR called Wivenhoe operator (Doug Grigg) and confirmed current flooding expectations based on rainfall predictions and expected impacts.	Correspondence	BS
10:15 PM	FOC called Tony Jacobs (SRC). A situation update was provided. Fernvale Bridge closure likely to be required in view of probable releases from Somerset to Wivenhoe.	Correspondence	BS
10:20 PM	Rob Drury called and spoke with RA. A teleconference with Water Grid Manager and DERM was completed. Explained 9:00pm situation report. Water Grid Manager will be distributing media release in the morning regarding closure of bridges.	Correspondence	BS
10:30 PM	Brett Myatt (Mt Crosby WTP) called and spoke with RA. He was concerned the guardrails need to be taken off bridge before bridge goes over. RA recommended getting the rails straight off in view of increasing flow expectations overnight. Flow expected to get to 2000ML by morning.	Correspondence	BS
10:30 PM	JR called Wivenhoe Dam operator (Doug Grigg) requesting for a visual inspection of Fernvale Bridge.	Correspondence	BS
10:40 PM	Doug Grigg (Wivenhoe Dam) called discussed Fernvale Bridge situation with JR. Water was lapping the bridge girders.	Correspondence	BS
10:45 PM	Rob Drury called and spoke with RA. Rob Drury will be contacting Dan Spiller to confirm closure of Mt Crosby Weir Bridge. Police are on site.	Correspondence	BS
11:20 PM	JR called Tony Trace (ICC) and left message regarding rates of rise at Mt Crosby. Bridge will be inundated within the next couple of hours.	Correspondence	BS
11:25 PM	JR called Ross Drabble (ICC) regarding rates of rise at Mt Crosby (approx 200 mm from going over) - will be inundated within the next couple of hours. Confirmed more rain is on the way and releases will need to be increased.	Correspondence	BS

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	11:25 PM	RA spoke with Doug Grigg (Wivenhoe Dam). Water is up to the centreline of the Chine Gully approach to Fernvale Bridge. Esk police are on site and are considering placing road closure signs in Fernvale. Rob Titmarsh and Darren Valley (operators living in Fernvale) will be mobilised to the dam by police prior to closure.	Correspondence	BS
	11:30 PM	JR called Tony Jacobs (SRC) and left message advising of situation.	Correspondence	BS
	11:35 PM	RA called Ron Hemley (DTMR) and left message regarding current road closure situation.	Correspondence	BS
	11:35 PM	JR called Andy Bickerton (SRC) and left message for call to be returned re Fernvale Bridge situation.	Correspondence	BS
	11:38 PM	JR called Robert Bain (CEO SRC) and left message regarding Fernvale Bridge situation and requested call be returned ASAP.	Correspondence	BS
	11:40 PM	Andy Bickerton (SRC) called back and spoke with JR. JR confirmed the high flow levels and anticipated further level rises will impacts road crossings. Fernvale Bridge was about to go out. Informed of the levels and inflows to Wivenhoe and Somerset and the expectation for more rain.	Correspondence	BS
Monday, 10 January 2011	12:00 AM	Andy Bickerton called again and spoke with JR. JR confirmed police were on site at Fernvale Bridge and were contemplating road closure signs at Fernvale. Confirmed message has been left with DTMR but call not yet returned.	Correspondence	BS
	12:15 AM	Brett Myatt (Mt Crosby WTP) called to confirm Mt Crosby Weir road is closed (call taken by Bill Stephens). Confirmed that ICC has been notified and message left with DTMR.	Correspondence	BS
	12:45 AM	Ken Morris (BCC) called and spoke with JR. Ken indicated that 3500 cumecs is the damaging flow level for Brisbane urban areas. The manual documents 4000 cumecs as the damaging level. JR undertook to take this into consideration when preparing the current situation report, and would not refer to damage levels.	Correspondence	BS
	12:55 AM	JR called Rob Drury to discuss Ken's view on damaging flow. JR confirmed that if flows were kept below 3500 the fuse plug would be triggered. Agreed that situation reports will not allude to damage levels - the councils can make decisions on what to report in this regard.	Correspondence	BS
	1:00 AM	SDWD Model Updated - SDWD-201101100100withnorain.xls	Model Run	JW
	1:00 AM	RA called Ray Ballinger (Somerset Dam) regarding purported dam stability issues (via Tony Trace - two reports received). Ray confirmed that inspection had revealed no issues.	Correspondence	BS
	3:00 AM	SDWD Model Updated - SDWD-201101100300withnorain.xls	Model Run	JW
	3:00 AM	NPD model updated - NPD-201101100300.xls	Model Run	JW
	4:10 AM	JR discussed Wivenhoe status and release strategy with Doug Grigg.	Correspondence	BS
	5:00 AM	SDWD Model Updated - SDWD-201101100500withnorain.xls	Model Run	JW
	5:00 AM	Graham Francis called and discussed Somerset situation with RA.	Correspondence	BS
	5:00 AM	NPD model updated - NPD-201101100500.xls	Model Run	JW
	5:05 AM	Rob Drury called and received situation update from JR.	Correspondence	BS
	5:20 AM	RA called BoM regarding next forecast update - due at 9:00 am.	Correspondence	BS
	6:00 AM	Send out situation report for this morning.	Correspondence	LVB

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7:40 AM	Talked to BoM - we are in general agreement about current flows in the Brisbane River.	Correspondence	LVB
8:30 AM	FOC left a message for Ken Morris (BCC) to call back.	Correspondence	LVB
8:38 AM	Talked to Peter Baddley BOM) to discuss our planned strategy i.e to maintain gate openings for the next 24 hrs. This increases flood storage by 75 000ML which is equivalent to 0.2m rise and limits flows in the Brisbane to 3000 m3/s this provides a buffer for potential runoff for the next 24 hrs.	Correspondence	LVB
9:38 AM	Conference call with Ken Morris (BCC) - informed them that release from Wivenhoe will be maintained at 2000m3/s for the next 24 hrs. This will be revised in 24 hrs. The strategy is to limit the flows to 3000 - 3500m3/s. At 3500m3/s about 322 (the whole property) will be submerged and about 7000 properties will be affected somehow damage bill $7mil). If the rainfall in the Bremmer and Lockyer increases substantially - it is likely the flows from these catchments can peak at 1000m^3/s (on top of Wivenhoe release)	Correspondence	LVB
10:08 AM	Received QPF - 100mm in Brisbane and 150mm North Pine catchment	Other	LVB
10:15 AM	Received phone call from Mike Shetland (EMQ) and Supt Alistair Dawson - Disaster Coordinator for this District - gave them the same information as what we gave Ken Morris before.	Correspondence	LVB
10:46 AM	Called Jimmy Stewart (BoM) to inform that TM can do the model and with 600m3/s in the Bremmer the flows in Brisbane will go up to 3600m3/s. BoM will discuss with BCC.	Correspondence	LVB
11:14 AM	Tony Trace (ICC) called to clarify our strategy. Gave him the same info as above.	Correspondence	LVB
1:00 PM	SDWD Model Updated - SDWD-201101101300withnorain.xls	Model Run	JW
12:02 PM	Spoke with Peter Borrows (Seqwater) to answer elaborate on Situation Report and inform him of large rainfalls currently occurring in the Wivenhoe catchment.	Correspondence	LVB
12:33 PM	Called BCC twice. No answer, so left messages.	Correspondence	LVB
12:36 PM	Talked to Tony Trace (ICC) informed him that we are moving strategy from urban damage control to dam safety priority	Correspondence	LVB
12:41 PM	NPD operator called to inform FOC the level is dropping. Instructed them not to close gates - heavy rain fell in catchment.	Correspondence	LVB
2:00 PM	Send out third situation report for today	Correspondence	LVB
2:30 PM	Called BCC 3 times before getting through to Flood Information Centre (FIC). Discussed latest strategy with them i.e. changing from "Flood Mitigation" to "Dam Safety". We will start opening Wivenhoe gates from 15:00.	Correspondence	LVB
3:00 PM	Called Disaster Coordinator, Ian Stewart @ [redacted]. No answer.	Correspondence	LVB
4:00 PM	NPD model updated - NPD-201101101600.xls	Model Run	JW
3:15 PM	Had conference call with BoM. They agree with FCC on model discharge results. However, BoM included 6hrs of additional rain which takes the discharge to 4600m3/s	Correspondence	LVB
4:09 PM	TM spoke to a police officer about Crestbrook Dam - advising that FOC does not manage Crestbrook but gave him a contact at Toowoomba RC	Correspondence	LVB
5:00 PM	SDWD-Model Updated - SDWD-201101101700withnorain.xls, SDWD-201101101700with50mmrain.xls	Model Run	JW
5:09 PM	Agg (Somerset Dam) phoned and reported water from Wivenhoe in getting into the hydro	Correspondence	LVB

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	6:06 PM	Get weather update from BoM - the forecast now is - still more of the same of what we had today.	Other	LVB
	6:45 PM	Brett Schultz (North Pine Dam) raised concerns with school groups using Lake Kurwongbah for rowing exercise while water is running over the spillway at 500mm. He was referred to Rangers.	Correspondence	LVB
	7:30 PM	Agg Dagan (Somerset) called to inform that Somerset hydro is inundated with water. Agg believes he has located source of leak, has tightened seals to prevent further leakage. Agg also noted that there is oil in the water.	Correspondence	JW
	8:00 PM	SDWD Model Updated - SDWD-201101102000withnorain.xls, SDWD-201101102000-Lockyer.xls, SDWD-201101102000-TMinflows.xls	Model Run	JW
	20:00 PM	Peter Baddiley (BoM) called to advise of situation regarding flows in Lockyer. Estimated very heavy localised rainfall (eg. 600mm in few hours) on Toowoomba escarpment to cause observed flood flooding. Will monitor via Glenore Grove gauging station.	Correspondence	JW
	20:45 PM	Brett Myatt (Seqwater Mt Crosby WTP) called to get situation update. Advised that at 20m there will be issues at Mt Crosby WTP. FOC to advise Brett if likely to reach that level.	Correspondence	JW
	21:00 PM	Spoke to Peter Allan regarding strategies for reducing Wivenhoe release to mitigate latest event in Lockyer. Peter endorsed variation to manual to operate at minimum gate settings to create gap to allow peak of flash flood to pass. Also endorsed concept allowing Wivenhoe HW to rise above 74 mAHD briefly.	Correspondence	JW
	21:30 PM	Provided Boyd Wilson (ICC) with situation update.	Correspondence	JW
	20:20 PM	Spoke to Peter Baddiley (BoM) regarding reducing Wivenhoe release to accommodate peak of Lockyer flash flood.	Correspondence	JW
	11:20 PM	Spoke to Rob Drury to give situation update. Rob agreed that if possible to reduce flow from Wivenhoe to accommodate Lockyer flash flood peak.	Correspondence	JW
Tuesday, 11 January 2011	12:00 AM	SDWD Model Updated - SDWD-201101110000withnorain.xls	Model Run	JW
	12:00 AM	NPD model updated - NPD-201101110000.xls	Model Run	JW
	12:15 AM	Spoke to Ken Morris (BCC) to update on current release strategy.	Correspondence	JW
	1:30 AM	Spoke to Tony Trace (SRC). Somerset Regional Council offices were flooded and email addresses are no longer working. Tony can be emailed on tonelee@internode.on.net	Correspondence	JW
	2:15 AM	James Charalambous (BCC) called to confirm forecast peak height of 3.1m at Brisbane city gauge for Wednesday high tide. This is based on 4600 cumecs modelled by BoM. Provided James with update on current release strategy.	Correspondence	JW
	3:00 AM	SDWD Model Updated - SDWD-201101110300withnorain.xls	Model Run	JW
	3:15 AM	James Charalambous (BCC) has provided inundation forecast for Brisbane city to assist with devising strategy to manage Wivenhoe releases	Correspondence	JW
	5:15 AM	Spoke to Peter Baddiley (BoM) regarding reducing Wivenhoe release to accommodate peak of Lockyer flash flood. Update: Consensus was that reducing release from Wivenhoe would no longer be feasible due to attenuation of Lockyer peak and significant additional rainfall in upper Brisbane during the night.	Correspondence	JW
	7:00 AM	SDWD Model Updated - SDWD-201101110700withnorain.xls	Model Run	JW

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7:00 AM	NPD model updated - NPD-201101110700.xls	Model Run	JW
7:20 AM	TM called Peter Borrows to appraise of latest situation of Wivenhoe and lower Brisbane	Correspondence	DP
7:22 AM	TM called BoM to appraise of situation. BoM unable to talk and will call back.	Correspondence	DP
7:35 AM	Peter Baddiley of BoM called back. Full appraisal of SEQWater strategy. Both SEQWater and BoM models results were discussed in detail, and generally agreed with each other.	Correspondence	DP
7:51 AM	Called Matthew O'Rielly (Wivenhoe Dam) advised that gates opening at Wivenhoe are imminent.	Correspondence	DP
7:56 AM	TM called BoM. Advised Jimmy Stewart and Peter Baddiley that Wivenhoe will ramp up to a minimum release of 3700m3/s.	Correspondence	DP
7:59 AM	JT called Peter Borrows (Seqwater) and advised that releases from Wivenhoe will reach 3700m3/s at a minimum, and BoM has been informed. Likely to affect Moggill 24 hours later. Phone call terminated due to bad connection.	Correspondence	DP
8:01 AM	Peter Borrow returned call. JT advised that model to be run for BoM first and results to be past to BoM and BCC immediately. Rain likely to continue today	Correspondence	DP
8:05 AM	Brett from NPD informed that levels are still rising and another directive is required. JT advised to proceed as per operations manual.	Correspondence	DP
8:09 AM	Advised Matthew (Wivenhoe Dam) that Wivenhoe Directive was coming through in a matter of minutes.	Correspondence	DP
8:10 AM	JT called Peter Allen to advise of current Wivenhoe situation - Will exceed EL74m. Ramping up gate opening to a minimum of 3700 and gate operations will progress.	Correspondence	DP
8:11 AM	TM called BCC flood information centre (Duty Officer - James). Wivenhoe releases will reach 3700m3/s at a minimum and higher flows are possible.	Correspondence	DP
8:15 AM	JT called Rob Drury to advise of the situation that Wivenhoe will increase to 3700m3/s as a minimum.	Correspondence	DP
8:16 AM	TM called SRC and left a message.	Correspondence	DP
8:20 AM	JT Called Matthew (Wivenhoe Dam) and advised more gate opening directives are coming.	Correspondence	DP
8:21 AM	TM called Tony Trace (ICC) to advise of situation and that Wivenhoe releases to be at a minimum of 3700m3/s	Correspondence	DP
8:25 AM	JT called Brett Schultz (North Pine Dam). Verbal directive to open gates, faxed directive to follow before 9am.	Correspondence	DP
8:50 AM	Peter Borrows (SEQwater) called TM mobile requesting 'worst case' scenario	Correspondence	DP
8:50 AM	Doug from Wivenhoe called informing that Wivenhoe has lost power, high voltage fuse blown. Hydro outlet is shut off.	Correspondence	DP
9:09 AM	JT called SEQWater maintenance (Jo Misner) advised that Wivenhoe has lost power, possibly blown high voltage fuses. JO to resolve issue.	Correspondence	DP
9:12 AM	Brett called. NPD at 40.140 m HAD all gates at 6, currently heading to setting 7.	Correspondence	DP
9:13 AM	Energex called. All incoming power has been lost at Wivenhoe.	Correspondence	DP
9:16 AM	JT called Tony Martini and left message: very large inflows into North Pine Dam has resulted in steep gate openings. Flood downstream can be expected.	Correspondence	DP
9:17 AM	JT called Ed Hamold and informed that very large inflows into North Pine Dam has resulted in steep gate openings. Flood downstream can be expected. Strathpine Rd (Old Gympie Rd) to be flooded within next hour.	Correspondence	DP

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9:21 AM	Agg from Somerset called TM. Water ingress through doors at the bottom of dam	Correspondence	DP
9:22 AM	JT advised Brett (NPD) that Strathpine Rd is expected to be closed.	Correspondence	DP
9:26 AM	JT advised Brett verbally that all gates can go to 9 increments based on water level as per manual.	Correspondence	DP
9:40 AM	TM called MT and requested a technically knowledgeable person be dispatched to test HF radio links and satellite phone are in working condition	Correspondence	DP
9:51 AM	Voicemail : Jo Misner left message. He's contacted Energex and Energex suspect a dirty feed. Currently all helicopters are grounded. Garry Ludlow is lead at Mt Crosby. Energex will get as close as they can and get helicopter lift when possible.	Correspondence	DP
10:00 AM	NPD model updated - NPD-201101111000.xls	Model Run	JW
10:25 AM	Brett (North Pine Dam) called to report Lake level at EL 40.490mAHD. All gates currently at setting No. 10.	Correspondence	DP
10:29 AM	Stan from SEQWater called TM. In conference with Barton Marr. Internal questioning of release strategy. Internal discussion regarding current approved strategy.	Correspondence	DP
10:45 AM	JT advised MBC (Ed Hamold) of current situation.	Correspondence	DP
10:54 AM	Rob Drury called. Bad line and disconnected.	Correspondence	DP
11:00 AM	SDWD Model Updated - SDWD-201101111100withnorain.xls	Model Run	JW
11:01 AM	Message received by JT. Kilcoy police rang Somerset, JT advised general status information to be provided by dam operators, predictions to go through FOC.	Correspondence	DP
11:02 AM	Peter Borrows (Seqwater) requested update on situation.	Correspondence	DP
11:04 AM	JT called Doug (operator) . Discussed that if forecast rain falls, fuse plug likely to go.	Correspondence	DP
11:06 AM	**FAX not working at Wivenhoe!**	Other	DP
11:07 AM	Jimmy Stewart (BoM) called. Inflow into NPD of 1500cumecs. Advised Wivenhoe strategy to be revised.	Correspondence	DP
11:17 AM	Barton called TM - on the way to talk to Grid Manager. TM advised current strategy is 3 hourly.	Correspondence	DP
11:19 AM	JT called Ed Haold. Advised North Pine still rising. Current releases to exceed 2000cumces.	Correspondence	DP
11:30 AM	Brett (North Pine Dam) called to report lake level EL 40.740 mAHD. Water level rising slowly. All gates now at setting 14.	Correspondence	DP
11:38 AM	TM called BoM. Unable to contact Peter Baddiley. Will call back.	Correspondence	DP
11:38 AM	JT called Peter Burrows and advised that releases at Wivenhoe will be ramped up to 4000cumecs and strategy will be revised on an hourly basis. In reality releasing slightly less than the Flood Ops manual.	Correspondence	DP
11:51 AM	Incoming Phone call from Rob Ayre. Advised SS that Wivenhoe will ramp up to 4000cumecs. Also advised that staff likely to stay in offices overnight.	Correspondence	DP
11:56 AM	JT called Ed Hammon and left message again. Outflow will exceed 2000cumecs	Correspondence	DP
11:57 AM	JT called Elanor Davidson. Left message: North Pine Dam outflow likely to exceed 2000cumecs.	Correspondence	DP
11:59 AM	JT called Tony Martini. Left message, outflow from North Pine Dam will exceed 2000cumces.	Correspondence	DP
12:04 PM	Brett (North Pine Dam) called to report lake level at EL 40.883 mAHD. Gates are currently set at setting 16.	Correspondence	DP

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12:10 PM	Kim Hang called from FOC satellite phone. Made contact with Somerset and North Pine. Connection issues with Landline to Wivenhoe.	Correspondence	DP
12:17 PM	Tony Martini called. TM advised discharge in excess of 1989 flood (1500cumecs). Current releases in excess of 2000cumecs.	Correspondence	DP
12:30 PM	Brett (North Pine Dam) called to report lake level is now at EL 40.950mAHD and rising. Gate settings at 17.	Correspondence	DP
12:42 PM	Mike Morrison from Redlands shire requesting information for Lesley Harrison. Was told to call Craig Duncan	Correspondence	DP
12:42 PM	Call from Glen Patternson. Asked what is required of the Northern dams. Was advised to monitor dams more closely when/if 1 in 50 year event occurs.	Correspondence	DP
1:02 PM	Brett Schultz (North Pine Dam) called to report Lake level EL 41.040 m AHD. Gate settings at setting 18.	Correspondence	DP
1:26 PM	Peter Burrows (Seqwater) called and requested the FOC request the BoM to consider if Wivenhoe is releasing 9000cumecs.	Correspondence	DP
1:44 PM	Jeff (North Pine Dam) called on Satellite phone to confirm it is operational.	Correspondence	DP
1:50 PM	Brett Schultz (North Pine Dam) called to report lake level at EL 41.105mAHD. Gates currently at setting 19.	Correspondence	DP
1:56 PM	Rob Drury requesting status update.	Correspondence	DP
2:00 PM	SDWD Model Updated - SDWD-201101111400withnorain.xls	Model Run	JW
2:24 PM	Cherlyn Wivenhoe SEQWater called to pass on message. Phil Wilson (Qld fire rescue) called to enquire about Wivenhoe Releases (0457 821 919). Unable to call at this stage.	Correspondence	DP
2:37 PM	Peter Borrows (SEQWater) called to discuss current situation.	Correspondence	DP
2:46 PM	Brett Schultz (North Pine Dam) called to report lake level steady at 41.110 for last 30 minutes.	Correspondence	DP
2:53 PM	North Pine Dam is isolated as per conversation with Brett.	Correspondence	DP
3:00 PM	NPD model updated - NPD-20110111500.xls	Model Run	JW
3:06 PM	Stan Stevenson (SEQWater) called to enquire about the current release rate from Wivenhoe Dam.	Correspondence	DP
3:14 PM	Peter Burrows (Seqwater) called to discuss the proposed release of 10,000cumecs. JT and TM explained release strategy is constantly being revised.	Correspondence	DP
3:49 PM	Peter Baddiley & Jimmy Stewart had a conference with JT, JR, TM and RA about current release strategy and possible maximum release scenario of 10000m3/s. This would be of a similar magnitude to the 1893 event (~8.36m in Brisbane Port Office)	Correspondence	DP
3:54 PM	Stan Stevenson (Seqwater) called and talked to JT regarding current inflow strategy.	Correspondence	DP
3:58 PM	Called Brett Schultz (Wivenhoe Dam) to check if all is ok, levels are slowly reducing.	Correspondence	DP
4:29 PM	Lowood police rang to request water level of Wivenhoe and discuss the current release strategy with respect to the fuse plug (conversed with John West).	Correspondence	DP
4:33 PM	Phone call with TM and Peter Burrows. Discussed that even though the magnitude flood in Brisbane is similar to 1974 flood event, the no-dam flood would be significantly larger without Wivenhoe.	Correspondence	DP

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4:41 PM	Peter Allen phone call. PA requested more technical information in the status reports released by Duty Engineers. PA will send through an example of the technical data requested in the report.	Correspondence	DP
4:46 PM	Dave Roberts called to request update in inflow/outflow of Wivenhoe Dam.	Correspondence	DP
5:00 PM	SDWD Model Updated - SDWD-201101111700withnorain.xls	Model Run	JW
5:12 PM	JT called Brett Schultz (North Pine Dam) regarding gate operating strategy. JT advised to keep gates at current setting until water is clear of the controls. Gate closing strategy then to follow Flood Manual.	Correspondence	DP
5:22 PM	Jimmy Stewart (BoM), TM and JR discussed current Wivenhoe inflows and anticipated outflows. TM confirmed that 7500cumecs is still likely early tonight.	Correspondence	DP
5:27 PM	Brett Schultz (North Pine Dam) called to report of NPD level EL 40.7 m AHD. JT verbally advised 10 minute gate closure intervals is ok until 39.9 m AHD - then back to 15 min intervals.	Correspondence	DP
5:48 PM	Rob Drury asking Tarong Energy to hold off releasing water from Spiltyard Creek.	Correspondence	DP
6:00 PM	NPD model updated - NPD-20110111800.xls, NPD-20110111800 Final.xls	Model Run	JW
6:00 PM	SDWD Model Updated - SDWD-201101111800withnorain.xls	Model Run	JW
6:04 PM	Glen Patterson called to advise he is unable to reach Lake MacDonald to take readings.	Correspondence	DP
6:07 PM	Recap of current release strategy amongst Duty Engineers. Current Wivenhoe scenario: 74.9 m - all gates at 12m. Won't go to 13m settings until level reaches 75.0 m AHD.	Correspondence	DP
6:35 PM	Agg (Somerset Dam) called to confirm all is good.	Correspondence	DP
6:36 PM	Bill Stevens called to inform team he is cut off due to flood waters and unable to come in.	Correspondence	DP
6:41 PM	Tarong Energy confirmed releases from Splityard creek have stopped.	Correspondence	DP
6:56 PM	Daryl Hicky informed that tailwater gauge appears to be OOA. Confirmed by TM.	Correspondence	DP
7:00 PM	Spoke to Brett Schultz who confirmed that North Pine gate settings were at 17, with level of 40.5. Closing sequence was still to close in 10 minute increments down to level 39.9, at which time increments would increase to 15 minutes.	Correspondence	JW
7:10 PM	Brett Schultz at NPD rang is concerned that the level is dropping too fast.	Correspondence	AN
7:30 PM	Doug Grigg (Wivenhoe Dam) called to report that Wivenhoe Level 74.97mAHD is holding.	Correspondence	AN
7:30 PM	Brett Schultz (North Pine Dam) rang to say he is behind in gate settings.	Correspondence	AN
7:25 PM	JR called Brett Schultz (North Pine Dam) to advise that a directive will be sent to move all gates down to 11m.	Correspondence	AN
7:45 PM	Brett Schultz (North Pine Dam) called FOC. JT clarified directive 19 to drop gates from 16 to 11 in one go, at 15 minutes intervals.	Correspondence	AN
8:00 PM	Peter Baddiley rang. Unofficially TM advised that things have stabilised. Also advised predicted peaks at various sites.	Correspondence	AN
8:25 PM	Joe Meisner rang to advise that the high voltage feeder to Wivenhoe will not be restored for the duration of this event. JT advised that Wivenhoe is operating successfully on the generator, and they have a fair bit of diesel. There are still 2 other backups to operate the gates.	Correspondence	AN
8:25 PM	Chris Hughes at Colliers Building Services rang back. Rob Ayre asked about power supply to [redacted] Chris said to email our power requirements.	Correspondence	AN

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	8:30 PM	Doug Grigg (Wivenhoe Dam) called to advise that Wivenhoe's level is 5mm down.	Correspondence	AN
	8:30 PM	RA called Colliers Building Services and left a message to call back (regarding loss of power to the [redacted] Turbot Street)	Correspondence	AN
	8:30 PM	RA rang John Thornton (SunWater) to advise that power will be shutting down in the CBD tomorrow morning.	Correspondence	AN
	8:35 PM	RA rang John Thornton to advise the power situation.	Correspondence	AN
	8:35 PM	Peter Burrows (Seqwater) called FOC to speak with all duty engineers on the operating strategies for Wivenhoe releases.	Correspondence	AN
	8:40 PM	MT called FOC to ensure we received the Energex message regarding power shutdown to the CBD.	Correspondence	AN
	8:45 PM	Warren Shallcross rang. Rob Ayre advised that Energex will be cutting power to the CDD in the morning. Warren will call Mike Minter and the security guys for Mineral House.	Correspondence	AN
	8:50 PM	Brett Schultz (North Pine Dam) called to report NPD Level at EL 40.07mAHD. Gates are all at 11 increments.	Correspondence	AN
	8:55 PM	Peter Burrows (Seqwater) rang asking about possibly reducing releases. TM advised that we are seriously considering it, but this would have little effect on the levels in Brisbane River. Peter would like technical reports every hour throughout the night.	Correspondence	AN
	9:00 PM	RA emailed Chris Hughes with our building power requirements.	Correspondence	AN
	9:05 PM	TM rang Chris Lahey (BoM) to advise that power to the CBD may be cut and send him actual and releases report.	Correspondence	AN
	9:10 PM	John Thornton called RA. John advised he spoke to Chris Hughes and is getting an Energex contact.	Correspondence	AN
	9:20 PM	Warren Shallcross rang. Mike Minter told him we may not be able to have air conditioning.	Correspondence	AN
	9:25 PM	RA called John Thornton. Chris Hughes got back to him and has Haywoods Electrical lined up for tomorrow morning.	Correspondence	AN
	9:30 PM	Mal Lane (North Pine Dam) called. They are still behind in gate closures.	Correspondence	AN
	9:35 PM	JT rang to discuss the latest directive to raise Wivenhoe Dam. JT suggested not raising.	Correspondence	AN
	9:40 PM	JW called Doug Grigg (Wivenhoe Dam) to obtain a current level. EL 74.9? Gates have been raised to 11.5m.	Correspondence	AN
	10:00 PM	SDWD Model Updated - SDWD-20110111220Owithnorain.xls	Model Run	JW
	10:00 PM	John Thornton rang to advise the phone number for Steve from Energex [redacted]	Correspondence	AN
	10:00 PM	John Thornton rang requesting RA mobile number to pass on onto Energex.	Correspondence	AN
	10:30 PM	John Thornton rang to say Geoff White has pleaded our case with the CEO of Energex and it is likely [redacted] Turbot Street will not lose power.	Correspondence	AN
	10:35 PM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.94mAHD @ 10:30hrs.	Correspondence	AN
	11:00 PM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.92mAHD @ 11:00hrs.	Correspondence	AN
	11:10 PM	Rob Drury rang to request discharge from Wivenhoe when the gates are lowered to 10m. Advised 6100m3/sec.	Correspondence	AN
	11:30 PM	JW called Doug Grigg (Wivenhoe Dam) to obtain a current level. EL 74.9? Gates have been raised to 11.5m.	Correspondence	AN
Wednesday, 12 January 2011	12:30 AM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.88mAHD @ 12:30hrs.	Correspondence	AN
	1:00 AM	John Thornton (SunWater) called to provide Energex contact details; Steve, phone number [redacted]. Steve indicated that he didn't believe [redacted] Turbot St would be disconnected from power grid in the morning.	Correspondence	JW

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1:15 AM	RA rang Doug Grigg (Wivenhoe Dam) advising next directive. We want to get releases down as quick as possible while still lowering lake levels. Advised that we may possibly have a communications problem in the morning if power to [redacted] Turbot Street is cut.	Correspondence	AN
2:10 AM	James Charalambous (BCC) rang enquiring about a release strategy. Advised one will be issued at about 3:00am. Talked about the activities of the last 24 hours.	Correspondence	AN
3:10 AM	JR rang Mal Lane (NPD) and advised no changes to gate settings planned for the next hour or so.	Correspondence	AN
3:30 AM	Brett Myatt (SEQWater Mt Crosby WTP) called enquiring about levels at Mt Crosby.	Correspondence	AN
3:50 AM	RA called Chris Lahey (BoM) advising him that because inflows are not as much as earlier anticipated, the releases from Wivenhoe are less than previously suggested.	Correspondence	AN
4:05 AM	Ian Douglas, OIC of Lowood Police, rang enquiring about the Wivenhoe fuse plug. JW advised that there is no danger of the fuse plug failing, and that current releases from Wivenhoe Dam are about 4,900 cumecs.	Correspondence	AN
4:40 AM	Brett Myatt (Seqwater Mt Crosby WTP) rang to check that his emails with the Mt Crosby levels were being received. They are.	Correspondence	AN
5:15 AM	Rob Drury rang enquiring current storage levels and releases. JR advised.	Correspondence	AN
5:30 AM	Rob Drury rang enquiring estimated time for closing North Pine Dam. RA advised possible today, but it has not yet been decided. Also advised the inflows into North Pine Dam were equivalent to a 1:10,000 event.	Correspondence	AN
5:30 AM	JR called Wivenhoe Dam for the current level. Dropped 2 cm in 30 minutes.	Correspondence	AN
5:50 AM	TM called Jim Stewart (BoM) advising him that we have significantly scaled back releases from Wivenhoe Dam, and will probably continue to scale back more. Agreed that Savages Crossing has peaked.	Correspondence	AN
6:00 AM	SDWD Model Updated - SDWD-201101120600withrain.xls	Model Run	JW
6:00 AM	North Pine Dam rang enquiring about closing down. JT advised that we have not yet decided.	Correspondence	AN
6:10 AM	Rob Drury rang and suggested that the fish recovery may be a fairly big job. JT suggested that our staff can check this morning and then decide.	Correspondence	AN
6:15 AM	Brendan Bradley (BCC) rang enquiring the level of the pump station at Mt Crosby. JT said we can't help, but that he should contact the treatment plant, Brett Myatt.	Correspondence	AN
6:30 AM	JT rang Doug Grigg (Wivenhoe Dam) advising that a directive will soon follow to lower gates to 5m.	Correspondence	AN
6:35 AM	Paul Martin rang. JT discussed current strategy.	Correspondence	AN
7:00 AM	Liaised with Bureau regarding expected peak in lower Brisbane.	Correspondence	JW
7:50 AM	John Thornton (SunWater) called to confirm that [redacted] Turbot St had power.	Correspondence	JW
8:20 AM	Rob Drury rang enquiring current storage levels and releases. JT advised.	Correspondence	KH
9:20 AM	Brett Schultz (North Pine Dam) rang wanting to speak to JT.	Correspondence	KH
9:50 AM	Ken from Lowood Police rang enquiring current storage releases from Wivenhoe Dam. JT advised.	Correspondence	KH
10:20 AM	Agg (Somerset Dam) called querying whether FOC have received fax and email regarding storage level. He was checking the walls before and will be at his desk for the next 30 minutes. Adam is there with him.	Correspondence	KH

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10:50 PM	Sam (SEQWater) rang wanting to thank Neville for his and John's heroic effort in clearing SEQWater basement.	Correspondence	KH
11:20 AM	MT called to inform that he and Caroline Ellis Mallard (Seqwater) are not able to access Enviromon. He asked if DM can check the system.	Correspondence	KH
11:50 AM	Peter Borrows (Seqwater) called to ask that all communications be forwarded to him.	Correspondence	JW
12:20 PM	NA called Mathew O'Reilly (Wivenhoe Dam) to advise that Seqwater comms are to be switched off due to flooding of the Margaret Street offices. Please send all future hourly bulletins to the FOC via fax, or alternatively, phone or TPG link.	Correspondence	NGA
12:25 PM	NA called Jeff Francis (North Pine Dam) advising him & Brett that Seqwater comms are to be switched off due to flooding of the Margaret Street offices. Please send all future hourly bulletins to the FOC via fax, or alternatively, phone or TPG link.	Correspondence	NGA
12:32 PM	Mick O'Haloran (Leslie Harrison Dam) called JT. Due to the failure of Seqwater comms, he was seeking direction on how to submit a final report on operations at approx. 1600 today. JT said to phone in to the FOC.	Correspondence	NGA
12:55 PM	Peter Baddiley, Rob Tesse, Jim Stevenson from BoM visited FOC to liaise with the Duty Engineers.	Correspondence	NGA
1:10 PM	Barton Maher called to request electronic copy of Wiv - Som Flood Ops manual to be forwarded to him.	Correspondence	NGA
1:15 PM	Mathew (Wivenhoe Dam) called to report lake level: 74.79mAHD @13:00hrs. Note: Reading taken in surging water. Wivenhoe fax appears to have failed.	Correspondence	NGA
2:05 PM	Brett Schultz (North Pine Dam) called to inform that North Pine level was 39.74mAHD and based on this level he is recommending at least one gate closure.	Correspondence	NGA
2:10 PM	Graham Keegan phoned from Wivenhoe Dam. The SES (and irrigators) at Fernvale have concerns that a flood peak might be coming down the Lockyer within the next couple of hours. Rob Ayre assured Graham that the flood heights have reduced by up to 3 metres and any increase would be less than 1 metre.	Correspondence	NGA
2:25 PM	Mathew (Wivenhoe Dam) called to report lake level: 74.81mAHD @14:00hrs. Note: Reading taken in surging water. Wivenhoe fax confirmed as failed.	Correspondence	NGA
2:30 PM	Brett Schultz (North Pine Dam) called to advise that the automatic height gauge is drifting further from the manual gauge board readings. He will continue to provide both versions at hourly intervals but will rely on the manual gauge readings for gate operations.	Correspondence	NGA
3:05 PM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.81mAHD @ 15:00hrs.	Correspondence	NGA
3:30 PM	Peter Baddiley (BoM) called TM to discuss re-appraisal of the expected flood peak in Brisbane. Peak now may be 5.2 metres early on Thursday 13/1/2011.	Correspondence	NGA
4:00 PM	SDWD Model Updated - SDWD-201101121600.xls	Model Run	JW
4:00 PM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.80mAHD @16:00hrs.	Correspondence	NGA
4:00 PM	Brett Schultz (North Pine Dam) called to report that Sideling Creek Dam is spilling at 20.560mAHD. Spillway level is 20.37mAHD.	Correspondence	NGA
4:20 PM	Ken Morris (BCC) called FOC and had phone conference with Duty Engs. He was seeking update for briefing with Lord Mayor.	Correspondence	NGA

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	4:52 PM	Paul Martin (DERM) called FOC and left message for TM. They (DERM) will be gauging at Jindalee all night to catch the peak. Carolyn Ellis Mallard has been contacted and will be joining the crew.	Correspondence	NGA
	5:00 PM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.82mAHD @17:00hrs.	Correspondence	NGA
	6:00 PM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.80mAHD @18:00hrs.	Correspondence	NGA
	7:00 PM	Doug Grigg (Wivenhoe Dam) called to report lake level of 74.82 @19:00hrs.	Correspondence	MT
	7:45 PM	RA & JR advised Chris Laney (BoM) that FOC will be sending updated projected releases from Wivenhoe Dam. This has been prepared with the aim of limiting flows at Moggill to 3,500 cumecs.	Correspondence	MT
	8:00 PM	RA & JR advised David (BCC Flood Information Centre) that FOC will be sending updated projected releases from Wivenhoe Dam. This has been prepared with the aim of limiting flows at Moggill to 3,500 cumecs.	Correspondence	MT
	8:55 PM	Doug Grigg (Wivenhoe Dam) called to report lake level 74.82mAHD @ 21:00hrs. They will now report levels every 2 hours.	Correspondence	RA
	9:15 PM	Doug Grigg (Wivenhoe Dam) called to inform that Energex restored power at Wivenhoe Dam at 21:15 hours.	Correspondence	MT
	9:50 PM	Brett Myatt (Mt Crosby WTP) provided an update on Kholo & Mt Crosby: Kholo 19:15hrs 20.0m Mt Crosby 21:00 23.5m He asked for a situation update. RA shared Wivenhoe Dam's release strategy.	Correspondence	MT
	10:00 PM	Doug Grigg (Wivenhoe Dam) called to report lake level 74.81mAHD @22:00hrs. Will now report levels every 2 hours.	Correspondence	MT
Thursday, 13 January 2011	12:00 AM	Doug Grigg (Wivenhoe Dam) called to report lake level 74.79mAHD @ 00:00.	Correspondence	MT
	1:00 AM	James (BCC) called FOC to enquire if Wivenhoe Dam has been compromised. JR assured him that that is not the case.	Correspondence	MT
	1:05 AM	RA called BoM hotline number to check communications.	Correspondence	MT
	1:10 AM	BCC called the FOC regarding a viral text rumour that Wivenhoe Dam has failed. JR assured him that that is not true and will speak with Rob Drury about this matter.	Correspondence	MT
	1:20 AM	Gareth Bossley (Queensland Police) called to inform of rumours that Wivenhoe Dam has been compromised.	Correspondence	MT
	1:25 AM	JR called Doug Grigg (Wivenhoe Dam) to confirm Wivenhoe Dam has not been compromised.	Correspondence	MT
	1:30 AM	JR called Rob Drury advising him about the rumours that Wivenhoe Dam has been compromised. JR will send him the BCC contact details.	Correspondence	MT
	2:00 AM	Doug Grigg (Wivenhoe Dam) called to report level 74.765mAHD @ 2:00hrs.	Correspondence	MT
	4:00 AM	Doug Grigg (Wivenhoe Dam) called to report lake level 74.74mAHD @4:00hrs. Will now report levels every 2 hours.	Correspondence	MT
	6:00 AM	Doug Grigg (Wivenhoe Dam) called to report lake level 74.71mAHD @6:00hrs. Will now report levels every 2 hours.	Correspondence	MT
	6:43 AM	Peter Baddiley (BoM) called to inform that BoM has lost their telephone system. He provided 2 contact numbers: [redacted] & [redacted] Thornton St 4.45m.Telemeter 4.20m	Correspondence	MT

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7:30 AM	Agg Dagan has been advising Kilcoy Police of the FOC strategy for lower Somerset during the next 24 hours of opening sluice later today	Correspondence	RA
7:50 AM	Peter Baddiley (BOM) called to ask heights 3,500m3/s would be at Savages and Mt Crosby. TM advised 34.6m AHD and 16.5m AHD respectively.	Correspondence	TM
8:05 AM	Kerry (MBRC) wanted to know when NPD gates will be closed. Advised to be closed by 0500 Friday.	Correspondence	TM
8:15 AM	Somerset directive #9 issued	Correspondence	JW
9:00 AM	Rob Drury wants to know when gates setting are changed on Wivenhoe and Somerset. Advised that NPD will be closed at 05 Friday.	Correspondence	RA
9:00 AM	Agg Dagan advised of projected level for Somerset, 103.5 by 2000 Thursday and 102.8 early Friday morning. Will open another sluice this afternoon.	Correspondence	TM
10:10 AM	Rob Drury called to inform that power and IT services have been restored at SeqWater.	Correspondence	JW
10:30 AM	Rob Drury called to request if he could be notified of any changes to releases from Wivenhoe	Correspondence	JW
11:00 AM	SDWD Model Updated - SDWD-201101131100.xls	Model Run	JW
1:00 PM	Tony Jacobs rang to enquire about Kilcoy Creek and Mary Smokes Bridge. Duty Engineers advised that it may be out of water tonight, certainly by tomorrow morning.	Correspondence	JW
1:15 PM	Rob Drury called to advise that Police had called to ask when Kilcoy would be accessible. John Tibaldi advised Rob that it would be by 6am tomorrow morning (14/1).	Correspondence	JW
1:40 PM	Brett Myatt called for update on Mt Crosby. Terry Malone informed him that level would be maintained at 17.5 metres for next 7 days.	Correspondence	JW
2:15 PM	Phone call from Steve Roso, MBRC. Advice as follows: * damage to Gympie Rd abutments * No evacuations * No suburban flooding * Not aware of any over floor flooding. Pine Shire had 0.75m freeboard.	Correspondence	JW
2:30 PM	Wivenhoe directive #36 issued • Open Gate 1 from 3.5 metres to 4.0 metres at 1500. • Open Gate 5 from 3.5 metres to 4.0 metres at 1600. • Open Gate 1 from 4.0 metres to 4.5 metres at 1700. • Open Gate 5 from 4.0 metres to 4.5 metres at 1800.	Correspondence	JW
3:50 PM	Brett Schultz called to confirm if FOC received Dam Observation report for North Pine Dam. Approx 6 of 40 uplift pressure gauges have abnormal readings.	Correspondence	JW
4:45 PM	Judy (MBRC) was advised that NPD gates will be closed at 0500 Friday	Correspondence	TM
7:37 PM	John Thornton of SunWater called to confirm building services were working and all in order.	Correspondence	DP

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	7:51 PM	Rob called Mal Lane (North Pine Dam) to discuss the current drainage strategy to close all gates by 5am tomorrow. Water level in North Pine Dam will be frequently monitored against the predictive model results, and gate opening will be adjusted accordingly if required.	Correspondence	DP
	8:30 PM	Rob Ayre called Graham Francis to advise of directive #11.	Correspondence	DP
	8:41 PM	Rob Ayre called Rob Drury top advise of current release rates from Wivenhoe, Somerset and North Pine Dams.	Correspondence	DP
Friday, 14 January 2011	12:46 AM	David Preston of Ipswich District (Fernvale) Police rang to enquire into the integrity of Somerset Dam, based on information received by the police. Rob Ayre indicated that surveillance procedures are in place to monitor the integrity of the Dam, and that RA will confirm with the operators.	Correspondence	DP
	12:47 AM	Rob Ayre called Ray Ballinger at Somerset to enquire to the integrity of Somerset Dam. Operator indicated all was good and no anomalies have been detected.	Correspondence	DP
	12:49 AM	RA called David Preston back on [redacted] to confirm that Somerset was recently inspected and all was ok.	Correspondence	DP
	5:13 AM	Fax received from North Pine Dam confirming closure of all gates.	Correspondence	DP
	5:15 AM	Rob Ayre called MBRC to advise that North Pine Dam has closed the final gate at 5am.	Correspondence	DP
	5:16 AM	Malcom from North Pine Dam called to confirm that all gates are closed, and Young's Crossing should be passable within 2 hours. Lake Kurwongbah level is 20.43 m.	Correspondence	DP
	5:28 AM	Rob Drury called to obtain a situation report. Rob Ayre provided the key information.	Correspondence	DP
	5:37 AM	James C from BCC called requesting information for Wivenhoe Dam and checking sit-rep data. Enquired about flows throughout the event, TM advised that not currently in a position to discuss these.	Correspondence	DP
	7:40 AM	Rob Drury rang FOC to enquire about river levels at Lowood. Pumps required to be installed to supply Lowood WTP. TM advised RD that no significant rises were expected in the Brisbane River levels in the foreseeable future.	Correspondence	NGA
	7:45 AM	Andrew Tesse from ICC phoned the FOC. Enquiring about renewed rises in the Brisbane / Bremer River systems. He cannot contact BOM for an update. TM advised that no significant rises were expected at Moggill. A constant flow in the river was the plan as a consequence of Wivenhoe releases.	Correspondence	NGA
	8:20 AM	Barton Maher phoned TM. Enquiry regarding the Wivenhoe Dam fuse plugs (design calcs/parameters).	Correspondence	NGA
	8:21 AM	Peter Borrows phoned the FOC. TM discussed with Peter Borrows the release strategy from Wivenhoe Dam with a view to opening the Fernvale Bridge and Mt Crosby Bridge at the earliest possible time. TM also updated PB on the projected City Gauge height over the next few days. This being ~2.5 metres due to continuous releases from Wivenhoe Dam.	Correspondence	NGA
	8:30 AM	TM returned call back to Barton Maher. TM extended an invitation to Barton and others to pay a visit to the FOC to inspect operations.	Correspondence	NGA
	10:10 AM	Agg Dagan rang from Somerset Dam. Checking that all comms avenues (faxes & e-mails) are functioning. All good.	Correspondence	NGA
	10:25 AM	Ken Morris from BCC rang TM. Enquiring if any chance of cutting back Wivenhoe releases to lower flows than the current figure of 3,500 cumecs. TM's response was NO !	Correspondence	NGA

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10:40 AM	Rob Keogh (SunWater) transmitted a message via Daryl Brigden (SunWater) to Barton Maher that the right bank abutment to Mt Crosby Bridge has suffered some erosion due to the flooding and there are concerns that the abutmemt may be further affected by piping once the water level falls.	Correspondence	NGA
10:50 AM	Murray Dunstan rang from North Pine. The dam ceased flood operations at 5:00am this morning and fish recovery and clean-up has been completed. Approx. 31 lung fish were rescued. Quite a number of dead lung fish and other species. Erosion damage downstream of the dam is severe with loss of vegetation, stripped and fallen trees, bank erosion, and many dead fish caught within the root ball of fallen trees. Murray is organising back hoes and front end loader machinery to clear the debris between the NP dam wall and Grant Street.	Correspondence	NGA
12:33 PM	Mark Tan phoned TM. Request from Seqwater Corp Comms about hourly updates. Particular concern about NPD which ceased flood operations at 5:00am this morning !! TM advised that updates from the dams would continue to be channeled solely through the FOC.	Correspondence	NGA
12:35 PM	Ali Cameron from DERM phoned TM. Re: Gauging exercise at Jindalee:- Soundtek M9 from boat (6 passes) Jindalee gauging result:- 4,300m^3/sec at 6:45 metres AHD at 12:00 hrs	Correspondence	NGA
12:37 PM	Peter Borrows rang TM. Discussion about mis-informed reporting.	Correspondence	NGA
1:45 PM	TM rang Ken Morris at BCC seeking clarification on BCC's flood mapping. Ken Morris advised that at 3,500 cumecs, BCC records indicate that 220 properties will have water on the property. TM confirmed that 'water on the property' did not mean water above floor level. i.e. Likely to be land inundation only.	Correspondence	NGA
1:53 PM	Rob Drury rang TM. Routine call. Update on current status.	Correspondence	NGA
2:45 PM	Rob Drury rang TM. Routine call. Update on current status.	Correspondence	NGA
3:30 PM	Matthew O'Reilly rang from Wivenhoe Dam with concerns about some 'swirling' apparent in the downstream tailwater opposite 'The Common'. Matthew thought there could be some erosion occurring under the flow. Matthew forwarded a marked photo of the phenomenon to TM. The consensus reached was that the phenomenon was the result of an 'hydraulic jump'. The matter would be referred to John Tibaldi for further investigation.	Correspondence	NGA
3:55 PM	TM rang John Tibaldi to discuss the 'swirling' phenomenon identified by Matthew O'Reilly. Effect is at D/S end of plunge pool and is almost certainly a 'hydraulic jump'. JT advised the issue was not of concern unless the phenomenon moves toward the flip bucket.	Correspondence	NGA
4:05 PM	TM phoned Matthew O'Reilly at Wivenhoe Dam to pass on advice that John Tibaldi had no concerns about the 'hydraulic jump' phenomenon identified by him earlier today.	Correspondence	NGA
4:50 PM	Brett Myatt phoned the FOC. TM advised Brett that the current release strategy from Wivenhoe Dam (and therefore flows past the Mount Crosby WTPs) would be maintained until at least Monday (17/1).	Correspondence	NGA
5:50 PM	Rob Drury rang John Tibaldi enquiring when the bridges to the east of Lake Wivenhoe would be clear of floodwater. JT advised all but the Sandy Ck - A&PM Conroy Bridge on the Wivenhoe Somerset Rd would be clear by tomorrow (Sat) morning.	Correspondence	NGA

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7:00 PM	FOC change over.	Other	KH
8:40 AM	Rob Drury rang. Terry advised strategy to possibly go below FSL at Wivenhoe by Thursday.	Correspondence	AN
8:42 AM	Peter Burrows rang to advise that the media come into the FOC today to take photos.	Correspondence	AN
11:30 AM	Rob Drury rang to request a summary of the Operations Manual for Wivenhoe. Terry to provide after checking with all duty engineers.	Correspondence	AN
12:12 PM	Rob Drury rang to advise of a phone hook-up with the Minister and Peter Burrows at 2:00pm, and requested that RA be in at the FCO at that time.	Correspondence	AN
12:20 PM	Peter Burrows rang to confirm a phone hook-up with the Minister and Peter Burrows at 2:00pm.	Correspondence	AN
12:55 PM	Terry Malone advised Rob Ayre to come into the FOC for the phone hook-up at 2:00pm.	Correspondence	AN
13:10 AM	Peter Allen phoned about the Wivenhoe Flood manual summary. Terry Malone told Peter that the summary is with the other duty engineers for checking before issuing.	Correspondence	AN
1:15 PM	Rob Drury rang with some questions on the Wivenhoe Flood manual summary.	Correspondence	AN
1:45 PM	Rob Ayre and John Tibaldi arrived at the FOC for the 2:00pm phone hook-up.	Correspondence	AN
2:00 PM	Phone hook-up with TM, RA, JT with Rob Drury, Peter Allen, Peter Boroughs, Joh Bradley and Bob Reilly to discuss a report for the minister by COB Sunday.	Correspondence	AN
5:00 PM	Rob Drury arrived to help write report for minister briefing.	Correspondence	AN
7:30 PM	Doug from Wivenhoe called to discuss strategy for the next 12 hours.	Correspondence	DP
4:12 AM	Called Doug at Wivenhoe to confirm directive received via email. Directive being actioned ASAP.	Correspondence	DP
7:10 AM	Anthony Dagan (Somerset Dam) emailed floodcentre indicating he believed floodcentre phones were out. Tried to contact Ag by office and mobile phones with no success (Telstra message bank on office phone and Ag's message on mobile). Floodcentre phones were checked - working OK. Problem is with Somerset phones. Believe fax also not receiving. Ag emailed to confirm they have local calls but no STD. Continued checking mobile - no response.	Correspondence	BS
8:20 AM	Called Matt at Wivenhoe to confirm directive 45 received. Confirmed not received - busy status on fax confirmation. Confirmed directive received via email.	Correspondence	BS
9:40 AM	Retried all phones at Somerset - no response. Ag emailed to confirm that all phones are down at Wivenhoe. Email is still working and he will be checking emails every hour on the hour.	Correspondence	BS
10:20 AM	Email confirmation received that Somerset Directive #12 implementation has been completed.	Correspondence	BS
11:30 AM	FOC contacted by police (Robbie Goodger - ph [redacted] notifying that the Wivenhoe viewing area has been damaged. Rob Ayre unable to contact Wivenhoe staff (Matt) - message left. Then contacted Doug Grigg, who confirmed that the area is damaged and has been locked off and 2 security guards are on site. It won't be opened until the water level falls and a full inspection of the structure has been completed. Rob Ayre confirmed this with police, who reported that there was damage to safety rails and water supply to toilets. Matt also responded to Rob's call and confirmed the details.	Correspondence	BS
12:30 PM	Phone call from Matt (Wivenhoe) - neither fax nor email received. Verbal instruction given to implement gate operation as per Directive #46 and email resent.	Correspondence	BS

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	12:40 PM	Ian Holland (contract programmer) called to advise that the back-up Linux box "Namah" at Mineral House is showing file system corruption errors, so the FCC is effectively without backup. The hydraulic model in the RTFN is missing because two Fortran programs "Modcom 2" and "Modef" have not been ported to the Linux box.	Correspondence	BS
	12:55 PM	Rob Ayre advised Warren Shallcross about the situation at Mineral House, and he will visit the backup operations centre ASAP.	Correspondence	BS
	1:10 PM	Ag (Somerset) called to report that the phones are now working.	Correspondence	BS
	2:40 PM	Terry Malone spoke to Rob Ayre. Grid manager wants a summary of flood volumes and peak discharges.	Correspondence	BS
	3:00 PM	Warren Shallcross called - confirmed with Rob Ayre that the computer system at Mineral House has been rebooted and is functional.	Correspondence	BS
	3:10 PM	Rob Drury rang to confirm current discharges. Confirmed 600 cumecs for Somerset and 3500 cumecs for Wivenhoe (approx).	Correspondence	BS
	4:00 PM	Directive #47 implemented - Gate 2 opened to 7.0 m.	Correspondence	BS
	6:52 PM	Rob Ayre spoke with Doug Grigg (Wivenhoe Dam) about Directive #48 Wivenhoe strategy. Doug confirmed receipt of Directive.	Correspondence	MT
	7:00 PM	FOC change over.	Other	MT
	10:00 PM	Doug Grigg (Wivenhoe Dam) called to inform 3 floor panels missing from bulks.	Correspondence	MT
Monday, 17 January 2011	7:15 AM	Rob Drury called to get Sit Rep. Advised that Somerset should remain mobilised until further notice	Correspondence	LVB
	7:35 AM	Agg Duggan called - discussed strategy i.e. operate cone valves only from now on	Correspondence	LVB
	9:15 AM	Brett Myatt from Mt Crosby called to find out about strategy for Wivenhoe shut down. Informed him that we will start closing down mid afternoon and aiming to have it closed by Wednesday	Correspondence	LVB
	9:35 AM	Rob Drury called to enquire when closing down will start and reminded us to inform Councils	Correspondence	LVB
	10:00 AM	Advise Peter Allen about inconsistency between readings form BoM and actual HW gauges	Correspondence	LVB
	10:15 AM	Tony Jacobs SRC was contacted and advised gate close will commence this afternoon and Fernvale Bridge will be out of the water sometime Tuesday morning	Correspondence	LVB
	10:20 PM	Chris Lavin BCC was contacted (left message) advising gate close will commence this afternoon.	Correspondence	LVB
	10:20 PM	Tony Trace ICC was contacted (left message) advising gate close will commence this afternoon.	Correspondence	LVB
	11:15 PM	Called Bret Myatt to inform him that flow in Lockyer is 75m3/s and falling.	Correspondence	LVB
	11:15 PM	Talked to Ken Morris BCC. Advised him about gate closure. He mentioned that BCC will not provide any info on flood recurrence until they discussed with FoC.	Correspondence	LVB
	11:20 AM	Rob Dury called - Council wants to know draw down rates, so they can determine the effects on Coronation Dr. JR informed RD that Ken did not raise this when they spoke 10 mins before.	Correspondence	LVB
	11:20 AM	Peter Burrows called saying he will email a revised copy of Michael O'Brain's document	Correspondence	LVB

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	12:20 PM	JR contacted BCC to get an update on Coro Dr situation. JR spoke to Ken Morris. Ken advised he had spoken to BCC Geotec Officers and they had advised that @ this stage as Coro Dr was back within the banks that they could not see an immediate problem. Some bank slumping have been identified further up the river. Council would like the recession of flow to be as flat as practicable but also that releases be as small as possible @ the Port Office gauge by the time of the high tide on Friday. This is consistent with our current strategy of closing releases by Wednesday 20 Jan 2010.	Correspondence	LVB
	12:30 PM	Rob Drury called, requesting an update on discussions with BCC. He requested that BCC confirm the discussion of 12:20 in writing.	Correspondence	LVB
	1:01 PM	Rob Drury called, saying Morton Bay wanted to know if there will be any more releases from WPD. JR said nil planned unless we get more rain.	Correspondence	LVB
	2:15 PM	Rob Drury called, asking for dates and times for Wivenhoe operations at the peak of the flood.	Correspondence	LVB
	3:15 PM	Peter Badley form BoM called to confirm that he received the info on the discrepancy in the auto level recorder	Correspondence	LVB
	4:15 PM	Jim from BoM - they have not received manual observations for days	Correspondence	LVB
Tuesday, 18 January 2011	12:30 AM	Peter Borrows called to inform that rapidly dropping water level at Lowood was causing issues with pumping for WTP. Asked if FOC could call John Granzien and then notify him via txt of the outcome.	Correspondence	JW
	12:35 AM	FOC contacted John Granzien in regards to pumping issues at Lowood. Terry decided to halt all gate operations until further notice in order to ensure security of water supply to Lowood.	Correspondence	JW
	1:00 AM	Txt message sent to Peter Borrows to advise of cessation of Wivenhoe gate operations until further notice.	Correspondence	JW
	2:00 AM	BCC advise that the recession at Coronation Drive is not an issue with regards to bank stability	Correspondence	JW
	5:00 AM	Doug Grigg called to advise that Fernvale Bridge was emerging from river. Current release 2054 cumecs.	Correspondence	JW
	5:40 AM	Doug Grigg called to advise that the aproach to the Fernvale Bridge from the Fernvale side was still underwater due to water backed up in the quarry.	Correspondence	JW
	5:45 AM	Called John Granzien to advise that Wivenhoe gate operations would recommence close down sequence from 9am as per original strategy. John to advise FOC if pumping operation at Lowood would benefit from additional 3 - 6 hours delay in gate operations.	Correspondence	JW
	7:25 AM	Doug Grigg (Wivenhoe) called to advise that Surveyor Bill Hewitt is taking a routine deformation survey	Correspondence	KP

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7:35 AM	Ken Morris (BCC) enquired about preliminary assessment of magnitude of flood. Ken suggested that SEQWater, BOM and BCC should arrive at a consensus regarding any assessment on the magnitude of the event. Rob Ayre agreed. Ken also enquired if we had done an asessment of the effects of the dam on peak flow. Rob indicated that our prelim figure was 13000 cumec peak at City Gauge without the Dams.	Correspondence	KP
8:25 AM	Matthew O'Reilly (Wivenhoe) called to acknowledge Directive 55	Correspondence	KP
10:10 AM	Rob Townsley (SEQWater at Mt Crosby Phone [redacted] has requested some forward projections for flows at Mt Crosby Weir for the next 48 hours. They are looking at sludge dilution.	Correspondence	KP
10:15 AM	Rob Ayre called Rob Townsley back to provide the following info re projected flows at Mt Crosby Weir: 18/1/2011 10:00 - 2300 cumecs 19/1/2011 10:00 - 1130 cumecs 20/1/2011 10:00 - 360 cumecs	Correspondence	KP
10:19 AM	Mark Gibson from BCC Flood Information Centre called to advise that Campbell Newman wants an indication of what the flood would have been without dams and asked if the figure of 13000 cumecs provided to Ken Morris earlier could be released to the public.	Correspondence	KP
10:24 AM	Rob Ayre spoke to Rob Drury to ask SEQWater's policy re release of information above. Rob Drury to confirm with his comms people.	Correspondence	KP
10:30 AM	Paul Bird (SEQWater comms officer) called to advise that the minister's office has recommended that no info regarding releases from WD be released to anybody. Paul Bird will now communicate this response to the BCC Flood Info Centre and specifically Mark Gibson.	Correspondence	KP
10:38 AM	Tony Jacobs (Somerset RC) requested info re when Burtons Bridge is expected to be free from inundation. Under our current shutdown sequence, Rob Ayre advised that we expect Burtons to be free around midnight on Wed evening. Tony also advised that the bridge on New England Creek will become flood free at around the same time. Tony indicated that at at 8am today the approaches to Fernvale were clear of water. However, powerlines and silt need to be removed. He expects the bridge to be open this aftmoon.	Correspondence	KP
10:55 AM	Barton Maher (SEQWater) called to confirm that we received the hydraulic model from WRM. (affirmative)	Correspondence	KP
12:05 PM	Peter Borrows (SEQWater) called to advise tat he and Bob Reilly (DERM) will come come and visit the FOC at 2:30 this afternoon.	Correspondence	KP
12:26 PM	Rob Drury called to confirm programmed final shutdown. Rob Ayre advised scheduled for 9am Thursday 20/1 2011. Rob Drury to confirm with Rohan Thorogood re fish recovery.	Correspondence	KP
1:22 PM	Confirmed with Mat O'Reilly that gate closure sequence was in accordance with directive as email received from WD re 13:00 closure was incorrect.	Correspondence	KP

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2:00 PM	John Tibaldi called for an update of the closedown sequence	Correspondence	KP
2:15 AM	Rob Ayre called Greg Roads of WRM re hydraulic model of Brisbane River...login and password not working...Greg not available at present	Correspondence	KP
2:30 PM	Peter Borrows (SEQWater) and Bob Reilly (DERM) visited FOC to check current situation and to pass on thanks for job performed so far. Also requested that we hold further gate operations until problems at Lowood Pump Station are resolved.	Other	KP
4:05 PM	Rob Ayre called Mal Lane to alert him to the possibility of operating North Pine Dam with incoming storms.	Correspondence	KP
4:30 PM	Rob Drury rang noting the current storms and requested that Rob Ayre call Tony Martini (Moreton RC) to advise of the possibility of operating North Pine Dam.	Correspondence	KP
4:34 PM	Email from Peter Borrows containing Bob Reilly's approval to vary the flood release regime to enable a constant flow for the Lowood WTP offtake.	Correspondence	KP
4:45 PM	Rob Ayre rang Tony Martini (Moreton RC) to advise of the possibility of operating North Pine Dam in the next day or so if predicted falls of up to 50mm occurred.	Correspondence	KP
6:25 PM	Rob Drury called to discuss situation report for North Pine.	Correspondence	KP
6:57 PM	JT phoned Tony Martini at MBRC. Message left regarding plans to open NPD gates this evening as the lake level is approaching trigger level with more rain / showers forecast.	Correspondence	NGA
7:02 PM	JT phoned Malcolm Lane regarding mobilising for NPD gate opening this evening. Tentative plan is for commencement of gate opening at 20:30.	Correspondence	NGA
7:05 PM	JT phoned the Duty Officer (Charlie) at MBRC regarding the planned imminent opening of the NPD gates. Target time is 20:30 if Council has the barriers in place closing Youngs Crossing Road and the dam is fully manned.	Correspondence	NGA
7:05 PM	Neville Ablitt phoned Rob Drury to provide an update on the NPD mobilisation and proposed gate openings.	Correspondence	NGA
7:07 PM	JT phoned Murray Dunstan to advise of planned gate opening of NPD this evening. Cessation of operations (i.e. gate closure) is expected to be arranged for tomorrow morning (19/1) in order for Youngs Crossing Road to be opened to peak hour traffic. JT advised MD to plan for an early morning fish recovery exercise at NPD.	Correspondence	NGA

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7:10 PM	Tony Martini from MBRC returned phone call to JT. JT repeated information already conveyed to MBRC Duty Officer - Charlie regarding requirement for Youngs Crossing Road to be closed to traffic to allow NPD gates to be operated by 20:30 if possible.	Correspondence	NGA
7:15 PM	JT phoned Cynthia Crane (Seqwater) regarding JT's inability to access Citrix. Outage (?). Message left.	Correspondence	NGA
7:15 PM	JT phoned Rob Drury regarding Citrix comms outage. Message left requesting RD to intervene to have the problem fixed.	Correspondence	NGA
7:20 PM	Lief from IT (Seqwater) rang and 'reset' Citrix for JT.	Correspondence	NGA
7:30 PM	JT phoned Malcolm Lane at NPD to confirm gate opening arrangements for 20:30 if Youngs Crossing Road has been closed to traffic by Council at that time.	Correspondence	NGA
7:40 PM	Rob Drury rang the FOC to enquire if the Citrix issue was sorted. Citrix connection now functioning. JT expressed concern about the current release strategy for Wivenhoe Dam. If the current release rate is maintained (set to accommodate Lowood temporary raw water pumps), the model indicates that the lake level could fall well below FSL (~ EL 65.00 ??).	Correspondence	NGA
7:42 PM	JT phoned Jim Pruss (Seqwater) to seek advice on who could supply the most up-to-date status report on the current situation at Lowood regarding river levels and pumping activities to supply the WTP. JP suggested John Smith (?).	Correspondence	NGA
7:45 PM	JT phoned Mick Drews (Seqwater) seeking info Re: Lowood. Mick referred JT to Daniel Roche.	Correspondence	NGA
7:50 PM	JT phoned Daniel Roche. - reportedly on site at Lowood PS. No answer. Message left.	Correspondence	NGA
7:52 PM	JT phoned John Smith - Lowood WTP operator to enquire as to current status regarding temporary pumping arrangements of raw water from the Brisbane River.	Correspondence	NGA
7:55 PM	Agg Dagan (Somerset Dam operator) phoned the FOC from home seeking the Duty Engineer's intentions for operations at Somerset Dam overnight. JT requested a Gauge Board reading of the lake level and advised that an operations strategy for Somerset Dam would be addressed within 30 minutes - following satisfactory mobilisation of NPD.	Correspondence	NGA
8:00 PM	Mark Millman (Seqwater - IT) phoned JT to check status of Citrix connection. Citrix connection is functioning.	Correspondence	NGA
8:05 PM	Agg Dagan phoned from Somerset Dam. Current lake level is EL 98.95 Unchanged from lake level at 15:35 today.	Correspondence	NGA

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8:05 PM	JT phoned Graham Keegan at home. Jt requested GK to visit Lowood pumping intake site and report on status as unable to contact Daniel Roche.	Correspondence	NGA
8:11 PM	JT phoned Agg Dagan (Somerset Dam operator). Agg to send fax in with lake level . Likely strategy will be to close off the regulator overnight and re-assess the situation in the morning.	Correspondence	NGA
8:12 PM	JT conversed with Peter Pennell (Seqwater). PP advised that arrangements are in hand to move the temporary pumps at the Brisbane River site at Lowood. The pumps are being re-located downhill to maintain extraction of raw water from the river to supply the Lowood WTP.	Correspondence	NGA
8:15 PM	Daniel Roche contacted JT. The temporary raw water pumps at Lowood are being moved closer to the river - chasing the anticipated lower level in the river due to reduced releases from Wivenhoe.	Correspondence	NGA
8:18 PM	Rob Drury rang the FOC to seek an update on operations at all 3 storages.	Correspondence	NGA
8:25 PM	JT confirmed on-site manning arrangements at Lowood with Graham Keegan.	Correspondence	NGA
8:30 PM	Somerset Dam operator advised FOC by fax that Regulator #12 had been closed as per verbal advice from JT.	Information	NGA
8:35 PM	JT contacted Doug G. at Wivenhoe. Gate closing directive pending.	Correspondence	NGA
8:55 PM	Malcolm Lane phoned the FOC. MBRC have only just closed off Youngs Crossing Road. By the time the siren is sounded, the gate openings in Directive 31 scheduled to commence at 20:30 will be delayed by 45 minutes.	Correspondence	NGA
9:00 PM	Charlie, the Duty Officer at MBRC, rang JT to advise that Youngs Crossing Road was now closed. JT advised Charlie that it was intended to maintain releases from NRD through until 5:00am Wednesday 19/1. With this operating strategy, Young's Crossing Road should be able to be re-opened to traffic by 7:00am tomorrow.	Correspondence	NGA
9:05 PM	Note: Wivenhoe Dam fax machine is still inoperative	Correspondence	NGA
9:08 PM	JT phoned Murray Dunstan to advise of planned gate opening of NPD this evening. Closure is	Correspondence	NGA
9:15 PM	Rob Drury phoned JT to discuss the Wivenhoe release strategy and its potential to effect bank slumping at Coronation Drive. The changed situation at Lowood means that the reduction in Brisbane River levels will now be far more even. RD advised that Coronation Drive is no longer a concern.	Correspondence	NGA
9:30 PM	Neville Ablitt phoned BCC and made contacted with Leanne from BCC's Flood Operations (Disaster Management) Centre. JT requested confirmation that Coronation Drive would not be adversely affected by way of bank slumping if releases from Wivenhoe were terminated on Wednesday afternoon. JT requested Leanne to investigate and call back the FOC.	Correspondence	NGA

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	9:38 PM	Neville Ablitt contacted Doug G. at Wivenhoe Dam by 2-way radio to confirm his receipt of e-mail containing Directive #59. Doug also confirmed that the Wivenhoe fax machine is still inoperative. All written comms to be by e-mail.	Correspondence	NGA
	9:50 PM	JT phoned Rob Drury. Wivenhoe release strategy discussed regarding Lowood WTP temporary offtake level, concerns about Coronation Drive bank slumping and lake level at cessation of releases if targetted for tomorrow afternoon.	Correspondence	NGA
	9:53 PM	Chris Thorley from BCC's Flood Operations (Disaster Management) Centre phoned JT. Wivenhoe release strategy and effect on Coronation Drive discussed. BCC have no concerns about imminent ceassation of Wivenhoe releases. JT explained that it was more likely that the tidal variation at Toowong would have a greater impact on the river banks than the Wivenhoe releases.	Correspondence	NGA
	10:00 PM	JT phoned Malcolm Lane at NPD to discuss release strategy. i.e. planned gate openings to setting #2 followed by closure sequence to be completed by early tomorrow morning (19/1).	Correspondence	NGA
	10:02 PM	RD phoned JT. Release strategy and final lake level at gate closure at Wivenhoe discussed.	Correspondence	NGA
	10:14 PM	Graham Keegan phoned JT. Situation at Lowood is under control. JT advised Graham that the releases at Wivenhoe are planned to cease by early afternoon tomorrow (19/1).	Correspondence	NGA
Wednesday 19/01/2011	3:30 AM	JT phoned the Mount Crosby WTP to obtain an update on the status of the Mount Crosby Weir Bridge. It is currently clear of water and came out of inundation approx 14:00 yesterday (18/1). The bridge has reportedly suffered some damage. Details unknown.	Correspondence	NGA
	4:38 AM	JT advised Doug G. at Wivenhoe Dam that the strategy for further gate closures after 0500 was dependant on the outcome of a discussion with Peter Borrows anticipated within the hour. Doug advised that the Fernvale Bridge was clear of floodwater but that it had powerlines down on /around it.	Correspondence	NGA
	5:05 AM	Doug G. from Wivenhoe Dam phoned the FOC to report that some erosion has occurred in the vicinity of the plunge pool downstream of the flip bucket. This has become evident now that the gate releases have been reduced. Some large boulders (~ 10t) are evident piled up against the bench D/S of the flip bucket. JT will need to inspect the damage ASAP.	Correspondence	NGA
	5:10 AM	JT phoned Peter Borrows to obtain a Govt. view on how long to maintain releases and to where the lake level should be held following closure of all gates. Timing of the gate closure might be dependant on the erosion issue.	Correspondence	NGA
	5:15 AM	JT phoned TM to arrange for TM to relieve JT ASAP in the FOC as he is required to inspect the reported damage at Wivenhoe Dam.	Correspondence	NGA
	5:20 AM	JT phoned Barton Maher (Seqwater) to arrange a joint inspection of the erosion damage at Wivenhoe Dam as reported by Doug G. the dam operator.	Correspondence	NGA

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5:25 AM	Rob Drury phoned JT to obtain an update. JT advised RD that damage has been reported to the area D/S of the flip bucket at Wivenhoe. An inspection ASAP is warranted.	Correspondence	NGA
5:30 AM	JT phoned Peter Allan (Dam Regulator) to advise that damage had been reported at Wivenhoe Dam by the operator. Initial information indicates that large boulders are piled up in the plunge pool D/S of the flip bucket. The source of these boulders is unknown as releases are still continuing from the gates. JT has arranged to inspect the site with Barton Maher in a few hours and an invitation was extended to PA as an interested party to attend the inspection. JT will provide updates as they come to hand.	Correspondence	NGA
5:35 AM	Doug G. phoned JT on his mobile phone with an update report.	Correspondence	NGA
8:08 AM	JT phoned TM. Things seem to be O.K. but we will continue to close all gates by this afternoon.	Correspondence	KH
8:20 AM	TM phoned Flood Warning Centre advising that flood operation for current event will be shut down around lunch time.	Correspondence	KH
9:23 AM	JT phoned TM asking whether we should run a regulator.	Correspondence	KH
9:51 AM	TM phoned JT regarding modelling results.	Correspondence	KH
10:00 AM	TM phoned JT regarding modelling results. TM want to advise Doug G to stop at Gate 3 at 1 metre, but they agree to close as planned and maintain operational release instead of flood release.	Correspondence	KH
10:15 AM	JT has discussed the event closure with Peter Allen. It was agreed that the flood will be considered closed with the closure of the gates at 1200. At that time, control of the dam will revert to Seqwater. As the low flow channel to the regulator is blocked, the centre gate will be opened to 1 metre to manage on going inflows with the aim of getting to 95% (EL 66.5).	Correspondence	TM
10:43 AM	Received QPF - 15mm-25mm generally, heavier falls to about 50mm in Brisbane and North Pine catchments.	Other	KH
11:14 AM	JR phoned TM - Still operational until tonight.	Correspondence	KH
11:28 AM	Rob Townsley (SEQWater at Mt Crosby [redacted]) phoned FOC requesting for peak flow at Mt Crosby Weir during the latest event.	Correspondence	KH
11:36 AM	TM phoned JT confirming that JR and LvB will be on tonight.	Correspondence	KH
11:45 AM	TM phoned Rob Townsley advising that peak flow over Mt Crosby Weir was about 9150 cumecs.	Correspondence	KH
11:51 AM	TM phoned (left message with) MBRC regarding potential for closing operation tonight.	Correspondence	KH
11:52 AM	TM phoned (left message with) Murray Dunstan to call him back.	Correspondence	KH
11:59 AM	JT phoned TM stating that divers will investigate erosion d/s Wivenhoe Dam today.	Correspondence	KH

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1:25 PM	Rob Townsley phoned TM discussing about the information which TM sent.	Correspondence	KH
1:39 PM	Matthew O'Reilly phoned TM advising Wivenhoe Dam EL is 66.89 m AHD.	Correspondence	KH
3:21 PM	Kerry (MBRC) phoned wanting AJ Wyllie Bridge to be closed at 9:00 PM rather than 7:00 PM, and stating that she will update 24 hour call centre number. She will send email to confirm all this.	Correspondence	KH
4:00 PM	Received QPF - 15mm-25mm generally, heavier falls to about 50mm in Brisbane and North Pine catchments.	Other	KH
7:30 PM	Toni Martini from MBRC called to say that the alternate route @ Petri is open (sooner than the 9 PM forecast)	Correspondence	LVB
9:10 PM	Called Murray Dunstan to inform him that NPD will be mobilised.	Correspondence	LVB
9:10 PM	Called Brett Schultz NPD to mobilise. The WL is approaching trigger level for gate opening.	Correspondence	LVB
9:20 PM	Called MBRC call centre to inform them that NPD will be operated. They called back and advised that they can close Young's crossing by 11 PM. They will confirm once road is closed.	Correspondence	LVB
9:38 PM	Brett Schultz called to confirm they are ready The gauge reading was 89.54 @ 9:30PM	Correspondence	LVB
2:15 AM	Tony Martini from MBRC called regarding release at NPD. He was advised that the gates will be open open for a while yet	Correspondence	LVB
6:50 AM	Maria from MBRC called to find out when the gates on NPD will be shut. They were advised that the gates will only be closed in time for the afternoon peak.	Correspondence	LVB
7:20 AM	Rob Ayre called Tony Jacaobs at SRC to advise of flow in Lockyer Creek. Tony concerned about Burtons Bridge but RA indicated that we will endeavour to keep flows below 400 m3/s.	Correspondence	RA
7:25 AM	RA called Tony Trace at Ipswich CC and advised of renewed flows in Lockyer Creek and Middle Brisbane R.	Correspondence	RA
7:40 AM	RA called Chris Lavin at BCC and advised of increased flows in Lockyer Creek and Middel Brisbane. Advised that Savages Crossing and/will be Colleges Crossing are inundated. Estimated travel time 30 to 36 hours.	Correspondence	RA
7:55 AM	RA called NOD and spoke to Doug. Discussed proposed strategy to drain until around 2:00 PM with current gate settings. Requested hourly readings so as to monitor model performance.	Correspondence	RA
8:00 AM	Mal Lane from NPD called to discuss proposed operations. RA indicated that we will continue as is until 10:00am QPF comes in and then decide from there as to strategy.	Correspondence	RA
8:40 AM	Rob Drury called enquiring about the timeliness of the notice we gave to MBRC. Rob advised him accordingly.	Correspondence	KH
8:45 AM	John West called (re Lowood pump station) enquiring time to peak (height and discharge). FOC response was about 9 hours with height of about 3.7 m corresponding to 300 cumecs.	Correspondence	KH
8:50 AM	John West called (re Lowood pump station) enquiring current height and discharge. Together we estimated that it was about 150 cumecs (50 from Lockyer Creek and 100 from Wivenhoe Dam) corresponding to about 2.4 m.	Correspondence	KH

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9:45 AM	Rob Drury advised Wivenhoe will not be drained to 66.5 m AHD, but will be maintained at or just below FSL.	Correspondence	KH
10:21 AM	Received QPF - 15mm-25mm generally, heavier falls to about 50mm in Brisbane and North Pine catchments	Other	KH
10:30 AM	Rob Drury called enquiring whether closing all releases in Wivenhoe Dam will cause level to exceed gate trigger in the next three day. RA advised that with rain on the ground he expects it not to, however forecast as per QPF is 15-25 mm, so we may need to review that decision tomorrow.	Correspondence	KH
11:12 AM	Tony Martini (MBRC) called. RA advised all gates will be closed at 2:00 PM.	Correspondence	KH
11:14 AM	RA phoned Murray Dunstan. They decided to close NPD by 2pm to allow MBRC to open Young's Crossing for afternoon peak.	Correspondence	KH
11:15 AM	John West called enquiring peak height and discharge at Lowood with Wiv Dam gates closed. We decided to just minus 100 cumecs from previous estimation. He also wants FOC to email him the Lowood rating curve.	Correspondence	KH
11:33 AM	RA called Mal (re Directive 36)	Correspondence	KH
11:36 AM	RA called TM. TM will monitor situation overnight and RA will become Duty Eng again tomorrow.	Correspondence	KH
11:44 AM	Paul Bird (SEQWater) called to confirm whether we have closed all gates at Wivenhoe Dam. KH said yes.	Correspondence	KH
1:07 PM	Rob Drury called confirming NPD closure.	Correspondence	KH
1:35 PM	Peter Parnell (SEQWater) callled about Lowood pump motor sitting on the platform and wanting to know what flow will come down from Lockyer. Rob said about 300 cumecs.	Correspondence	KH
1:37 PM	TM called. Lou will be on tonight (KH should ring him this afternoon). Mt Crosby Weir gauge is broken so Water Treatment boys will give manual readings via BoM website. City gauge is currently reading 0.3 m high.	Correspondence	KH
2:10 PM	RA advised MBRC that North Pine Dam gate operations had ceased at 14:00 and that Youngs Crossing should be clear of water within the next hour to an hour and half.	Correspondence	RA
2:15 PM	RA called Mal Lane and indicated that Terry Malone will be on call tonight monitoring the situation. Mal Lane advised that the tree branch snagged on Gate C had swung around and was now resting on pier - therefore okay. Hwoever a 75mm branch was caught in the ropes of Gate B and may need to be removed before another operation. Murray Dunsatn has organised for the Rangers to examine tomorrow.	Correspondence	RA
2:40 PM	Agg Dagan called from Somerset dam and enquired as to proposed operational release strategy. RA advised that no releases planned for now until Wivenhoe spillway issues are resolved.	Correspondence	RA
3:20 PM	RA called MBRC Call Centre to provide heads up on possible gate operations tonight. Indicated that with 25mm over catchment we will commence gate operations at 21:00.	Correspondence	RA

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APPENDIX O

Hourly Rainfall Tables

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ALERT ID	Station	Hourly Rainfall (mm) ending 9am 7 January																								Daily Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	mm
6500	Mt Glorious-B																									
6680	Mt Glorious-P	3	8	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2		17
6514	Gregor Ck-P	0	0	9	7	1	0	0	0	0	0	0	0	0	0	2	2	2	0	2	4	3	4	0		37
6517	Gregor Ck-B																									
6520	Boat Mountain	0	0	23	7	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	6	3	4	2	50
6523	Cressbrook Dam	8	10	3	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	2	28
6526	Helidon	28	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	42
6529	St Aubyns	2	5	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	5	8	2	27
6540	Yarraman	0	7	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	1	1	4	40
6542	Cooyar Ck	0	0	16	27	2	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	2	0	2	1	56
6550	Walloon-P	1	5	4	0	1	1	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	0	0	0	16
6553	Rosentretters Br	3	0	13	1	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	1	1	3	2	29
6555	Atkinson Dam	4	9	6	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4	29
6556	Glenore Grove	2	6	3	2	3	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0	2	23
6559	Savages Crossing	0	6	4	1	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	12	27
6562	Kalbar Weir	6	13	4	2	1	1	0	0	0	0	0	0	0	1	4	1	2	0	0	1	3	0	0	0	39
6565	Tenthill																									
6568	O'Reillys Weir	0	10	11	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	37
6571	Harrisville	1	9	4	1	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	19
6574	Caboonbah	0	0	2	2	2	1	0	0	0	0	0	0	0	0	0	6	2	0	0	1	2	0	4	1	23
6577	Gatton	9	18	1	2	1	1	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	1	36
6580	Adams Br	9	9	5	3	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	31
6583	Showground Weir	4	11	2	1	4	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	27
6590	Somerset Dam HW-B	0	0	0	4	2	1	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0	5	1	19
6593	Somerset Dam HW-P																									

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6596	Crows Nest	2	11	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	2	1	1	21
6598	Toowoomba	9	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	1	0	19
6600	Kilcoy	0	0	9	9	1	1	0	1	0	0	0	0	0	0	1	1	1	1	3	0	2	5	1	37	
6601	Mt Binga	1	9	6	2	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	0	5	4	4	4	39
6602	Top of Brisbane	0	0	0	12	15	0	3	0	0	0	0	0	0	0	0	0	0	6	6	0	2	1	3	4	46
6603	Blackbutt	0	7	43	7	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	2	3	1	5	5	76
6604	Toogoolawah	1	0	5	3	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	1	2	5	4	1	28
6605	Eskdale																									
6606	West Woodbine	9	4	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	18
6607	Lindfield	0	0	0	11	2	3	2	1	2	0	0	0	0	0	1	1	2	0	0	2	0	3	1	4	35
6608	Jimna	0	0	0	4	1	15	10	3	0	0	0	0	0	0	3	1	1	0	0	2	0	2	0	0	42
6609	Monsildale	0	0	2	2	17	7	3	2	1	0	0	0	0	0	0	1	0	0	0	3	1	1	0	2	42
6610	Kluvers Lkt	0	7	6	12	0	2	4	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	14	4	52
6611	Redbank Creek	13	12	5	2	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	5	41
6612	Mt Stanley	0	0	7	22	21	0	0	0	0	0	0	0	0	1	0	0	1	0	0	4	2	1	0	1	60
6613	Hazeldean	0	0	2	14	1	1	0	0	0	0	0	0	0	0	0	4	5	0	0	1	6	2	4	0	40
6614	Westvale																									
6615	Thornton	17	5	3	2	2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	33
6617	Little Egypt	6	3	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	4	2	0	0	0	0	0	19
6619	Mt Castle	8	5	7	0	2	3	0	0	0	0	0	0	2	4	0	5	4	9	1	0	2	3	1	0	56
6621	Nukinenda	3	7	19	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	2	3	3	2	42
6623	Tarome	12	4	7	2	2	2	0	0	0	0	0	0	1	2	5	3	3	5	3	1	3	2	0	0	57
6624	Moogerah Dam	8	5	5	5	0	3	0	0	0	0	0	0	1	3	5	2	2	6	1	5	6	0	0	57	
6630	Lyons Br-B	1	7	5	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	3	25
6633	Lyons Br-P	1	6	4	1	2	4	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	23
6636	Wivenhoe Dam HW-B	0	9	3	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12	30
6641	Wivenhoe Dam TW-B	0	9	5	2	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	12	32
6643	Wivenhoe Dam TW-P	0	9	5	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12	32
6646	Lowood-B	0	7	8	0	3	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	7	28
6649	Lowood-P	0	4	6	0	2	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	7	23

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6651	Amberley-P	0	3	5	0	1	1	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	14
6653	Amberley-B	1	1	4	1	0	1	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	12
6656	Bill Gunn Dam	4	10	2	2	4	1	0	0	0	0	0	0	0	0	0	0	5	2	0	0	0	1	0	0	0	31
6658	Lake Clarendon Dam	5	16	2	4	3	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	1	0	34
6680	Mt Glorious-P	0	0	13	6	0	1	3	2	0	0	0	0	0	0	0	1	1	1	0	0	0	0	7	10	0	46
6690	Mt Mee-P	0	0	0	16	0	1	3	1	0	0	0	0	0	0	0	1	1	0	3	4	1	12	7	4	0	54
6701	Mt Mee-B	0	0	0	16	0	1	3	1	0	0	0	0	0	0	0	1	1	0	3	4	1	12	7	4	0	54
6702	Woodford-B	0	0	0	13	0	2	2	2	2	0	0	0	0	0	0	0	0	0	1	5	2	9	0	2	0	40
6705	Woodford-P	0	0	0	13	0	2	2	2	2	0	0	0	0	0	0	0	0	0	1	5	2	9	0	2	0	40
6708	Devon Hills	0	0	14	11	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	1	8	0	0	41
6711	Baxters Ck	0	0	0	6	1	2	4	2	1	0	0	0	0	0	0	0	0	0	1	0	0	1	15	4	0	37
6714	Ferris Knob	0	0	0	1	1	0	5	2	5	0	1	0	0	1	0	0	1	1	2	2	9	1	2	0	0	34
6716	West Bellthorpe	0	0	0	8	1	3	3	2	2	0	0	0	0	0	1	1	1	0	0	1	1	4	0	4	0	32
6717	Linville	0	0	17	7	5	0	0	0	0	0	0	0	0	0	0	1	0	1	0	3	0	2	1	2	0	39
6730	Jindalee	1	2	10	3	1	2	1	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	13	0	36
6733	Rosewood	2	5	2	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	14
6736	Kuss Rd	1	7	2	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	16
6739	Washpool	2	2	1	1	2	2	0	0	0	0	0	0	1	5	3	0	0	0	0	0	0	0	0	0	0	19
6742	Walloon-B	1	5	4	0	0	2	0	0	0	0	0	1	2	0	0	0	0	0	0	1	0	0	0	0	0	16
6748	Brisbane City	0	1	0	7	2	0	3	2	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	17	0	35
6751	Mt Crosby	0	10	12	4	0	1	0	0	0	0	0	2	1	0	0	0	0	0	1	0	0	0	0	8	0	39
6754	Moggill-P	1	1	10	1	1	1	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	20	0	40
6759	North Pine Dam-B	0	0	0	10	2	1	4	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	18	2	0	44
6760	North Pine Dam	0	0	0	11	1	1	4	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	18	2	0	44
6763	Petrie	0	0	8	12	0	0	4	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	22	2	0	60
6766	Lake Kurwongbah	0	0	0	7	7	0	5	4	1	2	0	0	0	0	0	0	0	0	0	0	0	1	12	0	0	39
6769	Drapers Xing	0	11	1	1	1	0	3	4	1	0	0	0	0	0	0	1	0	0	0	0	0	0	12	6	0	47
6774	Wilsons Peak-P																										
6775	Peachester																										
6778	Samford	0		0	14	1	0	3	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	8	9	0	40

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ALERT ID	Station	Hourly Rainfall (mm) ending 09:00 8 January 2011																								Daily Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	mm
6500	Mt Glorious-B																									
6680	Mt Glorious-P	6	2	3	2	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	16
6514	Gregor Ck-P	1	0	1	7	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	13
6517	Gregor Ck-B																									
6520	Boat Mountain	4	0	4	10	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	21
6523	Cressbrook Dam	1	2	6	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
6526	Helidon	5	5	6	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26
6529	St Aubyns	0	2	2	5	7	6	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	24
6540	Yarraman	2	1	0	0	7	5	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	21
6542	Cooyar Ck	0	0	0	5	9	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
6550	Walloon-P	12	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	16
6553	Rosentretters Br	0	4	14	5	2	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	27
6555	Atkinson Dam	4	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
6556	Glenore Grove	6	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
6559	Savages Crossing	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
6562	Kalbar Weir	1	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
6565	Tenthill																									
6568	O'Reillys Weir	1	2	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
6571	Harrisville	3	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
6574	Caboonbah	2	17	14	5	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
6577	Gatton	6	5	6	1	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	21
6580	Adams Br	1	6	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
6583	Showground Weir	6	7	3	1	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	20
6590	Somerset Dam HW-B	4	26	6	4	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	44
6593	Somerset Dam HW-P																									
6596	Crows Nest	2	1	2	5	5	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	18
6598	Toowoomba	1	4	7	5	2	7	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	27
6600	Kilcoy	3	3	3	5	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	19
6601	Mt Binga	3	1	4	4	15	7	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36

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6602	Top of Brisbane	6	0	0	0	4	11	32	15	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	71
6603	Blackbutt	3	3	3	3	13	4	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	31
6604	Toogoolawah	0	4	9	5	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
6605	Eskdale																										
6606	West Woodbine	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
6607	Lindfield	0	3	3	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	19
6608	Jimna	2	3	3	3	11	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29
6609	Monsildale	7	0	1	7	18	16	13	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63
6610	Kluvers Lkt	3	14	4	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
6611	Redbank Creek	4	5	9	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22
6612	Mt Stanley	3	1	0	9	7	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
6613	Hazeldean	2	15	6	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
6614	Westvale																										
6615	Thornton	1	4	1	5	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	13
6617	Little Egypt	0	2	4	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
6619	Mt Castle	0	1	5	3	6	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	18
6621	Nukinenda	2	0	4	3	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
6623	Tarome	0	4	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
6624	Moogerah Dam	0	6	0	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
6630	Lyons Br-B	5	1	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
6633	Lyons Br-P	5	1	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
6636	Wivenhoe Dam HW-B	0	1	3	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
6641	Wivenhoe Dam TW-B	1	1	3	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
6643	Wivenhoe Dam TW-P	0	1	3	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
6646	Lowood-B	5	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	9
6649	Lowood-P	5	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
6651	Amberley-P	12	3	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	17
6653	Amberley-B	12	3	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	17
6656	Bill Gunn Dam	8	9	3	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	24
6658	Lake Clarendon Dam	9	2	4	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
6680	Mt Glorious-P	4	2	8	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	17
6690	Mt Mee-P	13	28	4	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	49
6701	Mt Mee-B	13	28	4	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	49

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6702	Woodford-B	8	11	17	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	43
6705	Woodford-P	8	11	17	6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	43
6708	Devon Hills	7	7	8	11	5	2	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	43
6711	Baxters Ck	1	19	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
6714	Ferris Knob	1	1	10	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	25
6716	West Bellthorpe	0	0	2	10	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	16
6717	Linville	1	1	0	9	9	9	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	32
6730	Jindalee	5	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
6733	Rosewood	12	4	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	18
6736	Kuss Rd	10	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
6739	Washpool	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	11
6742	Walloon-B	13	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
6748	Brisbane City	5	0	0	0	1	1	0	2	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	13
6751	Mt Crosby	6	3	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	13
6754	Moggill-P	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8
6759	North Pine Dam-B	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
6760	North Pine Dam	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
6763	Petrie	0	3	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6766	Lake Kurwongbah	1	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
6769	Drapers Xing	1	4	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
6774	Wilsons Peak-P																										
6775	Peachester																										
6778	Samford	2	2	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7

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ALERT ID	Station	Hourly Rainfall (mm) ending 09:00 9 January 2011																								Daily Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	mm
6500	Mt Glorious-B																									
6680	Mt Glorious-P	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	7
6514	Gregor Ck-P	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	9	12	0	0	25
6517	Gregor Ck-B																									
6520	Boat Mountain	0	0	0	0	0	1	1	0	0	1	2	0	0	0	0	0	0	1	0	0	7	13	1	0	27
6523	Cressbrook Dam	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	8
6526	Helidon	0	0	0	0	0	3	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6
6529	St Aubyns	0	0	0	0	0	0	5	3	0	0	2	0	0	0	0	1	0	0	0	0	0	9	1	0	21
6540	Yarraman	0	0	0	0	0	0	0	0	0	0	4	1	0	0	1	0	0	0	0	0	1	2	7	3	19
6542	Cooyar Ck	0	0	0	0	0	1	2	1	0	0	1	1	0	0	0	0	0	0	0	0	2	4	8	0	20
6550	Walloon-P	0	0	0	0	3	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	6
6553	Rosentretters Br	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	2	0	0	0	5
6555	Atkinson Dam	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
6556	Glenore Grove	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4
6559	Savages Crossing	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	6
6562	Kalbar Weir	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
6565	Tenthill																									
6568	O'Reillys Weir	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3
6571	Harrisville	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6574	Caboonbah	0	0	0	0	0	2	1	0	0	1	0	0	1	0	0	0	0	0	0	1	4	0	0	0	10
6577	Gatton	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	4
6580	Adams Br	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
6583	Showground Weir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6590	Somerset Dam HW-B	0	0	0	0	0	4	0	0	0	7	0	0	2	2	1	0	1	0	0	1	5	1	0	0	24
6593	Somerset Dam HW-P																									
6596	Crows Nest	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	11
6598	Toowoomba		0	0	0	0	0	4	0	0	0	0	0	0	0	1	2	1	0	0	0	0	1	0	0	9
6600	Kilcoy	0	0	0	0	1	0	0	1	0	0	0	0	4	0	2	0	0	0	0	6	8	0	1	0	23
6601	Mt Binga	0	0	0	0	0	0	3	0	0	0	2	0	0	1	0	0	1	0	0	0	1	13	1	0	22

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6602	Top of Brisbane	0	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	1	2	2	4	16
6603	Blackbutt	0	0	0	0	0	0	1	0	0	0	9	0	0	0	3	0	0	0	0	0	1	12	9	0	35
6604	Toogoolawah	0	0	0	0	0	1	0	0	0	4	0	0	1	0	1	0	0	0	0	0	3	1	1	0	12
6605	Eskdale																									
6606	West Woodbine	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
6607	Lindfield	0	0	0	0	2	3	2	7	4	0	0	1	0	0	0	0	1	0	4	35	28	1	1	89	
6608	Jimna	0	0	0	0	0	3	3	6	2	0	0	0	0	0	0	0	0	0	1	8	10	8	0	41	
6609	Monsildale	0	0	0	0	0	0	10	2	3	0	0	0	0	0	0	0	0	1	0	0	8	18	9	51	
6610	Kluvers Lkt	0	0	0	1	2	0	0	1	0	1	0	0	5	1	0	0	1	0	1	2	1	0	1	0	17
6611	Redbank Creek	0	0	0	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	8
6612	Mt Stanley	0	0	0	0	0	0	4	1	4	1	0	0	0	0	0	0	0	0	0	4	5	12	0	31	
6613	Hazeldean	0	0	0	0	0	3	0	1	0	3	0	0	0	0	1	0	0	0	0	1	8	2	0	0	19
6614	Westvale																									
6615	Thornton	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0	0	7
6617	Little Egypt	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6619	Mt Castle	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	0	0	0	0	0	5
6621	Nukinenda	0	0	0	0	0	0	1	0	0	0	2	0	0	3	0	0	1	1	0	0	0	7	0	0	15
6623	Tarome	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
6624	Moogerah Dam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
6630	Lyons Br-B	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	6
6633	Lyons Br-P	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	6	
6636	Wivenhoe Dam HW-B	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4	
6641	Wivenhoe Dam TW-B	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	5	
6643	Wivenhoe Dam TW-P	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	5
6646	Lowood-B	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	6
6649	Lowood-P	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	1	7
6651	Amberley-P	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6653	Amberley-B	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	
6656	Bill Gunn Dam	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	
6658	Lake Clarendon Dam	0	0	0	0	0	2	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	6	
6680	Mt Glorious-P	0	1	1	1	4	0	0	1	0	1	0	3	3	0	0	0	1	1	1	0	4	0	1	0	23
6690	Mt Mee-P	0	0	0	0	1	0	0	1	4	1	0	1	2	1	0	0	0	1	3	6	7	0	0	1	29
6701	Mt Mee-B	0	0	0	0	1	0	0	1	4	1	0	1	2	1	0	0	0	0	4	6	7	0	0	1	29

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6702	Woodford-B	0	0	1	0	3	2	0	2	1	1	3	0	0	0	1	0	0	0	1	13	7	1	0	1	37
6705	Woodford-P	0	0	1	0	3	2	0	2	1	1	3	0	0	0	1	0	0	0	1	13	7	1	0	1	37
6708	Devon Hills	0	0	0	0	0	3	0	0	0	4	4	0	1	1	0	1	0	0	1	1	13	24	4	0	57
6711	Baxters Ck	0	0	0	2	2	0	0	1	3	1	0	1	0	0	0	0	0	0	3	2	1	0	0	0	17
6714	Ferris Knob	0	0	0	0	8	2	6	7	0	0	0	0	0	0	0	0	0	0	2	1	26	33	3	0	3	91
6716	West Bellthorpe	0	0	1	0	3	10	1	17	1	2	0	0	0	0	0	0	0	0	2	11	27	28	2	1	106
6717	Linville	0	0	0	0	0	1	2	0	1	2	1	0	1	0	0	0	0	0	1	0	3	8	17	1	38
6730	Jindalee	0	0	0	1	0	0	0	0	0	1	0	2	0	0	0	0	1	0	1	0	0	0	1	0	7
6733	Rosewood	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	4
6736	Kuss Rd	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6739	Washpool	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6742	Walloon-B	0	0	0	0	3	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	6
6748	Brisbane City	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	10	1	16
6751	Mt Crosby	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	6
6754	Moggill-P	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	5
6759	North Pine Dam-B	0	0	1	0	4	0	0	1	0	0	1	0	0	0	0	0	0	0	2	1	0	0	1	0	11
6760	North Pine Dam	0	0	1	0	4	0	0	1	0	0	1	0	0	0	0	0	0	0	2	1	0	0	1	0	11
6763	Petrie	0	0	2	1	5	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	13
6766	Lake Kurwongbah	0	0	1	1	4	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	0	1	0	0	12
6769	Drapers Xing	0	0	1	0	3	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	2	0	10
6774	Wilsons Peak-P																									
6775	Peachester																									
6778	Samford	0	0	1	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	1	0	3	0	12

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ALERT ID	Station	Hourly Rainfall (mm) ending 9am 10 January																								Daily Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	mm
6500	Mt Glorious-B																									
6680	Mt Glorious-P	0	1	2	9	6	2	4	19	3	3	4	10	1	7	3	0	0	0	0	2	1	1	0	3	81
6514	Gregor Ck-P	1	10	5	5	11	24	37	24	27	25	9	5	10	3	7	0	0	1	2	5	1	2	6	2	222
6517	Gregor Ck-B																									
6520	Boat Mountain	0	4	17	3	14	4	39	8	13	16	7	3	9	5	1	0	0	2	0	1	0	0	7	3	166
6523	Cressbrook Dam	0	1	8	10	0	3	8	18	5	5	8	12	1	4	2	1	0	0	0	2	3	1	1	4	97
6526	Helidon	0	0	8	11	4	3	5	11	14	11	4	7	9	2	0	1	0	0	0	0	5	3	1	2	101
6529	St Aubyns	0	0	2	2	5	6	13	5	8	14	7	3	5	2	1	2	0	0	0	1	0	0	0	1	74
6540	Yarraman	0	1	1	10	37	21	5	4	6	9	6	3	5	3	1	2	1	0	0	0	0	1	0	0	116
6542	Cooyar Ck	0	8	1	12	34	10	5	2	7	8	10	5	3	5	1	2	3	0	0	0	0	0	0	0	116
6550	Walloon-P	1	13	5	0	0	0	1	3	1	2	2	7	3	1	0	1	1	0	0	0	7	0	10	10	68
6553	Rosentretters Br	0	9	13	7	1	11	17	11	16	11	6	4	1	2	3	1	0	0	0	5	3	1	4	3	129
6555	Atkinson Dam	0	8	8	0	0	0	10	13	1	1	6	31	5	2	4	0	0	0	1	3	11	0	4	2	110
6556	Glenore Grove	0	5	9	1	2	0	3	31	1	4	2	8	4	1	2	0	1	0	0	1	4	2	1	4	86
6559	Savages Crossing	0	10	2	0	0	1	18	14	0	2	16	8	7	4	2	4	0	0	1	7	5	1	9	2	113
6562	Kalbar Weir	0	0	3	1	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	1	2	2	1	1	15
6565	Tenthill																									
6568	O'Reillys Weir	0	11	1	0	0	0	12	12	1	0	12	13	5	4	3	1	0	0	0	5	10	1	6	1	98
6571	Harrisville	0	0	3	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	2	3	4	9	5	30
6574	Caboonbah	1	10	13	0	0	22	15	5	22	6	7	4	1	5	4	0	0	0	1	5	4	0	3	3	131
6577	Gatton	0	0	18	2	4	2	5	10	9	8	2	7	6	1	1	1	0	0	0	1	5	2	1	4	86
6580	Adams Br	0	0	10	0	0	2	1	0	0	0	1	2	0	0	1	0	0	0	0	0	3	4	0	13	37
6583	Showground Weir	0	2	11	2	1	1	8	3	8	3	0	10	7	0	1	1	0	0	0	0	3	1	0	5	67
6590	Somerset Dam HW-B	2	17	22	1	0	41	5	9	16	5	4	4	1	4	5	1	1	0	3	5	4	0	5	3	158
6593	Somerset Dam HW-P																									
6596	Crows Nest	0	0	6	7	2	8	11	32	13	9	6	10	1	3	1	1	0	0	0	2	1	0	1	3	117
6598	Toowoomba	0	0	2	12	3	2	2	16	7	5	4	4	9	1	1	0	0	1	0	0	3	3	1	3	79
6600	Kilcoy	8	10	3	4	12	16	28	20	24	8	7	6	6	4	4	1	0	0	4	4	3	2	9	1	184
6601	Mt Binga	0	0	4	5	21	9	23	5	6	16	10	3	3	3	5	3	0	1	0	0	0	0	2	3	122

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6602	Top of Brisbane	8	0	0	6	0	6	4	3	2	5	1	1	5	1	0	0	0	0	0	0	0	0	0	0	0	42
6603	Blackbutt	0	3	1	7	17	54	5	4	5	20	8	4	5	5	10	1	2	1	0	0	1	0	5	2		160
6604	Toogoolawah	0	9	25	7	3	22	26	18	30	7	6	3	2	3	3	0	1	0	4	3	2	2	4	2		179
6605	Eskdale																										
6606	West Woodbine	0	0	2	7	1	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	3		18
6607	Lindfield	4	10	12	4	54	25	23	20	33	14	9	12	4	8	3	6	0	1	5	1	2	5	13	1		269
6608	Jimna	3	4	12	15	16	8	3	5	12	9	9	6	4	5	1	1	0	0	0	0	0	2	2	0		117
6609	Monsildale	23	4	13	24	7	4	5	2	10	5	4	7	4	4	1	0	0	0	0	0	0	1	0	0		118
6610	Kluvers Lkt	7	10	7	1	2	18	11	5	6	5	9	2	1	5	4	2	2	1	3	8	4	2	6	4		125
6611	Redbank Creek	0	2	14	11	1	3	16	15	4	6	14	13	1	5	4	2	0	0	1	3	4	1	3	5		128
6612	Mt Stanley	8	25	8	14	26	6	7	2	7	7	12	6	3	6	1	1	0	0	0	0	0	1	0	0		140
6613	Hazeldean	1	19	10	5	1	33	36	18	20	21	10	4	6	4	3	2	1	0	0	2	2	1	2	2		203
6614	Westvale																										
6615	Thornton	0	0	12	6	0	1	4	0	1	0	2	1	1	0	1	0	0	0	0	0	3	2	0	12		46
6617	Little Egypt	0	0	2	9	0	0	0	4	3	0	1	4	1	0	0	1	0	0	0	0	1	1	2			30
6619	Mt Castle	1	3	0	24	5	6	9	1	3	4	0	4	1	0	0	0	0	0	1	0	2	5	4	14		87
6621	Nukinenda	0	0	16	2	8	3	13	9	22	7	6	3	3	2	1	4	0	0	0	1	1	0	0	2		113
6623	Tarome	0	0	1	8	1	1	2	1	0	0	0	1	0	0	0	0	0	1	0	0	2	3	2	2		25
6624	Moogerah Dam	0	0	0	5	1	2	0	0	0	0	0	2	0	0	0	0	0	1	0	0	2	3	5	1		22
6630	Lyons Br-B	0	8	6	1	0	0	15	11	1	1	4	11	5	1	3	1	1	0	0	2	6	1	2	5		85
6633	Lyons Br-P	0	8	6	0	1	0	14	8	1	1	4	11	5	1	3	0	1	0	0	2	6	1	1	5		76
6636	Wivenhoe Dam HW-B	0	8	1	1	0	0	12	6	1	1	13	7	6	8	3	1	1	0	0	7	8	0	4	1		89
6641	Wivenhoe Dam TW-B	0	9	1	1	0	0	13	9	0	2	13	8	7	7	4	2	0	0	0	7	11	0	5	1		100
6643	Wivenhoe Dam TW-P	0	9	1	1	0	1	13	9	1	1	13	8	8	6	4	1	1	0	0	8	10	1	5	1		102
6646	Lowood-B	0	11	6	2	2	0	15	11	0	1	9	16	7	1	2	2	0	0	0	4	6	0	6	4		105
6649	Lowood-P	0	12	6	1	0	0	13	9	1	1	8	13	6	1	3	1	1	0	0	4	6	1	7	3		97
6651	Amberley-P	0	13	15	2	0	1	0	7	0	1	2	3	2	0	1	0	1	0	0	2	3	0	7	7		67
6653	Amberley-B	0	11	14	2	0	0	0	7	0	0	3	2	2	0	1	0	1	0	0	2	3	0	6	7		61
6656	Bill Gunn Dam	0	7	12	2	2	0	9	5	9	2	2	10	7	0	2	0	0	1	0	0	3	1	1	4		74
6658	Lake Clarendon Dam	0	2	10	1	4	0	3	31	1	3	3	10	3	1	2	0	1	0	0	1	4	3	1	4		88
6680	Mt Glorious-P	6	22	5	1	2	17	25	4	8	8	30	1	3	9	9	3	4	1	3	23	5	3	9	4		204
6690	Mt Mee-P	18	18	6	4	13	41	10	8	20	7	7	10	1	9	10	3	2	2	6	10	3	4	6	4		222
6701	Mt Mee-B	18	18	6	4	13	41	10	8	20	7	7	10	1	9	10	3	2	2	6	10	3	4	6	4		222

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6702	Woodford-B	6	8	3	6	9	27	32	19	11	7	5	5	2	8	6	2	1	2	5	5	1	5	6	2	183
6705	Woodford-P	6	8	3	6	9	27	32	19	11	7	5	5	2	8	6	2	1	2	5	5	1	5	6	2	183
6708	Devon Hills	0	5	5	7	21	32	5	6	19	17	8	4	8	5	10	1	1	1	1	0	1	1	5	1	164
6711	Baxters Ck	6	11	4	1	2	20	5	8	6	6	6	2	1	8	6	4	6	0	4	8	2	3	5	3	127
6714	Ferris Knob	8	11	0	13	8	25	36	31	21	7	10	8	3	10	15	4	1	3	4	13	1	8	5	2	247
6716	West Bellthorpe	3	18	8	15	46	19	18	34	34	22	11	13	7	12	8	4	0	1	6	4	4	4	18	1	310
6717	Linville	1	2	2	9	29	22	3	4	10	13	11	7	5	6	3	5	1	0	0	0	1	0	4	0	138
6730	Jindalee	4	5	0	0	0	3	12	1	1	3	5	12	2	1	0	1	2	0	1	6	2	0	11	3	75
6733	Rosewood	0	8	16	1	0	0	1	3	0	1	2	5	4	0	1	0	0	1	0	0	4	0	3	15	65
6736	Kuss Rd																									
6739	Washpool	0	1	2	0	0	1	1	0	0	0	2	2	0	0	0	0	1	0	0	4	4	4	1	2	25
6742	Walloon-B	1	13	5	0	0	0	1	3	1	2	2	7	0	1	0	1	1	0	0	1	6	0	10	10	68
6748	Brisbane City	8	7	0	0	1	3	29	0	2	3	9	9	1	1	1	2	2	0	1	10	2	0	9	5	105
6751	Mt Crosby	1	10	0	1	0	0	13	11	3	2	4	6	4	1	2	0	1	1	0	3	3	0	12	4	85
6754	Moggill-P	4	12	0	0	0	0	2	9	2	2	8	8	1	0	1	0	0	0	0	4	2	0	6	6	60
6759	North Pine Dam-B	0	5	1	0	0	13	6	2	2	4	3	0	1	8	3	2	2	1	4	13	1	3	7	1	82
6760	North Pine Dam	0	5	1	0	0	13	6	2	2	4	3	0	1	7	4	2	2	1	4	13	1	3	7	1	82
6763	Petrie	1	10	1	0	0	13	5	2	4	3	8	1	0	10	3	4	3	1	4	16	2	4	26	1	122
6766	Lake Kurwongbah	1	7	0	3	0	20	6	0	0	9	6	1	1	11	4	4	3	1	0	0	2	1	0	0	80
6769	Drapers Xing	4	19	0	0	0	11	8	3	4	6	19	1	0	5	3	3	2	1	3	13	1	2	16	1	124
6774	Wilsons Peak-P																									
6775	Peachester																									
6778	Samford	5	17	1	0	0	12	11	2	3	5	27	1	0	5	3	2	3	0	2	14	1	2	15	1	132

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ALERT ID	Station	Hourly Rainfall (mm) ending 9am 11 January																								Daily Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	mm
6500	Mt Glorious-B																									
6680	Mt Glorious-P	0	0	2	35	12	2	2	1	0	0	0	3	1	0	3	0	1	4	7	12	8	0	1	1	101
6514	Gregor Ck-P	0	1	33	2	1	1	1	0	0	2	3	1	1	1	0	1	1	7	6	10	0	2	0	1	75
6517	Gregor Ck-B																									
6520	Boat Mountain	0	1	25	9	0	2	0	0	0	2	0	0	1	0		2	1	7	5	7	0	2	0	2	66
6523	Cressbrook Dam	0	1	5	54	3	14	0	0	0	0	2	5	0	0	1	0	4	2	0	13	18	0	0	0	122
6526	Helidon	0	2	2	13	11	1	2	0	0	0	2	0	0		0	0	0	0	0	0	0	0	0	0	33
6529	St Aubyns	0	0	2	9	1	2	1	0	0	2	2	0		3	8	59	2	6	17	5	2	0	0	1	124
6540	Yarraman	0	0	1	1	0	1	2	0	0	0	0	0	8	15	40	45	1	8	6	2	0	0	0	0	130
6542	Cooyar Ck	0	0	1	0	0	1	1	0	0	0	1	0	14	28	15	19	0	0	15	25	0	0	1	0	121
6550	Walloon-P	1	2	1	0	1	1	0	0	1	0	0	0	2	1	0	0	3	2	0	0	1	1	4	22	43
6553	Rosentretters Br	0	1	33	29	0	2	0	0	0	0	9	1	0	0	1	0	8	0	1	19	4	1	0	0	109
6555	Atkinson Dam	1	1	6	1	1	0	2	0	0	0	0	0	2	0	0	0	1	2	0	9	34	22	8	30	120
6556	Glenore Grove	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	5	39	22	5	0	77
6559	Savages Crossing	0	3	1	1	1	5	0	0	1	0	0	0	2	1	0	1	0	2	0	1	16	32	85	93	245
6562	Kalbar Weir	11	8	12	1	0	0	2	0	0	2	0	0	1	2	2	0	11	4	0	0	0	0	3	8	67
6565	Tenthill																									
6568	O'Reillys Weir	0	1	4	0	3	0	0	0	0	0	0	1	1	0	0	0	1	0	0	4	20	37	41	36	149
6571	Harrisville	24	13	6	4	2	0	1	0	0	1	0	2	0	2	2	0	2	1	0	0	0	6	2	9	77
6574	Caboonbah	0	6	44	8	1	6	0	0	0	2	6	2	0	1	0	0	1	0	0	32	24	6	10	4	153
6577	Gatton	1	0	1	6	1	2	0	0	1	0	0	0	1	0	0	1	2	1	4	34	8	3	1		68
6580	Adams Br	15	7	6	9	2	0	2	1	0	2	0	2	0	4	1	0	4	0	1	0	3	1	18	16	94
6583	Showground Weir	0	2	1	1	6	2	1	3	0	1	0	0	6	4	1	0	0	4	1	1	4	43	21	3	105
6590	Somerset Dam HW-B	1	9	25	2	4	0	0	0	0	2	6	0	0	1	1	0	0	1	0	37	40	4	3	0	136
6593	Somerset Dam HW-P																									
6596	Crows Nest	1	0	3	9	1	1	0	1	0	0	3	8	0	2	3	0	7	9	6	34	4	0	5	2	99
6598	Toowoomba		0	0	10	55	2	8	1	0	0	0	1	2	1	3	1	0	1	0	4	22	1	0	2	116
6600	Kilcoy	0	24	10	0	1	1	2	0	3	1	6	1	1	2	0	2	2	0	9	11	9	10	3	1	99
6601	Mt Binga	0	0	3	7	3	5	2	0	0	5	0	0	3	5	12	30	0	12	17	12	1	0	0	3	120

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6602	Top of Brisbane	0	0	0	0	0	0	0	0	0	0	0	0	19	8	23	13	0	0	0	6	0	0	0	0	69
6603	Blackbutt	0	0	8	0	2	3	1	0	0	1	0	0	8	3	28	14	0	5	17	15	0	0	0	3	108
6604	Toogoolawah	0	1	34	18	0	1	0	0	0	0	7	0	0	0	0	0	12	0	1	23	3	2	0	0	102
6605	Eskdale																									
6606	West Woodbine	0	0	1	0	7	9	2	0	1	2	0	0	0	12	6	0	0	0	1	5	7	29	6	0	88
6607	Lindfield	0	18	7	0	3	7	0	1	0	2	0	4	2	1	3	1	9	1	0	6	10	5	3		85
6608	Jimna	0	2	10	0	2	1	0	0	0	1	0	7	4	1	2	0	2	4	6	1	2	0	2	0	47
6609	Monsildale	0	0	0	0	10	3	0	0	1	1	1	14	33	58	10	0	0	0	29	2	0	0	1	0	163
6610	Kluvers Lkt	1	7	4	3	0	4	1	0	0	2	0	2	2	0	2	0	1	2	1	12	26	46	7	40	163
6611	Redbank Creek	0	0	36	75	6	6	3	0	0	0	1	4	1	0	2	0	0	0	0	19	15	2	2	0	172
6612	Mt Stanley	0	0	0	0	2	0	1	0	0	0	0	2	12	68	21	0	0	0	29	24	0	0	1	0	160
6613	Hazeldean	2	1	3	4	5	8	28	0	0	1	7	0	0	0	0	1	1	0	0	10	13	13	13	12	123
6614	Westvale																									
6615	Thornton	3	6	6	4	10	2	2	1	1	1	0	3	1	7	1	0	4	3	0	0	4	6	35	17	117
6617	Little Egypt	0	0	1	1	9	7	6	0	0	1	0	0	1	6	0	0	1	5	0	3	28	22	1	0	92
6619	Mt Castle	21	11	16	11	7	5	5	5	1	2	5	5	5	15	4	7	4	6	0	0	9	6	34	11	195
6621	Nukinenda	1	0	11	9	2	3	1	0	0	2	0	1	1	0	2	14	6	8	23	13	0	1	0	15	113
6623	Tarome	8	7	10	5	0	1	1	0	0	1	2	0	0	1	5	0	4	14	2	0	0	0	13	9	83
6624	Moogerah Dam	14	8	10	5	1	0	3	1	0	1	1	1	1	1	3	4	0	15	0	0	0	0	3	23	95
6630	Lyons Br-B	0	1	2	0	1	2	2	0	0	0	0	0	0	0	0	0	0	1	0	2	32	43	22	20	128
6633	Lyons Br-P	0	0	2	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	29	41	21	15	114
6636	Wivenhoe Dam HW-B	0	3	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	3	20	32	35	38	136
6641	Wivenhoe Dam TW-B	0	3	4	1	0	0	0	0	0	1	0	1	3	0	0	1	0	1	0	2	22	33	39	46	157
6643	Wivenhoe Dam TW-P	1	2	4	1	0	1	0	0	0	0	1	0	4	0	1	0	0	1	0	3	22	33	39	46	159
6646	Lowood-B	0	1	2	2	1	3	0	0	0	0	0	0	1	0	0	0	0	1	2	3	16	43	53	55	183
6649	Lowood-P	1	1	1	0	0	0	0	0	0	0	4	0	0	2	0	0	0	0	1	4	16	37	45	53	165
6651	Amberley-P	14	2	0	0	0	2	0	0	0	0	1	0	1	0	0	1	1	1	0	0	2	2	1	6	34
6653	Amberley-B	13	2	0	0	1	1	1	0	0	0	0	0	1	1	0	0	1	1	0	0	2	2	1	4	31
6656	Bill Gunn Dam	1		1	2	7	4	1	1	0	0	0	1	4	3	1	0	0	2	1	2	6	46	14	1	100
6658	Lake Clarendon Dam	0	1	1	3	1	0	2	0	1	0	0	0	1	3	0	0	1	3	0	9	31	9	4	8	78
6680	Mt Glorious-P	1	20	1	3	3	3	2	1	0	3	1	3	9	1	1	0	1	3	9	14	27	28	57	71	262
6690	Mt Mee-P	0	8	5	2	5	1	0	0	1	1	5	3	1	2	1	0	0	4	9	14	24	29	9	15	139
6701	Mt Mee-B	0	8	5	2	5	1	0	0	1	1	5	3	1	2	1	0	0	4	9	14	24	29	9	15	139

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6702	Woodford-B	1	19	2	1	1	2	0	0	0	7	3	3	2	1	0	1	0	0	7	21	12	1	1	1	86
6705	Woodford-P	1	19	2	1	1	2	0	0	0	7	3	3	2	1	0	1	0	0	7	21	12	1	1	1	86
6708	Devon Hills	0	2	19	0	3	1	1	0	0	0	0	0	6	0	4	4	0	5	6	9	0	3	0	4	67
6711	Baxters Ck	1	2	3	1	1	3	0	0	0	1	1	1	1	0	0	0	10	7	6	30	37	28	39	172	
6714	Ferris Knob	5	13	1	1	1	1	0	0	2	1	0	8	2	2	0	2	0	1	12	8	10	1	5	0	76
6716	West Bellthorpe	2	21	8	2	4	4	0	1	1	3	0	7	2	1	7	0	7	5	8	26	8	7	3	5	132
6717	Linville	0	0	9	0	2	1	0	0	0	0	0	0	8	1	6	0	0	1	8	13	0	0	1	2	52
6730	Jindalee	1	2	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2	0	1	4	6	1	6	27
6733	Rosewood	1	2	1	0	1	1	0	0	0	0	0	0	1	1	0	1	2	2	0	0	1	1	11	29	55
6736	Kuss Rd																									
6739	Washpool	22	10	6	2	2	2	0	0	0	1	1	1	0	1	0	0	3	1	0	0	0	4	2	1	59
6742	Walloon-B	1	2	1	0	1	1	0	0	1	0	0	0	0	1	0	0	1	4	0	0	1	1	4	22	43
6748	Brisbane City	4	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	2	0	0	0	4	3	0	0	19
6751	Mt Crosby	1	2	0	1	0	2	0	0	0	0	1	0	1	2	0	1	1	0	0	1	0	2	3	3	21
6754	Moggill-P	2	1	0	0	1	2	0	0	0	0	1	0	0	1	1	0	3	2	0	0	6	6	0	10	36
6759	North Pine Dam-B	5	25	0	0	0	1	0	0	0	2	0	0	0	0	0	0	3	1	0	0	2	3	3	9	54
6760	North Pine Dam	5	25	0	0	0	1	0	0	0	2	0	0	0	0	0	0	3	1	0	0	2	3	3	8	53
6763	Petrie	24	8	0	0	0	1	0	0	0	0	1	3	0	0	0	0	0	4	0	1	0	8	3	9	62
6766	Lake Kurwongbah	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	2	0	0	0	2	6	5	12	30
6769	Drapers Xing	4	13	0	0	1	0	0	0	0	0	0	3	0	0	0	0	3	2	1	1	1	9	0	8	47
6774	Wilsons Peak-P																									
6775	Peachester																									
6778	Samford	2	16	0	0	0	0	0	1	0	1	0	3	0	1	0	0	0	5	1	1	3	11	1	8	54

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ALERT ID	Station	Hourly Rainfall (mm) ending 9am 12 January																								Daily Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	mm
6500	Mt Glorious-B																									
6680	Mt Glorious-P	0	0	6	1	0	2	3	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	17
6514	Gregor Ck-P	0	4	3	4	1	0	2	4	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	25
6517	Gregor Ck-B																									
6520	Boat Mountain	0	0	0	0	0	9	0	8	0	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	29
6523	Cressbrook Dam	0	1	3	1	2	0	1	3	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	13
6526	Helidon																									
6529	St Aubyns	0	0	0	2	2	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	6
6540	Yarraman	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
6542	Cooyar Ck	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6550	Walloon-P	26	11	14	12	23	9	0	17	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115
6553	Rosentretters Br	2	0	5	0	0	0	0	8	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	26
6555	Atkinson Dam	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	5	7	97
6556	Glenore Grove	5	29	24	21	27	22	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	130
6559	Savages Crossing	18	36	18	34	33	2	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	146
6562	Kalbar Weir	6	4	6	13	11	13	2	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	57
6565	Tenthill																									
6568	O'Reillys Weir	31	39	25	45	49	8	0	1	1	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	207
6571	Harrisville	10	3	7	8	11	9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
6574	Caboonbah	0	2	4	11	24	2	3	5	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	55
6577	Gatton	2	3	13	26	21	13	10	0	2	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	89
6580	Adams Br	17	4	5	11	9	15	25	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	92
6583	Showground Weir	4	19	13	17	22	25	8	2	2	0	3	0	0	0	2	0	1	1	0	0	0	0	0	0	119
6590	Somerset Dam HW-B	0	8	3	24	19	2	3	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	67
6593	Somerset Dam HW-P																									
6596	Crows Nest	8	1	2	1	1	1	1	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	19
6598	Toowoomba	1	0	1	3	3	3	0	2	3	1	1	0	0	0	0	1	0	0	1	2	0	1	0	0	23
6600	Kilcoy	0	7	10	20	2	6	2	1	6	4	0	0	1	0	0	0	0	0	1	0	0	0	1	0	61
6601	Mt Binga	0	1	0	4	3	1	1	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	14

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6602	Top of Brisbane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6603	Blackbutt	0	1	0	0	0	3	1	5	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	13	
6604	Toogoolawah	0	3	5	2	3	0	1	6	1	6	1	0	0	0	0	0	0	0	0	0	0	0	0	1	29	
6605	Eskdale																										
6606	West Woodbine	1	1	15	2	1	3	7	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	
6607	Lindfield	12	8	11	1	2	2	5	0	11	10	4	1	0	0	0	0	0	0	0	0	0	0	1	0	68	
6608	Jimna	0	2	1	0	3	9	7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	23	
6609	Monsildale	0	1	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	5	
6610	Kluvers Lkt	36	50	33	33	20	7	1	6	1	3	0	1	0	0	1	0	0	1	0	0	0	0	0	0	193	
6611	Redbank Creek	0	0	3	0	5	2	6	4	5	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	29	
6612	Mt Stanley	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	
6613	Hazeldean	9	6	7	9	18	16	10	5	1	6	2	0	0	0	0	0	0	0	1	0	0	0	0	1	91	
6614	Westvale																										
6615	Thornton	21	3	8	8	4	14	21	12	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	101	
6617	Little Egypt	2	0	1	1	3	9	5	1	0	1	1	1	0	0	1	0	0	2	1	1	0	1	0	0	31	
6619	Mt Castle	23	4	11	7	9	25	14	15	2	4	3	1	1	0	1	0	2	0	0	0	0	1	0	0	123	
6621	Nukinenda	1	0	0	4	1	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	11	
6623	Tarome	12	4	6	8	25	17	6	1	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	82	
6624	Moogerah Dam	11	4	2	14	7	17	8	0	1	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	67	
6630	Lyons Br-B	26	48	34	49	59	22	0	0	2	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	242	
6633	Lyons Br-P	21	45	28	47	50	20	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	214	
6636	Wivenhoe Dam HW-B	32	31	36	52	39	3	1	1	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	199	
6641	Wivenhoe Dam TW-B	33	37	34	50	43	4	1	1	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	207	
6643	Wivenhoe Dam TW-P	35	37	36	51	45	5	1	2	1	1	0	0	1	0	0	1	0	1	1	0	0	0	0	0	218	
6646	Lowood-B	19	51	34	39	56	9	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	211	
6649	Lowood-P	19	40	32	39	53	10	0	0	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	197	
6651	Amberley-P	17	12	17	14	15	9	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	
6653	Amberley-B	17	11	16	14	13	9	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	83	
6656	Bill Gunn Dam	6	20	17	23	25	28	7	1	3	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0	135	
6658	Lake Clarendon Dam	4	10	33	22	32	21	4	0	2	0	1	0	0	1	4	0	0	0	0	0	0	0	0	0	134	
6680	Mt Glorious-P	51	50	39	28	28	5	3	4	2	3	0	2	0	2	1	4	0	1	3	0	2	1	0	0	229	
6690	Mt Mee-P	16	24	33	59	9	5	4	13	5	1	0	0	2	2	1	3	0	1	0	0	0	0	0	2	180	
6701	Mt Mee-B	16	24	33	59	9	5	4	13	5	1	0	0	2	2	1	3	0	1	0	0	0	0	0	2	180	

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6702	Woodford-B	8	51	42	47	15	3	1	5	20	1	0	0	0	0	0	0	1	0	0	0	0	0	3	0	197
6705	Woodford-P	8	51	42	47	15	3	1	5	20	1	0	0	0	0	0	0	1	0	0	0	0	0	3	0	197
6708	Devon Hills	0	0	1	1	2	1	6	2	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	18
6711	Baxters Ck	70	43	28	26	22	3	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	195
6714	Ferris Knob	7	69	33	46	17	2	5	23	17	2	0	0	0	0	0	1	0	1	0	0	0	0	2	2	227
6716	West Bellthorpe	13	3	27	5	3	5	5	5	19	5	1	0	0	0	0	0	1	0	0	0	0	0	1	1	94
6717	Linville	0	0	3	0	1	2	23	4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	35
6730	Jindalee	0	21	4	5	6	4	3	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	47
6733	Rosewood	39	9	20	23	26	18	0	6	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	152
6736	Kuss Rd																									
6739	Washpool	3	4	11	5	6	5	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	38
6742	Walloon-B	26	11	15	11	23	10	1	15	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115
6748	Brisbane City	0	15	1	10	4	7	2	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	43
6751	Mt Crosby	6	16	10	16	10	7	2	4	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	75
6754	Moggill-P	0	24	5	7	10	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
6759	North Pine Dam-B	22	2	18	14	6	2	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	68
6760	North Pine Dam	22	2	18	14	6	2	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	68
6763	Petrie	21	3	6	12	6	2	2	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	55
6766	Lake Kurwongbah	24	0	15	19	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	59
6769	Drapers Xing	25	9	14	17	7	5	1	0	3	0	0	0	0	0	2	3	0	0	1	0	0	0	0	0	87
6774	Wilsons Peak-P																									
6775	Peachester																									
6778	Samford	19	19	22	17	7	3	3	0	3	1	1	0	0	0	0	3	1	0	0	0	0	0	0	0	99

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ALERT ID	Station	Hourly Rainfall (mm) ending 9am 13 January																								Daily Total
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	mm
6500	Mt Glorious-B																									
6680	Mt Glorious-P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6514	Gregor Ck-P	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6517	Gregor Ck-B																									
6520	Boat Mountain	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	5
6523	Cressbrook Dam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
6526	Helidon																									
6529	St Aubyns	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6540	Yarraman	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6542	Cooyar Ck	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6550	Walloon-P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6553	Rosentretters Br	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6555	Atkinson Dam																									
6556	Glenore Grove	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6559	Savages Crossing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6562	Kalbar Weir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6565	Tenthill																									
6568	O'Reillys Weir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6571	Harrisville	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6574	Caboonbah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6577	Gatton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6580	Adams Br	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6583	Showground Weir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6590	Somerset Dam HW-B	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
6593	Somerset Dam HW-P																									
6596	Crows Nest	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6598	Toowoomba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
6600	Kilcoy	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
6601	Mt Binga	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2

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6602	Top of Brisbane	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6603	Blackbutt	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6604	Toogoolawah	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6605	Eskdale																									
6606	West Woodbine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6607	Lindfield	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
6608	Jimna	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6609	Monsildale	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
6610	Kluvers Lkt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	4
6611	Redbank Creek	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6612	Mt Stanley	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6613	Hazeldean	2	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
6614	Westvale																									
6615	Thornton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6617	Little Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
6619	Mt Castle	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0	0	7	1	0	1	0	0	0	0	22
6621	Nukinenda	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
6623	Tarome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6624	Moogerah Dam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6630	Lyons Br-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6633	Lyons Br-P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6636	Wivenhoe Dam HW-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6641	Wivenhoe Dam TW-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6643	Wivenhoe Dam TW-P	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
6646	Lowood-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6649	Lowood-P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6651	Amberley-P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6653	Amberley-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
6656	Bill Gunn Dam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6658	Lake Clarendon Dam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6680	Mt Glorious-P	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3
6690	Mt Mee-P	0	1	5	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
6701	Mt Mee-B	0	1	5	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9

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6702	Woodford-B	1	1	1	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6
6705	Woodford-P	1	1	1	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6
6708	Devon Hills	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6711	Baxters Ck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
6714	Ferris Knob	2	0	1	4	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	11
6716	West Bellthorpe	0	1	0	1	2	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	7
6717	Linville	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6730	Jindalee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6733	Rosewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6736	Kuss Rd																									
6739	Washpool	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
6742	Walloon-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6748	Brisbane City	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6751	Mt Crosby	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6754	Moggill-P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6759	North Pine Dam-B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6760	North Pine Dam	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6763	Petrie	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
6766	Lake Kurwongbah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
6769	Drapers Xing	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
6774	Wilsons Peak-P																									
6775	Peachester																									
6778	Samford	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2

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