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# AVIATION METEOROLOGICAL INCIDENT REPORT

## Contact Details

Name:
Organisation:
Phone:
Email:

IRRELEVANT INFORMATION REMOVED FROM THIS DOCUMENT - s22

## Incident Details

Reference number:
Time/Date (UTC): 2030, 24/01/2014
Location: Weipa YBWP
Aircraft Detail:
Weather Phenomena: Low cloud visibility

## Incident Description

About 140nm YBWP we received a SPECI that the cloud base was broken at 100' and that visibility was 350m.This low cloud persisted until 0900 local when the cloud broke up sufficiently to facilitate our arrival. This low cloud was not forecast that morning prior to departure from Cairns. I noticed that at no point throughout the morning was the cloud ever forecast, despite Centre issuing SPECI's fairly frequently. The only indication that there was possible low cloud was a METAR that was issued approximately 0315 local that indicated that the actual temperature and dew point temperature was 25 degrees.
We held overhead YBWP for 40 minutes however the fog did not clear in that time.

## Basis of Forecast

Monsoon trough over the northern part of Cape York; given Weipa automatic weather station reported light easterly wind the trough would be just north of Weipa. Moist tropical airmass with temperature and dew point measured either same or within 0.1 degree at the time fog observed. Visible satellite pictures were unable to show presence of fog owing to high cloud associated with thunderstorms and rain areas near the monsoon trough.

**Cairns MWO statement**
North of YLHR -- A moist, unstable Westerly (Monsoonal) flow. Scattered diurnal (triggered by afternoon heating) showers and thunderstorms (triggered by afternoon heating). At the YBWP 1806 issue time (1630Z), the showers and thunderstorms had ceased and the surface dewpoint separation was < 1C), but this is common in January (>70%). The p850 (5000ft) humidity levels were high on the previous atmospheric sounding and computer model predictions were for this situation to continue. High humidity levels at 5000ft generally inhibit fog/low cloud formation in the tropics as they inhibit the cooling of the moist surface layer to condensation.
At 1818Z the first SPECI for YBWP was noted by the forecaster but the middle/upper level cloud on the satellite imagery together with the high forecast 5000ft humidity levels put some doubt in the forecaster's mind about the accuracy of the AWS data from YBWP, The forecaster checked the high resolution satellite imagery and found no indications of low cloud/fog in the YBWP region. The forecaster made the decision that the probability of a fog at YBWP was less than 30% and did not amend the TAF.

## Reason for Forecast Deficiency

Fog is rare at Weipa; climatology for Weipa month of January at 2100UTC; 1.9% time visibility reported below 1000m out of 369 observations.

The Cairns Weather Service office has conducted an investigation into January YBWP fogs and hope to use the data to improve the forecasting service for this location.

[redacted]

[redacted]

**Other**
Nil

**SRAV Comments**

SRAV has reviewed and accepts the findings of this AMIR. [redacted]

**Author Details**

**Prepared by:** [redacted] Manager Regional Aviation Weather services (NT & Qld)
Weather Services Branch
Paige Butcher; Acting Scientific Support Officer Aviation Weather Services
**Date:** 21/02/2014

**Approved by:** [redacted] Acting National Manager, Aviation Weather Services (A/SRAV)
**Date:** 21/02/2014

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# Aviation Meteorological Incident Report

| Contact Details | |
|---|---|
| **Name** | [redacted] |
| **Organisation** | |
| **Phone** | |
| **Email** | |

| Incident Details | |
|---|---|
| **Reference number** | [redacted] |
| **Time/Date (UTC)** | 1900 UTC 27/04/2014 |
| **Location** | YBBN |
| **Aircraft Detail** | [redacted] |
| **Weather** | Thunderstorms |

IRRELEVANT INFORMATION REMOVED FROM THIS DOCUMENT - s22.

## Incident Description

As per request form received by email at 19:07 local on 1 May 2014:
"Two international aircraft heading to Brisbane did not have the TS holding requirements [redacted]

Impact on Operations: Two diversions plus flow on to another two aircraft, totaling four aircraft disrupted and approximately 1000 customers directly impacted.
Met Info Required: More concerned with reviewing the situation to ensure that everything that could have been done was conducted. Also to communicate the impact of this event to the RFC."

## Basis of Forecast

Forecasts and observations are at the Attachments.

Atmospheric models during Sunday 27th April indicated that an approaching southerly surge in conjunction with an upper trough would result in scattered showers and thunderstorms developing off the coast from YBBN overnight. This was communicated in the Airport Weather Briefing at Attachment 1. A S to SW'ly steering flow combined with model indications that the primary region of instability would remain offshore meant that storms were expected to stay away from Brisbane airport, and the instability was expected to weaken and retreat out to sea and towards the north before the steering flow could turn towards the SE and potentially pose a hazard to aerodrome operations. After discussion between the aviation forecaster responsible for YBBN and the senior forecaster, it was determined that neither a PROB30 nor a Code Grey would be required for YBBN based upon the guidance trends at that time. 00Z and 06Z TAFs expected showers but no thunderstorms.

By late Sunday evening, widespread showers and scattered thunderstorms were developing offshore ahead of the southerly wind surge. Later modelling now indicated that as the upper trough moved offshore in the early hours of the morning, steering winds would become more SE'ly and potentially bring the thunderstorms ashore. The probability of thunderstorms was assessed at being greater than 30% and the TAF amended to include thunderstorms. An additional atmospheric sounding was arranged for 17Z at Attachment 6 to further assess the atmosphere stability and steering winds. The sounding verified the unstable nature of the atmosphere and showed that steering winds were now onshore. After sunrise the risk of thunderstorms decreased as the favourable diurnal maximum passed and the upper trough moved eastward. The TAF was amended to remove thunderstorms.

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Attachment 1: Brisbane Airport Weather Briefing at 0549Z 27 APR 2014.
Attachment 2: TAFS YBBN
Attachment 3: METAR and SPECI YBBN
Attachment 4: MTSAT IR + ASCAT valid 271832Z APR 2014
Attachment 5: MTSAT IR + ASCAT valid 271932Z APR 2014
Attachment 6: Aerological Diagram 27/04/2014 1700 UTC.

## Reason for Forecast Deficiency

No deficiency. Forecasts amended appropriately to ensure aviation safety.

## SRAV Comments

Correct forecasting processes were followed in this event.

## Author Details

| | |
|---|---|
| **Prepared by** | Manager Major Airport Services, WSB |
| **Date** | 08/04/2014 |
| **Approved by** | Manager Aviation policy, Aviation Weather Services (SRAV) |
| **Date** | 08/04/2014 |
| **File No** | 70/000153 |

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**Attachment 1: Brisbane Airport Weather Briefing at 0549Z 27 APR 2014.**

IDQ44000
Australian Government Bureau of Meteorology
Queensland

BRISBANE AIRPORT WEATHER BRIEFING
Issued at 0549Z on the 27/04/2014 [1549 on the 27/04/2014 LOCAL]

BRISBANE TAF: (this TAF may not be the latest issue)
TAF YBBN 270529Z 2706/2812
11012KT 9999 -SHRA SCT030 SCT130
FM271000 16008KT 9999 -SHRA SCT025 SCT060
FM271400 19007KT 9999 -SHRA SCT020 SCT060
FM280000 15014KT 9999 -SHRA SCT030 SCT050
FM281000 17010KT 9999 -SHRA SCT035 SCT050
INTER 2708/2806 3000 SHRA BKN015
RMK
T 24 22 21 19 Q 1016 1018 1019 1018

TAF SUMMARY:
An ESE sea breeze will weaken and turn to become SSW overnight. A fresher, possibly gusty SE sea breeze will return during Monday morning. Light showers are expected to affect the aerodrome throughout the TAF period, with showers more scattered and at times causing INTER reductions below HAM from 08Z on Sunday until 06Z on Monday. Showers will weaken after 06Z as the instability currently about the coast contracts to the north.

THUNDERSTORM POTENTIAL:
20% chance of thunderstorms within TMA until 12Z, with thunderstorms likely to continue offshore through into Monday morning.

OTHER POSSIBILITIES:
20% chance that INTER may not be required before 12Z and after 00Z.

BRISBANE OUTLOOK:
TUESDAY : Morning shower or two. City MAX: 26
WEDNESDAY : A little rain developing. City MAX: 29

CODE GREY:
Nil.

REGARDS
Andrew

Notes:
1. This briefing is not amended between routine issues. For operational planning, reference should be made to the latest TAF or TTF.

2. Code Grey provides early advice of a possible later TAF amendment. It is used if there is a small but realistic chance of a thunderstorm or conditions below special alternate minima between 14 and 24Z. Special alternate conditions are BKN or OVC cloud below 700ft or visibility less than 2500m.

**Attachment 2: TAFS YBBN**

TAF AMD YBBN 262332Z 2700/2806
18010KT 9999 SCT100
FM270300 13012KT 9999 -SHRA SCT030 SCT100
FM271000 16008KT 9999 -SHRA SCT025 SCT040
FM271400 18007KT 9999 -SHRA SCT020 SCT030
FM280000 16014KT 9999 -SHRA SCT030 SCT050
INTER 2708/2806 3000 SHRA BKN015
RMK
T 24 26 24 22 Q 1018 1016 1016 1018

TAF YBBN 270529Z 2706/2812
11012KT 9999 -SHRA SCT030 SCT130
FM271000 16008KT 9999 -SHRA SCT025 SCT060
FM271400 19007KT 9999 -SHRA SCT020 SCT060
FM280000 15014KT 9999 -SHRA SCT030 SCT050
FM281000 17010KT 9999 -SHRA SCT035 SCT050
INTER 2708/2806 3000 SHRA BKN015
RMK
T 24 22 21 19 Q 1016 1018 1019 1018

TAF AMD YBBN 270615Z 2707/2812
11012KT 9999 -SHRA SCT030 SCT130
FM271000 16008KT 9999 -SHRA SCT025 SCT060
FM271400 19007KT 9999 -SHRA SCT020 SCT060
FM280000 15014KT 9999 -SHRA SCT030 SCT050
FM281000 17010KT 9999 -SHRA SCT035 SCT050
INTER 2707/2806 3000 SHRA BKN015
RMK
T 24 21 20 19 Q 1017 1018 1019 1017

TAF YBBN 271115Z 2712/2818
19007KT 9999 -SHRA SCT020 SCT060 SCT100
FM280000 15014KT 9999 -SHRA SCT030 SCT050
FM281000 17010KT 9999 -SHRA SCT035 SCT050
INTER 2712/2806 3000 SHRA BKN015
RMK
T 21 19 18 19 Q 1019 1018 1017 1018

TAF AMD YBBN 271255Z 2713/2818
19007KT 9999 -SHRA SCT020 SCT060 SCT100
FM280000 15014KT 9999 -SHRA SCT030 SCT050
FM281000 17010KT 9999 -SHRA SCT035 SCT050
INTER 2713/2806 3000 SHRA BKN015
**PROB30 TEMPO 2716/2724 VRB15G25KT 2000 TSRA BKN010 SCT040CB**
RMK
T 21 19 18 21 Q 1019 1018 1017 1019

TAF YBBN 271737Z 2718/2824
19007KT 9999 -SHRA SCT020 SCT060 SCT100
FM280000 15014KT 9999 -SHRA SCT030 SCT050
FM281000 17010KT 9999 -SHRA SCT035 SCT050
INTER 2718/2806 3000 SHRA BKN015
**PROB30 TEMPO 2718/2724 VRB15G25KT 2000 TSRA BKN010 SCT040CB**
RMK
T 19 19 23 23 Q 1017 1018 1020 1018

TAF AMD YBBN 272023Z 2721/2824
19007KT 9999 -SHRA SCT020 SCT060 SCT100

FM280000 15014KT 9999 -SHRA SCT030 SCT050
FM281000 17010KT 9999 -SHRA SCT035 SCT050
INTER 2721/2806 3000 SHRA BKN015
PROB30 INTER 2721/2724 VRB15G25KT 2000 TSRA BKN010 SCT040CB
RMK
T 20 23 23 23 Q 1019 1020 1018 1018

**Attachment 3: METAR and SPECI YBBN**

TTF METAR YBBN 271530Z 23004KT 9999 FEW026 SCT034 BKN120 FEW029CB 21/16 Q1018
RMK RF00.0/000.0 DIST LIGHTNING SEEN E/NE
INTER 1600/1830 3000 SHRA BKN015
**TEMPO 1630/1830 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 271600Z 16004KT 9999 FEW026 SCT038 BKN125 FEW029CB 21/16 Q1018
RMK RF00.0/000.0 DIST LIGHTNING SEEN E/NE
INTER 1600/1900 3000 SHRA BKN015
**TEMPO 1700/1900 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 271630Z 18005KT 9999 FEW026 BKN150 21/16 Q1018
RMK RF00.0/000.0 DIST -SHRA NW
INTER 1630/1930 3000 SHRA BKN015
**TEMPO 1730/1930 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 271700Z 15004KT 9999 FEW026 SCT150 20/16 Q1018
RMK RF00.0/000.0 DIST LIGHTNING SEEN E/SE
INTER 1700/2000 3000 SHRA BKN015
**TEMPO 1800/2000 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 271730Z 20006KT 9999 FEW026 SCT049 19/16 Q1018
RMK RF00.0/000.0 DIST LIGHTNING SEEN EAST
INTER 1730/2030 3000 SHRA BKN015
**TEMPO 1830/2030 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 271800Z 16005KT 9999 FEW026 FEW028CB 20/16 Q1018
RMK RF00.0/000.0 DIST LIGHTNING SEEN E/NE
INTER 1800/2100 3000 SHRA BKN015
**TEMPO 1830/2100 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 271830Z 15007KT 9999 FEW023 SCT120 FEW028CB 19/17 Q1018
RMK RF00.0/000.0 DIST LIGHTNING SEEN NE
INTER 1830/2130 3000 SHRA BKN015
**TEMPO 1900/2130 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 271900Z 16008KT 9999 -SHRA FEW023 SCT150 FEW028CB 20/17 Q1019
RMK RF00.0/000.0 DIST LIGHTNING SEEN E/NE
INTER 1900/2200 3000 SHRA BKN015
**TEMPO 1900/2200 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

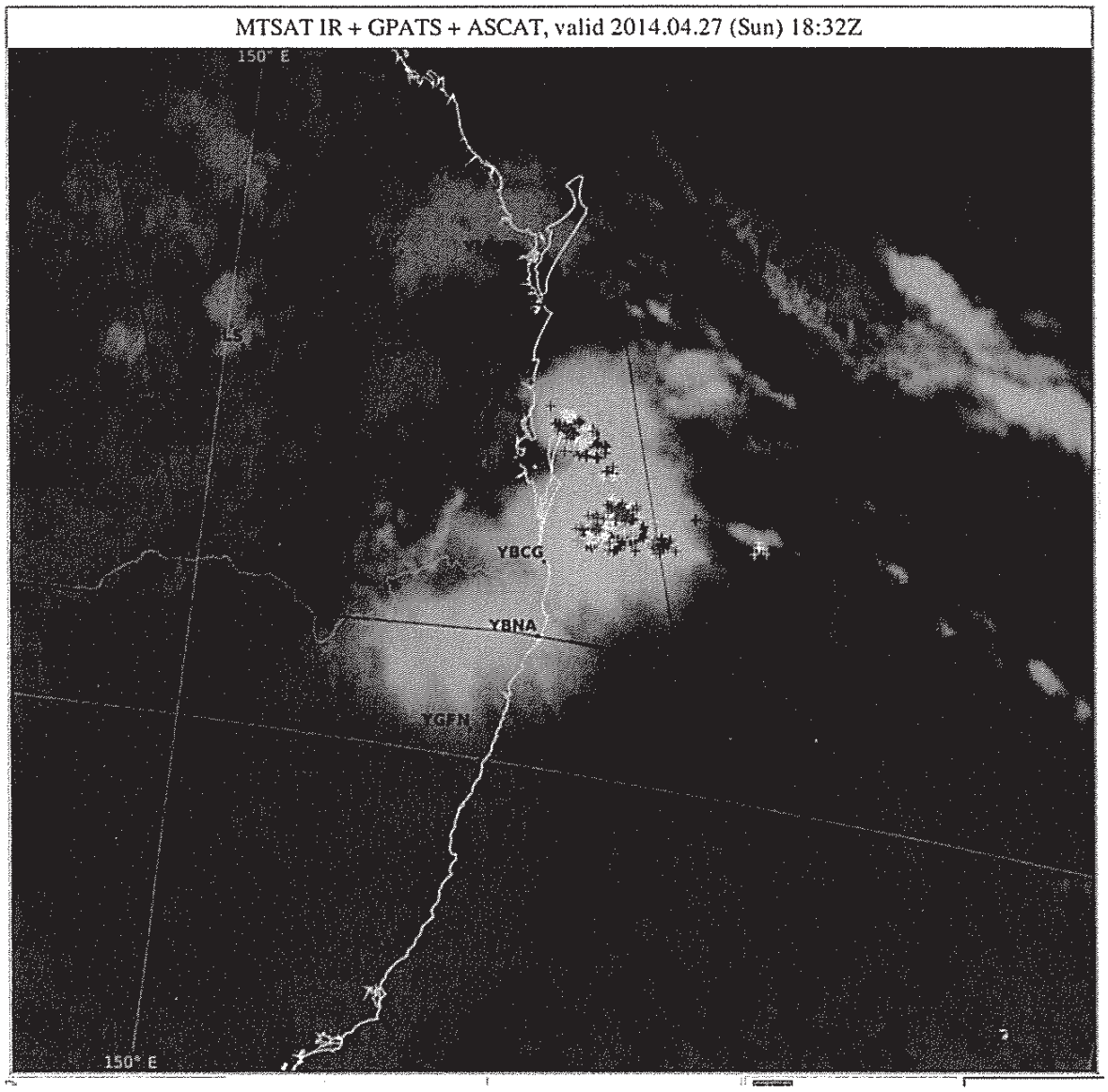
TTF METAR YBBN 271930Z 17006KT 9999 VCSH FEW022 SCT150 BKN250 FEW028CB 20/17 Q1019
RMK RF00.0/000.0 DIST LIGHTNING SEEN NE
INTER 1930/2230 3000 SHRA BKN015
**TEMPO 1930/2230 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 272000Z 18007KT 9999 -SHRA FEW025 SCT150 BKN240 FEW027CB 20/17 Q1019
RMK RF00.0/000.0 DIST LIGHTNING SEEN EAST
INTER 2000/2300 3000 SHRA BKN015
**TEMPO 2000/2300 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

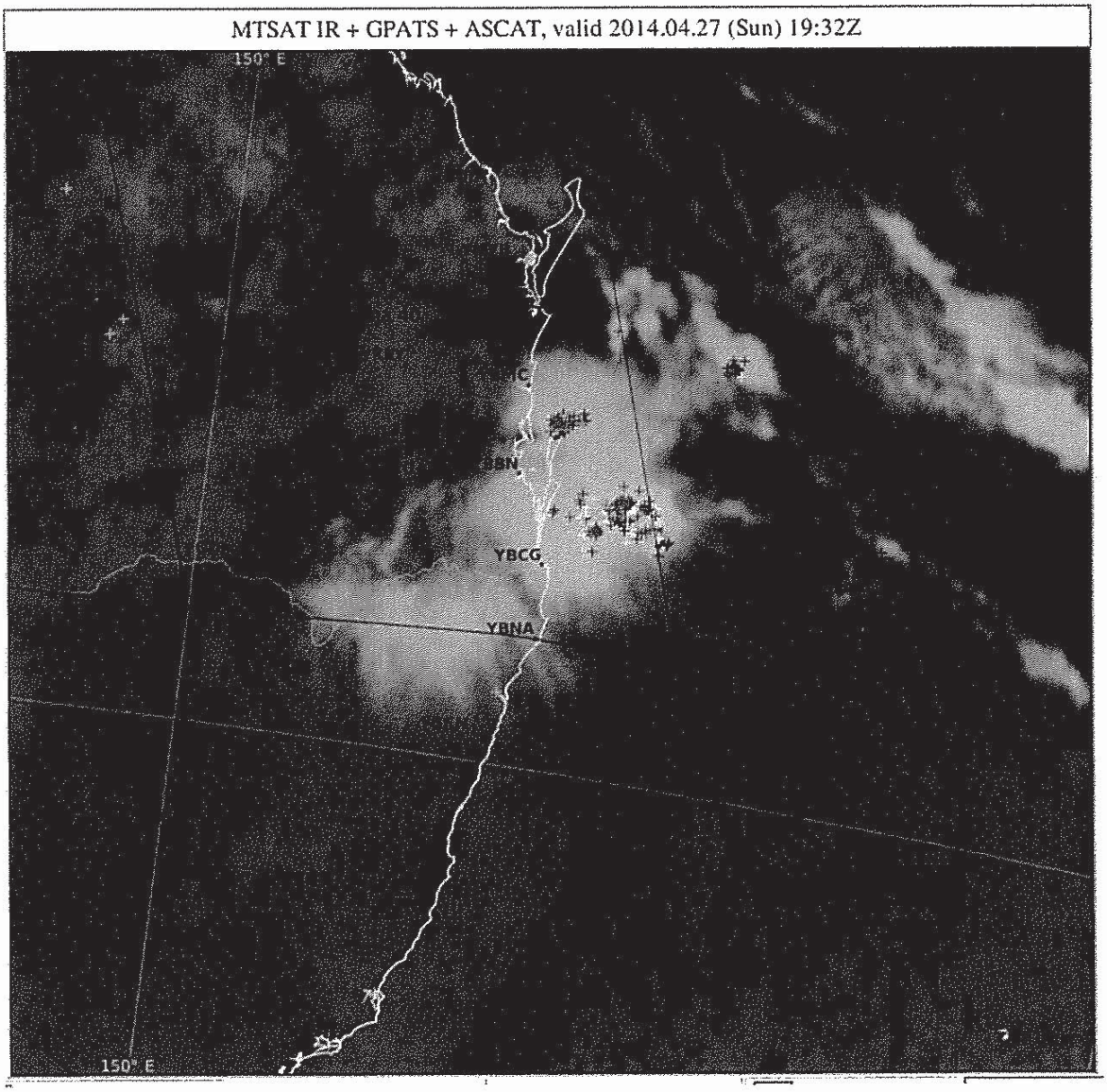
TTF METAR YBBN 272030Z 17007KT 9999 -SHRA FEW023 SCT029 BKN120 19/17 Q1019
RMK RF00.0/000.0
INTER 2030/2330 3000 SHRA BKN015
**INTER 2030/2330 VRB15G25KT 2000 TSRA BKN010 SCT040CB**

TTF METAR YBBN 272100Z 18007KT 9999 -SHRA FEW015 BKN100 19/17 Q1020
RMK RF00.2/000.4
INTER 2100/2400 3000 SHRA BKN015

**Attachment 4: MTSAT IR + GPATS + ASCAT valid 271832Z APR 2014**



## Attachment 5: MTSAT IR + GPATS + ASCAT valid 271932Z APR 2014



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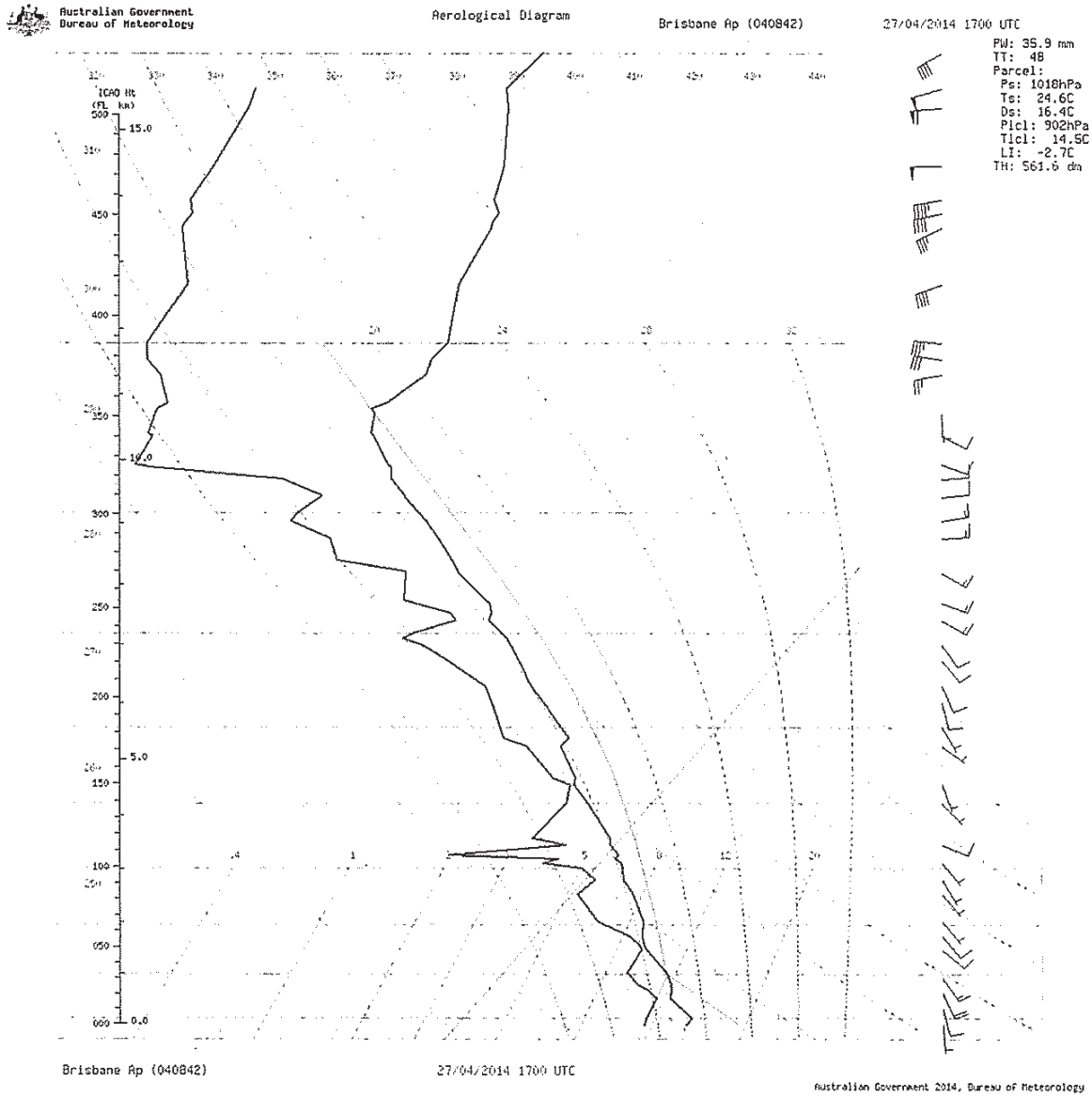
## Attachment 6: Aerological Diagram 27/04/2014 1700 UTC



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Bureau of Meteorology

# Aviation Meteorological Incident Report

| Contact Details | |
|---|---|
| Name | |
| Organisation | |
| Phone | |
| Email | |

| Incident Details | |
|---|---|
| Reference number | |
| Time/Date (UTC) | 1055 UTC 27/05/2014 |
| Location | YSCB |
| Aircraft Detail | |
| Weather | Thunderstorm |

IRRELEVANT INFORMATION REMOVED FROM THIS DOCUMENT - s22.

## Incident Description

Request form: Pilot Reported: Passing waypoint FOXLO on the STAR, we encountered heavy rain and turbulence. We were advised by CB TWR a squall had just passed through, but weather conditions improving. Crosswind was earlier recorded at 45kts, wind now variable, crosswind maximum 35kts and reducing. Neither the ATIS or TAF gave an accurate account of the weather conditions at the airfield. Fluctuating winds.

Met Info Required: Can I please obtain TAF and ATIS for the time of incident and all changes for previous 30min.

## Basis of Forecast

TAFs at attachment 1 and METAR/SPECI at attachment 2. An intense cold front was forecast to move through SE parts during Tuesday afternoon. Strong and gusty surface winds (both synoptically driven and convective cloud initiated) along with rain, showers and thunderstorms were forecast to accompany the initial mid-level cloud band. Behind the change, slowly easing surface winds accompanied by showers and isolated thunderstorms were forecast. During the early to mid-afternoon period, most of the precipitation, including isolated thunderstorm activity, slid away to the south on the Ranges to the west of Canberra. It wasn't until the latter part of the afternoon, behind the initial cloud band and in the unstable post-frontal air mass, that some shower activity finally made it into the Airport. The strategy was to persist with the chance of gusty thunderstorms as there had been a history of storm activity and the environment was still unstable. There were a number of TAF amendments (in line with changes to shorter term changes in TTF strategy) during the shift as the situation was very complex. In spite of this, the overall forecast strategy of strong and gusty surface winds, showers and the chance of gusty thunderstorms for YSCB was maintained throughout the shift and beyond. This strategy was reflected in an Airport Warning (for possible wind gusts in excess of 40knots with thunderstorms), appropriate holding on the YSCB TAF and TTF along with moderate to severe turbulence below 5000FT.

## Reason for Forecast Deficiency

No deficiency. PROB30 Thunderstorms were on the TAF in amends at 0852UTC and 1011UTC. MOD/SEV

turbulence was consistently forecast for this period from 0522UTC.
There was no observer present after 1030UTC and the automated system cannot record thunderstorms. The system issued +SHRA between 1058 and 1100UTC with winds reduced to 15kts by 1105UTC.

## SRAV Comments

TAF was amended 2 hours and 3 minutes prior to this event and was correct.

## Author Details

| | |
|---|---|
| **Prepared by** | [redacted] Manager Major Airport Services, Aviation Weather Services (SRAT) |
| **Date** | 03/05/2014 |
| **Approved by** | [redacted] Manager Aviation Policy, Aviation Weather Services (SRAV) |
| **Date** | 06/05/2014 |
| **File No** | 70/000150 |

## Attachment 1: TAFS YSCB

TAF AMD YSCB 270522Z 2706/2806
32018G30KT 9999 -RA SCT025 BKN080
FM270900 32013KT 9999 -SHRA SCT020 BKN080
FM272100 29013KT 9999 SCT020 BKN080
TEMPO 2712/2722 BKN020
PROB30 INTER 2706/2712 32020G40KT 3000 TSRA BKN015 SCT035CB
RMK FM270600 MOD/SEV TURB BLW 5000FT TILL272100
FM272100 MOD TURB BLW 5000FT
T 16 13 10 09 Q 1010 1010 1010 1010

TAF AMD YSCB 270743Z 2708/2806
32013KT 9999 -SHRA SCT020 BKN080
FM272100 29013KT 9999 SCT020 BKN080
TEMPO 2712/2722 BKN020
PROB30 INTER 2708/2714 32015G30KT 5000 SHRA BKN015 SCT035
RMK FM270800 MOD/SEV TURB BLW 5000FT TILL272100
FM272100 MOD TURB BLW 5000FT
T 13 11 09 08 Q 1010 1010 1010 1010

TAF COR YSCB 270835Z 2708/2806
32013KT 9999 -SHRA SCT020 BKN080
FM272100 29013KT 9999 SCT020 BKN080
INTER 2708/2712 32015G30KT 5000 SHRA BKN015 SCT035
TEMPO 2712/2722 BKN020
RMK FM270800 MOD/SEV TURB BLW 5000FT TILL272100
FM272100 MOD TURB BLW 5000FT
T 14 11 09 08 Q 1010 1010 1010 1010

TAF AMD YSCB 270852Z 2709/2806
32014KT 9999 -SHRA SCT020 BKN080
FM280000 29014KT 9999 SCT020 BKN080
PROB30 TEMPO 2709/2712 32020G40KT 3000 TSRA BKN015 SCT035
TEMPO 2717/2724 BKN020
RMK FM270900 MOD/SEV TURB BLW 5000FT TILL272100
FM272100 MOD TURB BLW 5000FT
T 13 10 09 07 Q 1010 1010 1010 1010

TAF COR YSCB 270945Z 2709/2806
32014KT 9999 -SHRA SCT020 BKN080
FM280000 29014KT 9999 SCT020 BKN080
PROB30 TEMPO 2709/2717 32020G40KT 3000 TSRA BKN015 SCT035
TEMPO 2717/2724 BKN020
RMK FM270900 MOD/SEV TURB BLW 5000FT TILL272100
FM272100 MOD TURB BLW 5000FT
T 13 10 09 07 Q 1010 1010 1010 1010

TAF AMD YSCB 271011Z 2710/2806
32014KT 9999 -SHRA SCT020 BKN080
FM280000 29014KT 9999 -SHRA SCT020 BKN080
INTER 2710/2717 VRB15G30KT 5000 SHRA BKN020
TEMPO 2717/2724 5000 SHRA BKN015

PROB30 TEMPO 2710/2717 32020G40KT 3000 TSRA BKN015 SCT035
RMK FM271000 MOD/SEV TURB BLW 5000FT TILL272100
FM272100 MOD TURB BLW 5000FT
T 12 09 08 07 Q 1009 1010 1010 1010

TAF AMD YSCB 271131Z 2712/2812
33014KT 9999 -SHRA SCT020 SCT030 BKN080
FM280000 29014KT 9999 -SHRA SCT030 BKN050
FM280900 28008KT 9999 SCT025 SCT045
INTER 2712/2717 VRB15G35KT 5000 SHRA BKN020
TEMPO 2717/2724 5000 SHRA BKN015
PROB30 TEMPO 2712/2717 32020G45KT 3000 TSRA BKN015 SCT035
RMK FM271200 MOD/SEV TURB BLW 5000FT TILL272100
FM272100 MOD TURB BLW 5000FT TILL280900
T 10 09 07 07 Q 1010 1010 1010 1012

## Attachment 2: METAR and SPECI YSCB

METAR YSCB 270830Z 35017KT 9999 SHRA SCT019 BKN045 OVC075 13/11 Q1010
INTER 0830/1030 32015G30KT 5000 SHRA BKN015 SCT035
FM0830 MOD/SEV TURB BLW 5000FT
RMK RF00.6/005.2
USE TAF FOR ARRIVALS AFTER 1030Z

SPECI YSCB 270841Z 35021KT 8000 -SHRA SCT017 BKN023 BKN045 13/11 Q1011 RESHRA
RMK RF00.6/005.8

SPECI YSCB 270845Z 34023G35KT 8000 SHRA SCT019 BKN025 BKN045 12/11 Q1011 RESHRA
INTER 0845/1030 32015G30KT 5000 SHRA BKN015 SCT035
FM0845 MOD/SEV TURB BLW 5000FT
RMK RF00.6/006.0
USE TAF FOR ARRIVALS AFTER 1030Z

SPECI YSCB 270900Z 34020G32KT 9999 -SHRA SCT016 BKN023 BKN045 12/11 Q1010 RESHRA
INTER 0900/1030 32020G35KT 5000 SHRA BKN015 SCT035
FM0900 MOD/SEV TURB BLW 5000FT
RMK RF00.4/007.0
USE TAF FOR ARRIVALS AFTER 1030Z

SPECI YSCB 270912Z 35018KT 9999 -SHRA SCT020 BKN035 OVC080 12/11 Q1010
INTER 0912/1030 32020G35KT 5000 SHRA BKN015 SCT035
FM0912 MOD/SEV TURB BLW 5000FT
RMK RF00.0/007.0
USE TAF FOR ARRIVALS AFTER 1030Z

METAR YSCB 270930Z 35017KT 9999 -SHRA SCT020 BKN035 OVC080 13/11 Q1010
INTER 0930/1030 32020G35KT 5000 SHRA BKN015 SCT035
FM0930 MOD/SEV TURB BLW 5000FT
RMK RF00.0/007.0
USE TAF FOR ARRIVALS AFTER 1030Z

SPECI YSCB 271000Z 35015KT 9999 -SHRA BKN019 BKN030 OVC080 12/11 Q1009 RESHRA
FM1005 32014KT 9999 FEW020 SCT030 BKN080
INTER 1000/1030 32020G35KT 5000 SHRA BKN015 SCT035
FM1000 MOD/SEV TURB BLW 5000FT
RMK RF00.0/007.6
USE TAF FOR ARRIVALS AFTER 1030Z

SPECI YSCB 271030Z 35018KT 9999 -SHRA SCT019 BKN030 OVC080 13/11 Q1009
RMK RF00.0/008.2
USE TAF FOR ARRIVALS. LAST MANUAL OBS UNTIL 1830Z.

SPECI YSCB 271037Z AUTO 35018G28KT 9999 // SCT019 BKN025 OVC062 13/11 Q1009 RERA
RMK RF00.0/008.2

SPECI YSCB 271047Z AUTO 33029KT 9999 -SHRA SCT019 BKN027 OVC063 13/11 Q1010 RESHRA
RMK RF00.6/008.8

SPECI YSCB 271048Z AUTO 33030G43KT 7000 +SHRA SCT019 BKN027 OVC052 12/11 Q1010
RMK RF00.8/009.0

SPECI YSCB 271049Z AUTO 32033G54KT 6000 +SHRA SCT019 BKN027 OVC052 12/10 Q1010
RMK RF00.8/009.0

SPECI YSCB 271054Z AUTO 29027KT 5000 +SHRA SCT019 BKN027 OVC061 11/09 Q1011
RMK RF00.8/009.0

SPECI YSCB 271055Z AUTO 29024G35KT 5000 +SHRA SCT019 BKN027 OVC061 11/09 Q1011
RMK RF00.8/009.0

SPECI YSCB 271100Z AUTO 28019G35KT 9999 +SHRA SCT019 BKN046 OVC061 11/08 Q1011
RMK RF00.0/009.0

SPECI YSCB 271105Z AUTO 27015KT 9999 -SHRA SCT019 SCT028 BKN061 11/08 Q1011 RESHRA
RMK RF00.0/009.0

METAR YSCB 271130Z AUTO 30008KT 9999 // SCT071 SCT099 10/07 Q1011
RMK RF00.0/009.0

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# Aviation Meteorological Incident Report

| Contact Details | |
|---|---|
| Name | IRRELEVANT INFORMATION REMOVED FROM THIS DOCUMENT - s22. |
| Organisation | |
| Phone | |
| Email | |

| Incident Details | |
|---|---|
| Reference number | |
| Time/Date (UTC) | 2100 UTC 02/06/2014 |
| Location | YBBN |
| Aircraft Detail | |
| Weather | Fog |

## Incident Description

As per request form:

Incident Weather Phenomenon: Fog
Incident Description: Fog advised through 10% code grey the evening before. Standard issue TAF at 021718Z did not indicate fog then TAF issued at 021838Z 1 hour and 20 min later did have fog commencing from 20Z.

Impact on Operations: The above flights are the ones that diverted but obviously the had time to implement the fuel requirements. In addition to these three flights diverting there were significant delays across both departures and arrivals with further financial impact.

Met Info Required: Whilst the 10% chance was advised through code grey the evening before this becomes super seeded by the issuance of the 18Z TAF. In particular want to achieve learning for future occurrences and ensure all is being done that can.

Main aim is to ascertain the conditions that lead to the fog eventuating. The expectation was mostly for low cloud as opposed to fog so would like to understand not only the thought process leading up to the fog occurring but any thoughts behind the dynamics of this particular event when it actually occurred. It has been described as an unusual set up for fog so given a similar situation it is desired to be able to try and capture this.

Early advice was given through the code grey which was awesome. This AMIR is targeted at learning for future events and advice of financial impact to the airline due to this event.
Legal Proceeding?: No."

## Basis of Forecast

A developing low over eastern Victoria slowly drifted into the southern Tasman Sea during Tuesday, before weakening on Wednesday. This was in response to an upper low over far southeastern NSW, which drifted

to the south and weakened. The high near New Zealand remained slow moving, before weakening and drifting further east. A new high pressure system slowly intensified over the south of the continent during the week, helping to maintain a south to southeasterly flow over the state.

Policy for Tuesday 3 June
The upper trough connected to the upper low over far southeastern NSW was expected to cross the southeast of the state during the day. At the same time a very weak surface trough was expected to push east to lie from the eastern tropical interior to the western Southeast Coast district in the afternoon. Reasonable dew points to the east of the surface trough were expected and the Code Grey reflected the low probability of fog.

Just after 1830Z area dew points and fog formation near Brisbane Airport combined with the light and favourable surface flow indicated a much higher risk of fog advection towards Brisbane airport. This was correctly conveyed on the TAF AMD at 1838Z and the TTF at 1900Z. The event occurred at 2008Z. 8 minutes after the original prediction 1 ½ hours earlier.

## Reason for Forecast Deficiency

No deficiency. Prior to 1830Z there was limited evidence of forecast fog at Brisbane airport above the 30% threshold of the TAF.

## SRAV Comments

There was no forecasting deficiency evident in this investigation. Fog forecasting for Brisbane airport requires a combination of both the formation process inland and the winds to advect the fog over the airfield. When it was evident that both were likely to be present the forecaster correctly changed forecast policy.

## Author Details

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| **Date** | 24/06/2014 |
| **Approved by** | National Manager, Aviation Weather Services (SRAV) |
| **Date** | 26/06/2014 |
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# Attachment 1: TAFs

TAF YBBN 021115Z 0212/0318
VRB05KT 9999 FEW020 SCT040
FM021800 24006KT 9999 SCT015 SCT040
FM030200 03008KT 9999 -SHRA SCT025 BKN045
INTER 0306/0312 3000 SHRA BKN015
RMK
T 18 17 16 16 Q 1018 1018 1017 1018

TAF YBBN 021718Z 0218/0324
21006KT 9999 FEW015 SCT040
FM030200 03008KT 9999 -SHRA SCT025 BKN045
FM031100 VRB05KT 9999 FEW015 SCT025
INTER 0306/0312 3000 SHRA BKN015
RMK
T 17 16 21 23 Q 1017 1018 1019 1017

TAF AMD YBBN 021838Z 0219/0324
25005KT 9999 SCT010 SCT040
FM022300 25007KT 9999 SCT020
FM030200 03008KT 9999 -SHRA SCT025 BKN045
FM031100 VRB05KT 9999 FEW015 SCT025
INTER 0306/0312 3000 SHRA BKN015
PROB30 0220/0222 0800 FG
RMK
T 16 16 21 23 Q 1017 1018 1019 1017

TAF AMD YBBN 022018Z 0221/0324
20005KT 0500 FG
FM022200 23008KT 9999 SCT006 SCT020
FM022300 25007KT 9999 SCT020
FM030200 03008KT 9999 -SHRA SCT025 BKN045
FM031100 VRB05KT 9999 FEW015 SCT025
INTER 0306/0312 3000 SHRA BKN015
PROB30 0222/0223 0800 FG BKN006
RMK
T 16 21 23 23 Q 1018 1019 1017 1017

# Attachment 2: METAR/SPECI

METAR YBBN 021700Z 00000KT 9999 FEW045 BKN300 17/17 Q1017
NOSIG
RMK RF00.0/000.0

SPECI YBBN 021730Z 24002KT 9999 MIFG FEW045 BKN300 17/16 Q1017
FM1730 24004KT 9999 FEW015 SCT040
RMK RF00.0/000.0

SPECI YBBN 021800Z 27003KT 9999 MIFG FEW045 BKN300 17/16 Q1017
FM1800 24004KT 9999 FEW015 SCT040
RMK RF00.0/000.0

SPECI YBBN 021830Z 26004KT 9999 MIFG FEW045 SCT240 16/16 Q1017
FM1830 24004KT 9999 FEW015 SCT040
FM2000 24005KT 9999 SCT010 SCT040
RMK RF00.0/000.0

SPECI YBBN 021900Z 18003KT 9999 MIFG FEW045 16/16 Q1017
FM2000 25005KT 0800 FG
RMK RF00.0/000.0

SPECI YBBN 021930Z 17001KT 9999 MIFG FEW045 16/16 Q1018
FM2000 23005KT 0800 FG
RMK RF00.0/000.0

SPECI YBBN 022000Z 19005KT 9999 0900S FG SCT045 17/16 Q1018
FM2000 21005KT 0800 FG
FM2230 23008KT 9999 SCT006 SCT020
RMK RF00.0/000.0

SPECI YBBN 022008Z 19005KT 0500 FG BKN045 17/16 Q1018
FM2000 21005KT 0500 FG
FM2230 23008KT 9999 SCT006 SCT020
RMK RF00.0/000.0 AUTO OBSC CODES REMOVED

SPECI YBBN 022030Z 20006KT 0700 FG VV/// 17/16 Q1018
FM2030 21006KT 0500 FG
FM2230 23008KT 9999 SCT006 SCT020
RMK RF00.0/000.0 AUTO OBSC CODES REMOVED

SPECI YBBN 022038Z 20006KT 1000 FG 17/16 Q1018
FM2038 21006KT 0800 FG
FM2230 23008KT 9999 SCT006 SCT020
RMK RF00.0/000.0 SKY OBSCURED AUTO OBSC CODES REMOVED

SPECI YBBN 022044Z 20007KT 2000 FG 17/17 Q1018
FM2044 21006KT 0800 FG
FM2230 23008KT 9999 SCT006 SCT020
RMK RF00.0/000.0 SKY OBSCURED AUTO OBSC CODES REMOVED

SPECI YBBN 022100Z 20007KT 2500 BR 17/17 Q1018
FM2100 21007KT 0900 FG
FM2230 23008KT 9999 SCT006 SCT020
FM2300 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 SKY OBSCURED AUTO OBSC CODES REMOVED

SPECI YBBN 022114Z 19007KT 1000 FG 17/17 Q1018
FM2114 21007KT 0900 FG
FM2230 23008KT 9999 SCT006 SCT020
FM2300 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 SKY OBSCURED AUTO OBSC CODES REMOVED

SPECI YBBN 022124Z 19005KT 2500 BR BCFG 17/17 Q1018
FM2114 21007KT 0900 FG
FM2230 23008KT 9999 SCT006 SCT020
FM2300 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 SKY OBSCURED AUTO OBSC CODES REMOVED

SPECI YBBN 022130Z 19004KT 2500 BR BCFG BKN001 17/17 Q1018
FM2130 21007KT 0900 FG
FM2230 23008KT 9999 SCT006 SCT020
FM2300 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 AUTO OBSC CODES REMOVED

SPECI YBBN 022146Z 19005KT 3500 BR BCFG BKN001 SCT045 17/17 Q1019
FM2146 21007KT 0900 FG
FM2230 23008KT 9999 SCT006 SCT020
FM2300 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 AUTO OBSC CODES REMOVED

SPECI YBBN 022200Z 21005KT 5000 BR BKN001 SCT045 18/17 Q1019
FM2200 21007KT 0900 FG
FM2230 23008KT 9999 SCT006 SCT020
FM2300 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 AUTO OBSC CODES REMOVED

METAR YBBN 022230Z 20007KT 7000 BKN003 BKN047 18/17 Q1019
FM2200 21007KT 7000 BKN003
FM2300 21008KT 9999 SCT006 SCT020
FM2330 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 MIST

SPECI YBBN 022253Z 21005KT 8000 SCT004 SCT130 19/17 Q1019
FM2310 21007KT 9000 SCT004
FM2300 21008KT 9999 SCT006 SCT020
FM2330 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 MIST CLEARIN

SPECI YBBN 022300Z 21006KT 8000 SCT004 SCT130 19/17 Q1019
FM2315 21007KT 9999 SCT006
FM2330 23007KT 9999 SCT020 BKN040
RMK RF00.0/000.0 HZ

METAR YBBN 022330Z 21007KT 9999 FEW005 SCT130 20/17 Q1019
NOSIG
RMK RF00.0/000.0 HZ