

211128L001A

2 August 2021

Blanalko Pty Ltd  
c/- SCT Logistic  
7 Westlink Court  
Altona VIC 3018

Attention: Mr Michael Clohesy

Dear Michael

## **DRAINAGE ADVICE FOR PROPOSED CUB BUILDING EXTENSION**

### **Background**

An expansion to the southern side of the existing Carlton & United Breweries (CUB) warehouse is proposed. The enlarged warehouse will extend into the existing retention basin that is located to the south of the existing warehouse. Therefore, the development will both increase the amount of runoff generated by the site and reduce the storage volume of the existing basin that manages runoff from the existing warehouse. As a result, additional retention storage will be required on the site such that the additional stormwater runoff does not overload the site's drainage system. This report summarises the assessment work undertaken to identify the volume and approximate footprint of retention basins that will be required.

### **Infiltration testing**

Field work has been undertaken to measure actual infiltration rates from the existing retention basin to the south of the SCT building. Based on two sets of field measurements, the infiltration rate has been calculated to be equivalent to 3.7mm/day. This is moderately higher than the 3mm/day that has been used in the water balance modelling to date. A summary of the field work that was undertaken is attached to this letter.

### **Water balance modelling**

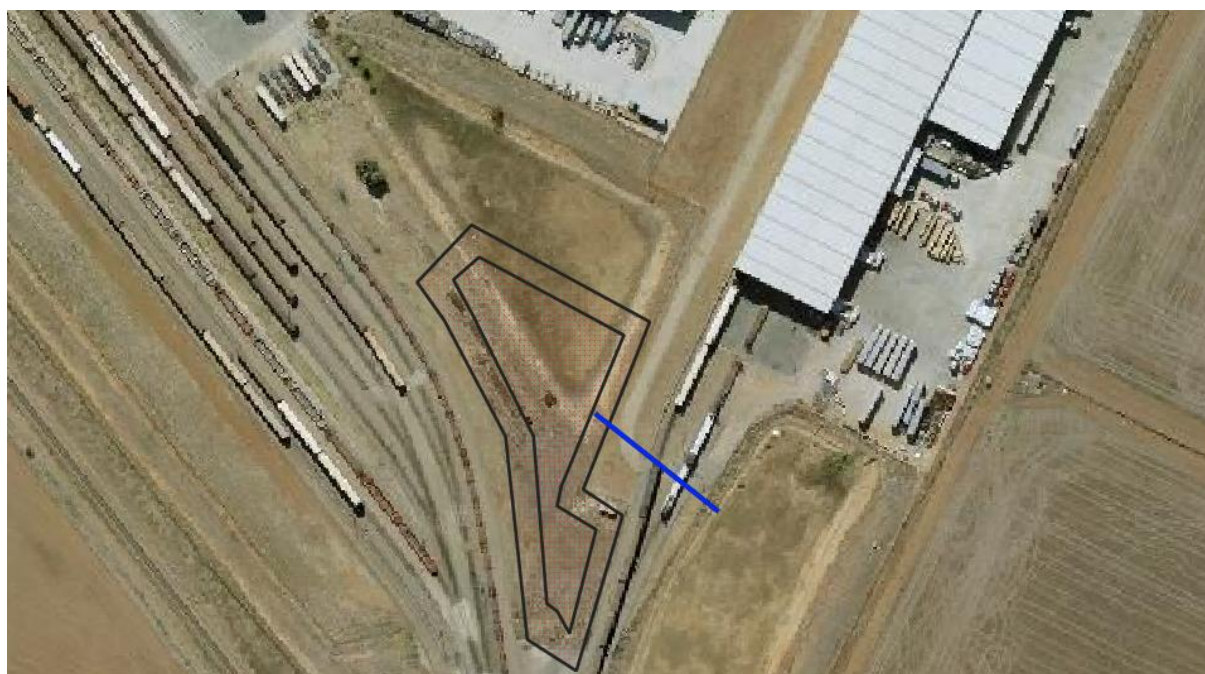
Updated water balance modelling of the site has been undertaken and includes modelling of the three interconnected retention basins on the site. For the purposes of this report, these basins have been referred to as the 'railway basin', which runs parallel with the main railway sidings, the 'eastern basin', which is located directly to the south of the SCT building, and the 'western basin', which will be significantly impacted by the CUB extension. The location of the basins is shown in Figure 5 (attached).

As-built survey of the railway and eastern basins has been used to derive the storage volume that they provide. Based on interrogation of the survey, the maximum water level in both basins has been assumed to be 12.3mAHD, at which point water would start to spill through the culverts under the freight line and also start to overtop the lowest bank of the eastern basin. The available retention storage volumes of the railway and eastern basins have been estimated as 17,300 m<sup>3</sup> and 9,800 m<sup>3</sup>, respectively.

A plan of the proposed enlargement of the western basin is shown in Figure 1. It is broadly based on the concept prepared by SCT (SCT job No 201217, sheet 01, Rev N, dated 12/5/21) and utilises



the land to the south of the existing basin. An estimated volume (5,600m<sup>3</sup>) has been derived. The basin will continue to utilise the existing high-level culverts to provide connection with the eastern basin. The 'new supplementary retarding basin' shown to the east of the CUB building in the SCT concept plan has not been included.



**Figure 1: Proposed location of enlarged western basin. Existing basin to be filled.**

The total amount of impervious area draining to each basin has been estimated based on recent aerial photography and inspection of the proposed plans for development at the CUB site. Local pervious areas within the broader intermodal site have also been incorporated into the modelling. A summary of the impervious and pervious catchment areas draining to each basin is provided in Table 1. It should be noted that the treasury wines development located to the north-west of the CUB warehouse is served by its own retention basins which do not interact with the three basins mentioned above.

**Table 1: Basin catchment and volume details**

Basin	Impervious catchment (ha)	Pervious catchment (ha)	Basin retention volume (to 12.3mAHD) (m <sup>3</sup> )
Western	6.7	3.7	5600 (enlarged)
Eastern	3.1	0.3	9800 (existing)
Railway	1.7	2.8	17300 (existing)

The water balance modelling has been based on the following parameters:

- Seasonally varying evaporation data for Adelaide.
- 1mm initial daily loss from impervious areas.



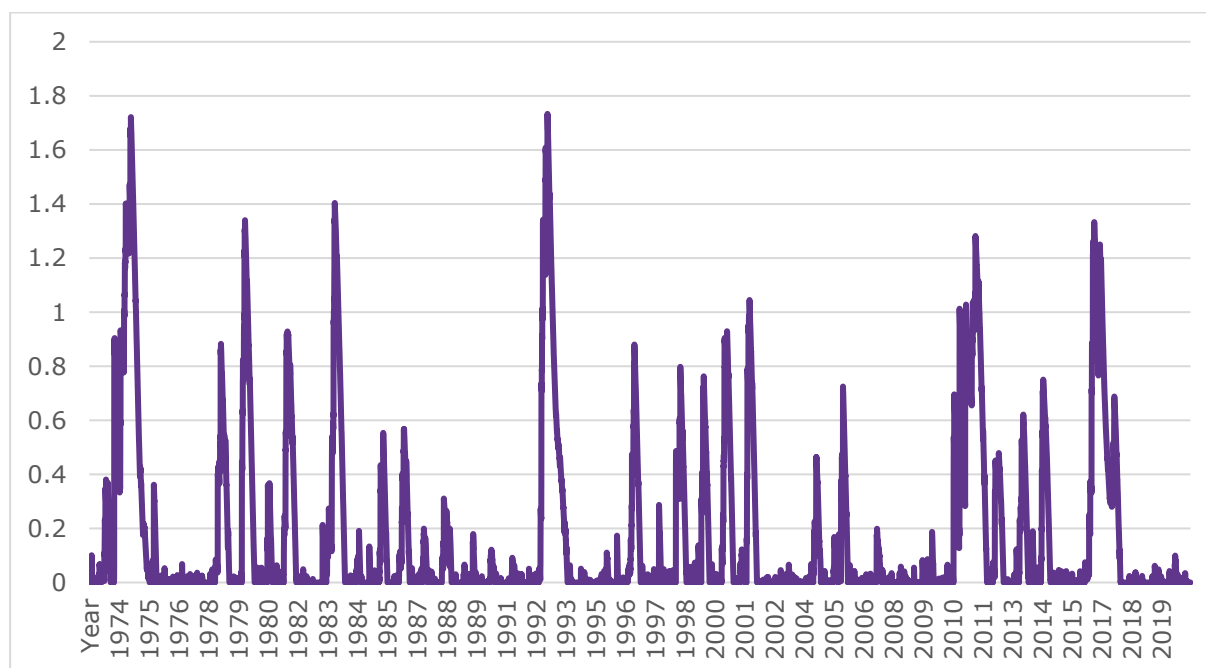
- Approximately 10-15mm of runoff per year from pervious areas.
- Has used 48 years of daily rainfall data from the nearby Edinburgh rainfall station from 1973 to 2020 (station number 28083, Edinburgh RAAF).
- 3.7mm/day infiltration rate.

Based on the site layout, the water balance model has been configured so that the western basin spills into the eastern basin, which is then able to spill into the railway basin. The basis for sizing the enlarged western basin is such that the spill from the railway basin (the most downstream basin) is essentially zero. This is better than predevelopment conditions, as the undeveloped site would have produced runoff during very wet years, such as 1974 and 1992.

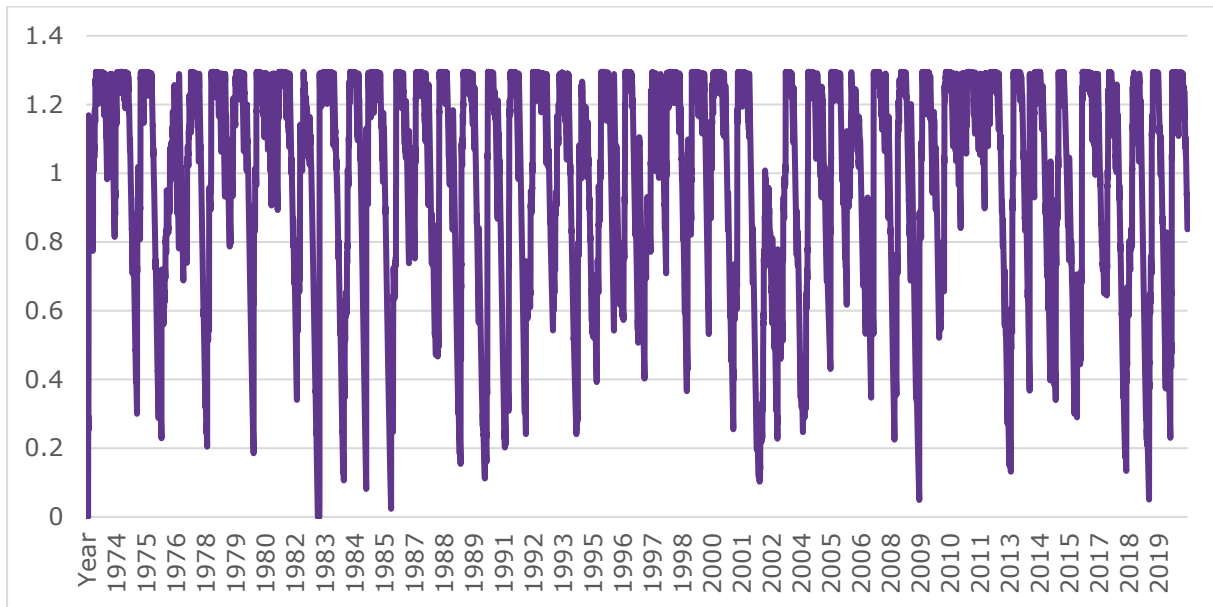
A plot of water levels in the railway basin is shown in Figure 2, which demonstrates that the capacity of the basin (1.8m depth) is not exceeded during the 48 years of modelled rainfall. However, it should be noted that the other two basins regularly reach capacity, particularly the enlarged western basin (Figure 3 and 4).

The modelling is based on retaining the eastern basin in its current form. Enlarging this basin would require the relocation of an internal water service. However, based on the results of the modelling (which adopted a higher infiltration rate, and shows that the downstream basin will not be overtopped), increasing the size of the eastern basin is not required.

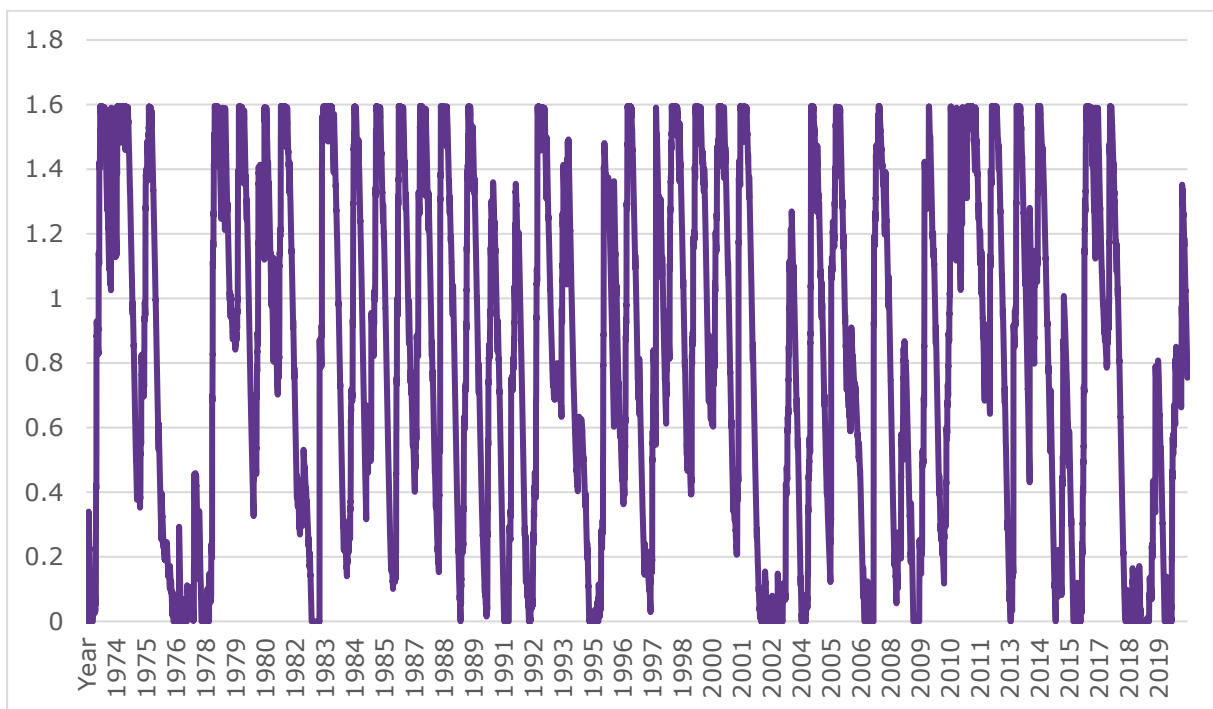
It should be noted that there are some additional external catchments that drain into the railway basin via roadside swales along Ranger Road that have not been allowed for in the modelling. These flows are from predominantly pervious catchments upstream of the intermodal site. These external flows are likely to increase the volume of flows entering the railway basin. Prior to development of the intermodal site, these flows would have graded towards the existing rail culverts under the freight line, which still act as the high-level outlet for the railway basin. Given this pre-development condition, it is not a requirement of the intermodal development to fully intercept and retain flows that are produced by the upstream catchment.



**Figure 2: Modelled water levels in the railway basin (1.8m maximum water level)**



**Figure 3: Modelled water levels in the western basin (1.3m maximum water level)**



**Figure 4: Modelled water levels in the eastern basin (1.6m maximum water level)**

### Summary

The updated water balance modelling has shown that enlarging the western basin such that it has approximately 5,600m<sup>3</sup> of retention storage (below 12.3mAHD) will be adequate to retain essentially all runoff from the enlarged CUB development on the site. This matches the current



configuration of basins on the site. There are some external catchments upstream of the site that may enter the railway basin via Ranger Road. In very wet years these additional flows may have the potential to cause the railway basin to reach capacity which will result in flows passing under the freight line to other areas downstream of the site.

If you have any queries relating to this advice, please contact the undersigned on 08 8273 3100.

Yours sincerely,

**Tim Kerby**

Principal engineer

**Tonkin**

Enc Figure 5: Stormwater management plan  
On-site infiltration testing summary memo





**Legend**

- Existing culvert
- Freight line
- Basin
- Cadastre

**Catchment boundaries**

- Eastern basin catchment
- Railway basin catchment
- Western basin catchment

**tonkin**

Job Number: 211128  
 Filename: 211128GQ001A  
 Revision: A  
 Date: 2021-08-03  
 Drawn: MM



Data Acknowledgement:  
 Aerial imagery from MetroMap, 2021  
 Cadastre from PBI, 2014  
 Roads and railway from Data SA, 2018



**SCT LOGISTICS**

**CUB BUILDING EXTENSION  
 STORMWATER MANAGEMENT PLAN**

Figure 5



## Memorandum

<b>To</b>	SCT Logistics	
<b>From</b>	Tonkin	<b>Date</b> 28 July 2021
<b>Ref Number</b>	211128C01Rev0	
<b>Subject</b>	Drainage Advice for Proposed CUB Warehouse Expansion, Penfield Intermodal Site – In-Situ Infiltration Assessment	

### Introduction

Tonkin has been engaged by SCT Logistics to provide drainage advice for the proposed expansion to the southern side of the existing CUB warehouse, located at Penfield, SA. The enlarged warehouse will extend into the existing stormwater retention basin that is located to the south of the existing warehouse. Therefore, the development will both increase the amount of runoff generated by the site and reduce the storage volume of the basin that manages runoff from the warehouse. As a result, additional retention storage will be required on the site, to ensure that the additional stormwater runoff does not overload the site's drainage system. SCT requires an assessment to identify the volume and approximate footprint of retention basins that will be required.

This in-situ infiltration assessment has been undertaken to determine the infiltration rate in one of the existing stormwater retention basins. This infiltration rate will be incorporated into the updated water balance models to determine how effective the stormwater retention basin is at removing the stormwater, and therefore the amount of retention storage required.

### Methodology

The work undertaken as part of this task involved obtaining accurate changes in water levels within the existing basins, across two separate periods of no rain (ideally across at least 4 or 5 days). Two separate measurements have been taken, to allow the derived infiltration rate to be compared, which provides a higher level of confidence in the derived rate.

The current modelling assumes an infiltration rate of 3 mm/day. If the rate is in fact higher than this, the volume of retention storage required could be significantly lower, whilst still meeting Council requirements, which will reduce construction costs.

Measurements were taken by placing two wooden stakes into the existing retention basin and marking the water level. The drop in water level was then measured with a ruler at the end of the monitoring period. The position of the stakes in the basin can be seen in **Figure 1**.

Following monitoring, the amount of rain experienced at the site was determined using the Bureau of Meteorology's weather observation data for the Edinburgh RAAF weather station<sup>1</sup>, which is approximately 2 km east of the site. The weather observations from the two monitoring periods are presented in Appendix A.

<sup>1</sup> Bureau of Meteorology. 2021. *Latest Weather Observations for Edinburgh*. Source: <http://www.bom.gov.au/products/IDS60901/IDS60901.95676.shtml>



The evaporation rate will also be determined, and factored into the calculation, so that the water loss due to infiltration can be isolated. Evaporation measurements have been taken from the Bureau of Meteorology's weather observation data for the Adelaide Airport<sup>2</sup>, which is approximately 27 km south of the site. The evaporation data is presented in Appendix B. Note that the data has been reduced to 80% of the value recorded by the weather station, to adjust for the likely conditions experienced at the site.

The two infiltration rates will then be compared. Should the rates be very different, then an additional monitoring round will be undertaken, so that any outlying results can be discounted.



**Figure 1 Location of the monitoring stakes in the stormwater retention basin. The stakes are in the bottom right corner of the figure, with pink ribbons attached.**

## Results

### Monitoring Round 1

The first monitoring round ran from the 18<sup>th</sup> of June to the 22<sup>nd</sup> of June, spanning 97 hours.

During this time, 0.2 mm of rain was detected at the Edinburgh RAAF weather station.

As this is a very small amount of rain, it has been assumed that any runoff surfaces did not have the opportunity to become sufficiently wet to contribute to the basin. As such, only the direct rainfall into the basin shall be considered. As such, 0.2 mm will be added from the measured drop in water level.

Furthermore, approximately 4.32 mm (reduced to 80% of measured value) of evaporation occurred, based on the data from the Adelaide Airport weather station. As such, 4.32 mm will be

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<sup>2</sup> Bureau of Meteorology. 2021. *Adelaide Airport, South Australia June [and July] 2021 Daily Weather Observations*. Source: <http://www.bom.gov.au/climate/dwo/202106/html/IDCJDW5001.202106.shtml>





subtracted from the measured drop in water level over the period, to determine the water loss due to infiltration.

It should also be noted that windy weather conditions on the 22<sup>nd</sup> of June meant that the water in the basin was quite choppy. This made it difficult to obtain an accurate measurement of the water level. Care was taken to ensure that the measurement considered the wave's amplitude, although reduced accuracy is unavoidable.

It should also be noted that this monitoring period came immediately after a large (26 mm) rainfall event, earlier in the day<sup>3</sup>.

Over the first monitoring period, the basin's water level dropped approximately 20 mm. Corrected for rainfall and evaporation, the drop in water level was 15.88 mm. This is equivalent to an infiltration rate of 3.97 mm/day.

## **Monitoring Round 2**

The second monitoring round ran from the 5<sup>th</sup> of July to the 9<sup>th</sup> of July, spanning 96 hours.

During this time, no rain was detected at the Edinburgh RAAF weather station.

Approximately 3.6 mm (reduced to 80% of measured value) of evaporation occurred, based on the data from the Adelaide Airport weather station. As such, 3.6 mm will be subtracted from the measured drop in water level over the period, to determine the water loss due to infiltration.

Over the second monitoring period, the basin's water level dropped approximately 17.5 mm. This is an average of the readings from the two stakes (which recorded 20 mm and 15 mm drops).

Corrected for evaporation, the drop in water level was 13.9 mm.

This is equivalent to an infiltration rate of 3.475 mm/day.

The results from the two monitoring rounds are summarised **Table 1**.

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<sup>3</sup> Queensland Government. 2021. *SILO - Australian climate data from 1889 to yesterday*. Source: <https://www.longpaddock.qld.gov.au/silo/point-data/#responseTab2>



**Table 1 Monitoring results across the two monitoring rounds**

	Monitoring Round 1		Monitoring Round 2	
	Stake 1	Stake 2	Stake 1	Stake 2
<b>Duration (hours)</b>	97		96	
<b>Drop in Water Level (mm)</b>	20.2*	20.2*	15	20
<b>Average Drop in Water Level (mm)</b>	20.2*		17.5	
<b>Total Evaporation (mm)</b>	4.32		3.6	
<b>Drop in Water Level Due to Infiltration (mm)</b>	15.88		13.9	
<b>Infiltration Rate (mm/day)</b>	3.97		3.475	
<b>Average Combined Infiltration Rate (mm/day)</b>			3.72	

\* Note that these water level drops have been adjusted to account for the small amount of rainfall received at the site.

### **Analysis**

The percentage difference between the two measured infiltration rates is approximately 13.3%. As this is quite low, it has been determined that both readings are likely to be reasonably representative of the true values. As such, the two infiltration rates have been averaged, to reduce the effect of random errors. This results in a revised **infiltration rate of 3.72 mm/day**. This represents Tonkin's best estimate of the existing retention basin's infiltration rate.

### **Conclusions**

The in-situ infiltration assessment described in this memo determined that the infiltration rate in SCT's stormwater retention basin is approximately 3.72 mm/day. This is approximately 21% greater than the rate which has been used in the modelling work to date, 3 mm/day. Therefore, based on this increased rate, it is likely that the volume of retention storage required at the site is lower than previously considered. This means that a smaller basin could potentially be constructed, whilst still meeting Council requirements, which would reduce SCT's construction costs.





## Appendix A – Weather Observations – Edinburgh RAAF Weather Station

Monitoring Round 1 – 18/6/21 (2:00 pm) to 22/6/21 (3:00 pm)

Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind				Press QNH hPa	Press MSL hPa	Rain since 9am mm	
						Dir	Spd km/h	Gust km/h	Spd kts				Gust kts
18/11:30pm	8.1	7.3	6.6	90	0.7	CALM	0	2	0	1	1025.9	1025.9	0.0
18/11:00pm	9.3	7.6	7.4	88	0.9	SE	6	7	3	4	1025.7	1025.7	0.0
18/10:30pm	9.8	6.8	7.7	87	1.0	SW	13	15	7	8	1025.5	1025.5	0.0
18/10:00pm	10.4	7.5	8.2	86	1.1	SSW	13	15	7	8	1025.3	1025.3	0.0
18/09:30pm	10.0	6.7	8.1	88	0.9	SW	15	17	8	9	1025.4	1025.4	0.0
18/09:00pm	10.9	8.5	8.5	85	1.2	SSW	11	13	6	7	1025.5	1025.5	0.0
18/08:30pm	10.7	8.2	8.1	84	1.3	SSW	11	13	6	7	1025.4	1025.4	0.0
18/08:00pm	11.8	9.4	8.6	81	1.6	SSW	11	13	6	7	1025.1	1025.1	0.0
18/07:30pm	11.7	8.9	8.4	80	1.6	SSW	13	17	7	9	1024.7	1024.7	0.0
18/07:00pm	11.7	8.0	8.0	78	1.8	SSW	17	20	9	11	1024.2	1024.2	0.0
18/06:30pm	12.4	9.1	8.1	75	2.1	SSW	15	20	8	11	1023.9	1023.9	0.0
18/06:00pm	12.7	9.4	8.2	74	2.2	S	15	22	8	12	1023.5	1023.5	0.0
18/05:30pm	13.3	9.3	8.4	72	2.4	S	19	28	10	15	1023.3	1023.3	0.0
18/05:00pm	14.3	8.9	8.0	66	3.1	SSW	26	35	14	19	1022.9	1022.9	0.0
18/04:30pm	14.7	11.5	8.4	66	3.2	S	15	20	8	11	1022.5	1022.5	0.0
18/04:00pm	14.7	10.4	8.0	64	3.3	S	20	32	11	17	1021.9	1021.9	0.0
18/03:30pm	15.0	9.1	8.9	67	3.1	SSW	30	44	16	24	1021.5	1021.5	0.0
18/03:00pm	15.3	9.0	8.8	65	3.3	SSW	32	43	17	23	1021.4	1021.4	0.0
18/02:30pm	15.3	8.7	9.9	70	2.8	SW	35	46	19	25	1021.2	1021.2	0.0
18/02:00pm	15.3	8.5	9.2	67	3.1	SW	35	44	19	24	1020.9	1020.9	0.0



Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 9am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
19/11:30pm	10.6	10.5	9.4	92	0.6	CALM	0	0	0	0	1027.7	1027.7	0.0
19/11:00pm	10.6	9.7	9.4	92	0.6	N	4	7	2	4	1027.8	1027.8	0.0
19/10:30pm	10.5	10.3	9.1	91	0.7	CALM	0	0	0	0	1027.8	1027.8	0.0
19/10:00pm	10.9	10.8	9.3	90	0.8	CALM	0	0	0	0	1027.9	1027.9	0.0
19/09:30pm	11.2	11.1	9.5	89	0.8	CALM	0	0	0	0	1027.8	1027.8	0.0
19/09:00pm	11.5	10.1	9.6	88	1.0	S	7	9	4	5	1028.0	1028.0	0.0
19/08:30pm	11.6	10.3	9.9	89	0.9	SSE	7	9	4	5	1027.8	1027.8	0.0
19/08:00pm	11.3	9.9	9.7	90	0.8	SSW	7	9	4	5	1027.8	1027.8	0.0
19/07:30pm	11.1	9.3	9.5	90	0.8	SSW	9	9	5	5	1027.7	1027.7	0.0
19/07:00pm	11.8	10.5	9.9	88	1.0	SSW	7	11	4	6	1027.5	1027.5	0.0
19/06:30pm	12.2	10.9	10.1	87	1.1	S	7	11	4	6	1027.3	1027.3	0.0
19/06:00pm	12.7	9.9	10.1	84	1.3	SSW	15	17	8	9	1027.0	1027.0	0.0
19/05:30pm	13.1	10.3	10.1	82	1.5	SSW	15	19	8	10	1027.0	1027.0	0.0
19/05:00pm	13.3	10.9	10.1	81	1.7	SW	13	17	7	9	1026.9	1026.9	0.0
19/04:30pm	13.5	10.5	10.5	82	1.6	SW	17	20	9	11	1026.8	1026.8	0.0
19/04:00pm	14.0	10.3	10.2	78	2.0	SSW	20	26	11	14	1026.6	1026.6	0.0
19/03:30pm	14.6	10.5	10.2	75	2.3	WSW	22	28	12	15	1026.5	1026.5	0.0
19/03:00pm	14.5	11.0	10.1	75	2.3	SW	19	24	10	13	1026.6	1026.6	0.0
19/02:30pm	13.9	10.6	9.7	76	2.1	SW	17	20	9	11	1026.7	1026.7	0.0
19/02:00pm	14.4	11.5	9.8	74	2.4	WSW	15	20	8	11	1026.8	1026.8	0.0
19/01:30pm	14.8	12.3	9.8	72	2.6	SW	13	17	7	9	1027.0	1027.0	0.0
19/01:00pm	14.5	11.5	9.3	71	2.7	SSW	15	20	8	11	1027.4	1027.4	0.0
19/12:30pm	13.9	10.8	8.9	72	2.5	SSW	15	19	8	10	1027.7	1027.7	0.0
19/12:00pm	14.0	11.0	9.2	73	2.4	SSW	15	20	8	11	1028.1	1028.1	0.0
19/11:30am	14.1	11.7	8.7	70	2.7	SSW	11	17	6	9	1028.4	1028.4	0.0
19/11:00am	13.8	12.2	8.8	72	2.5	WSW	7	13	4	7	1028.6	1028.6	0.0
19/10:30am	12.7	11.7	9.0	78	1.8	WSW	4	6	2	3	1029.0	1029.0	0.0
19/10:00am	12.7	12.2	9.2	79	1.8	NW	2	6	1	3	1029.0	1029.0	0.0
19/09:30am	11.3	9.8	9.0	86	1.1	NE	7	9	4	5	1028.8	1028.8	0.0
19/09:00am	9.5	7.9	8.1	91	0.7	NE	6	7	3	4	1028.7	1028.7	0.2
19/08:30am	8.0	7.3	6.9	93	0.5	CALM	0	0	0	0	1028.3	1028.3	0.2
19/08:00am	7.2	5.2	6.1	93	0.5	ESE	6	7	3	4	1027.9	1027.9	0.2
19/07:30am	6.0	3.7	5.0	93	0.4	ENE	6	7	3	4	1027.8	1027.8	0.2
19/07:00am	6.4	5.4	5.4	93	0.4	CALM	0	0	0	0	1027.8	1027.8	0.2
19/06:30am	6.6	4.5	5.6	93	0.4	NE	6	9	3	5	1027.5	1027.5	0.2
19/06:27am	7.1	5.0	6.0	93	0.5	ENE	6	11	3	6	1027.5	1027.5	0.2
19/06:00am	6.1	3.8	4.9	92	0.5	NNE	6	7	3	4	1027.1	1027.1	0.2
19/05:32am	6.8	5.8	5.4	91	0.6	CALM	0	0	0	0	1026.9	1026.9	0.0
19/05:30am	6.9	5.9	5.5	91	0.6	CALM	0	0	0	0	1026.9	1026.9	0.0
19/05:00am	8.2	6.3	6.8	91	0.6	SE	6	6	3	3	1026.6	1026.6	0.0
19/04:30am	8.2	7.1	6.8	91	0.6	ESE	2	7	1	4	1026.6	1026.6	0.0
19/04:00am	9.1	7.4	7.5	90	0.8	SSE	6	7	3	4	1026.6	1026.6	0.0
19/03:30am	9.3	8.8	7.9	91	0.7	CALM	0	0	0	0	1026.5	1026.5	0.0
19/03:00am	9.1	7.4	7.7	91	0.7	NE	6	7	3	4	1026.5	1026.5	0.0
19/02:30am	9.3	8.9	8.1	92	0.6	CALM	0	0	0	0	1026.4	1026.4	0.0
19/02:00am	8.7	7.0	7.5	92	0.6	SSW	6	7	3	4	1026.3	1026.3	0.0
19/01:30am	8.6	8.0	7.4	92	0.6	CALM	0	4	0	2	1026.1	1026.1	0.0
19/01:00am	8.0	6.1	6.5	90	0.7	NNE	6	7	3	4	1026.0	1026.0	0.0
19/12:30am	9.0	7.3	7.6	91	0.7	SSE	6	7	3	4	1025.8	1025.8	0.0
19/12:00am	8.5	7.8	7.1	91	0.7	CALM	0	0	0	0	1025.8	1025.8	0.0





Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 9am mm
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20/11:00pm	8.2	5.5	5.8	85	1.1	NE	9	11	5	6	1025.3	1025.3	0.0
20/10:30pm	7.8	5.1	5.4	85	1.1	ENE	9	11	5	6	1025.4	1025.4	0.0
20/10:00pm	7.7	5.4	5.8	88	0.9	NE	7	9	4	5	1025.6	1025.6	0.0
20/09:30pm	8.8	6.7	6.6	86	1.0	ENE	7	9	4	5	1025.6	1025.6	0.0
20/09:00pm	9.0	8.3	6.8	86	1.0	CALM	0	7	0	4	1025.6	1025.6	0.0
20/08:30pm	10.0	9.5	7.8	86	1.1	CALM	0	0	0	0	1025.7	1025.7	0.0
20/08:00pm	9.6	8.6	7.2	85	1.1	WSW	2	7	1	4	1025.7	1025.7	0.0
20/07:30pm	11.0	9.5	8.4	84	1.3	SW	6	7	3	4	1025.6	1025.6	0.0
20/07:00pm	11.7	10.0	8.2	79	1.7	SSW	7	9	4	5	1025.5	1025.5	0.0
20/06:30pm	11.7	10.8	7.8	77	1.9	ESE	2	6	1	3	1025.5	1025.5	0.0
20/06:00pm	12.7	11.1	7.8	72	2.4	SE	6	9	3	5	1025.2	1025.2	0.0
20/05:30pm	12.5	11.0	9.0	79	1.7	SW	7	9	4	5	1025.1	1025.1	0.0
20/05:00pm	13.3	11.1	9.5	78	1.9	SW	11	15	6	8	1024.8	1024.8	0.0
20/04:30pm	13.8	10.7	9.0	73	2.4	WSW	15	20	8	11	1024.7	1024.7	0.0
20/04:00pm	14.5	11.2	6.6	59	3.8	WSW	13	17	7	9	1024.6	1024.6	0.0
20/03:30pm	15.8	14.1	7.6	58	4.1	SW	6	11	3	6	1024.5	1024.5	0.0
20/03:00pm	15.8	13.6	6.3	53	4.6	SSW	7	9	4	5	1024.4	1024.4	0.0
20/02:30pm	16.1	14.4	5.7	50	5.0	WSW	4	7	2	4	1024.6	1024.6	0.0
20/02:00pm	16.1	13.9	5.1	48	5.2	WNW	6	11	3	6	1024.8	1024.8	0.0
20/01:30pm	15.9	13.6	5.5	50	4.9	ESE	7	9	4	5	1025.0	1025.0	0.0
20/01:00pm	15.5	12.8	5.7	52	4.7	NW	9	15	5	8	1025.3	1025.3	0.0
20/12:30pm	15.3	13.1	6.1	54	4.4	WNW	7	11	4	6	1025.8	1025.8	0.0
20/12:00pm	14.3	12.3	6.9	61	3.6	SSW	7	11	4	6	1026.2	1026.2	0.0
20/11:30am	14.7	13.1	8.0	64	3.3	NNW	6	9	3	5	1026.6	1026.6	0.0
20/11:00am	14.7	13.7	8.9	68	2.9	NNW	4	9	2	5	1027.1	1027.1	0.0
20/10:30am	13.9	13.1	8.1	68	2.9	NNW	2	6	1	3	1027.5	1027.5	0.0
20/10:00am	13.8	12.7	8.6	71	2.6	NE	4	7	2	4	1027.6	1027.6	0.0
20/09:30am	12.3	10.9	9.0	80	1.6	N	6	9	3	5	1027.7	1027.7	0.0
20/09:00am	10.8	9.1	8.4	85	1.2	NW	7	9	4	5	1027.7	1027.7	0.0
20/08:30am	10.2	8.2	8.5	89	0.8	ENE	9	11	5	6	1027.5	1027.5	0.0
20/08:00am	9.4	7.3	8.2	92	0.6	NE	9	13	5	7	1027.3	1027.3	0.0
20/07:30am	9.0	8.1	7.8	92	0.6	NNW	2	6	1	3	1027.2	1027.2	0.0
20/07:00am	8.6	8.0	7.2	91	0.7	CALM	0	0	0	0	1026.8	1026.8	0.0
20/06:30am	9.0	7.7	7.6	91	0.7	ENE	4	7	2	4	1026.6	1026.6	0.0
20/06:00am	9.5	6.9	7.9	90	0.8	NE	11	13	6	7	1026.5	1026.5	0.0
20/05:30am	9.9	7.9	8.5	91	0.7	ENE	9	11	5	6	1026.7	1026.7	0.0
20/05:00am	9.8	7.8	8.6	92	0.6	NNE	9	11	5	6	1026.8	1026.8	0.0
20/04:30am	9.8	8.2	8.6	92	0.6	NE	7	9	4	5	1027.0	1027.0	0.0
20/04:00am	9.7	9.4	8.5	92	0.6	CALM	0	0	0	0	1027.1	1027.1	0.0
20/03:30am	9.6	9.3	8.5	93	0.5	CALM	0	0	0	0	1027.1	1027.1	0.0
20/03:14am	9.6	9.3	8.5	93	0.5	CALM	0	0	0	0	1027.2	1027.2	0.0
20/03:00am	9.2	7.6	8.0	92	0.6	WNW	6	9	3	5	1027.2	1027.2	0.0
20/02:48am	8.8	7.1	7.6	92	0.6	WNW	6	7	3	4	1027.3	1027.3	0.0
20/02:30am	8.9	7.2	7.4	90	0.7	SW	6	9	3	5	1027.4	1027.4	0.0
20/02:00am	10.2	9.9	8.8	91	0.7	CALM	0	0	0	0	1027.4	1027.4	0.0
20/01:30am	10.2	9.9	8.8	91	0.7	CALM	0	0	0	0	1027.5	1027.5	0.0
20/01:00am	10.0	9.7	8.8	92	0.6	CALM	0	2	0	1	1027.5	1027.5	0.0
20/12:30am	10.3	10.1	9.1	92	0.6	CALM	0	0	0	0	1027.6	1027.6	0.0
20/12:00am	10.3	10.1	9.1	92	0.6	CALM	0	0	0	0	1027.7	1027.7	0.0



Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 9am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
21/11:30pm	12.4	6.1	3.9	56	3.8	NE	26	35	14	19	1021.3	1021.3	0.0
21/11:00pm	12.4	6.2	4.1	57	3.7	NE	26	33	14	18	1021.5	1021.5	0.0
21/10:30pm	12.1	6.7	4.3	59	3.5	NE	22	32	12	17	1022.4	1022.4	0.0
21/10:00pm	12.0	7.0	4.5	60	3.4	NE	20	24	11	13	1022.5	1022.5	0.0
21/09:30pm	11.9	7.0	4.2	59	3.5	NE	19	22	10	12	1023.0	1023.0	0.0
21/09:00pm	11.5	7.0	4.3	61	3.2	NE	17	20	9	11	1023.3	1023.3	0.0
21/08:30pm	11.9	6.8	3.9	58	3.6	NE	20	26	11	14	1022.9	1022.9	0.0
21/08:00pm	11.6	6.7	4.1	60	3.4	ENE	19	24	10	13	1022.8	1022.8	0.0
21/07:30pm	11.5	6.7	4.5	62	3.1	NE	19	24	10	13	1022.9	1022.9	0.0
21/07:00pm	12.0	7.0	4.7	61	3.3	NE	20	26	11	14	1022.8	1022.8	0.0
21/06:30pm	12.3	7.6	5.0	61	3.3	NE	19	24	10	13	1022.5	1022.5	0.0
21/06:00pm	12.5	7.5	4.5	58	3.6	ENE	20	24	11	13	1022.3	1022.3	0.0
21/05:30pm	13.3	8.5	4.7	56	3.9	ENE	19	24	10	13	1022.1	1022.1	0.0
21/05:00pm	13.4	9.1	5.1	57	3.9	NE	17	19	9	10	1022.3	1022.3	0.0
21/04:30pm	14.9	11.1	5.7	54	4.4	NE	15	20	8	11	1021.8	1021.8	0.0
21/04:00pm	15.5	10.9	5.7	52	4.7	NE	19	24	10	13	1021.7	1021.7	0.0
21/03:30pm	15.8	11.3	6.0	52	4.7	NE	19	26	10	14	1021.6	1021.6	0.0
21/03:00pm	15.8	11.5	5.1	49	5.0	NNE	17	20	9	11	1022.0	1022.0	0.0
21/02:30pm	16.1	12.3	6.0	51	4.9	NE	15	24	8	13	1022.3	1022.3	0.0
21/02:00pm	15.8	11.8	5.1	49	5.1	N	15	22	8	12	1022.7	1022.7	0.0
21/01:30pm	15.8	11.8	4.8	48	5.2	NNE	15	20	8	11	1023.2	1023.2	0.0
21/01:00pm	15.6	11.5	6.1	53	4.6	NE	17	24	9	13	1023.8	1023.8	0.0
21/12:30pm	15.3	11.1	5.5	52	4.6	NNE	17	24	9	13	1024.3	1024.3	0.0
21/12:00pm	15.2	10.6	6.7	57	4.1	NNE	20	26	11	14	1024.8	1024.8	0.0
21/11:30am	14.8	10.2	6.4	57	4.0	NNE	20	28	11	15	1025.3	1025.3	0.0
21/11:00am	14.2	9.7	6.8	61	3.6	NE	20	26	11	14	1025.4	1025.4	0.0
21/10:30am	13.5	9.3	7.5	67	2.9	NE	19	22	10	12	1025.7	1025.7	0.0
21/10:00am	12.5	8.4	6.1	65	3.0	NE	17	20	9	11	1025.9	1025.9	0.0
21/09:30am	11.9	7.9	6.6	70	2.5	NE	17	22	9	12	1026.0	1026.0	0.0
21/09:00am	11.0	8.5	6.6	74	2.1	NE	9	13	5	7	1025.8	1025.8	0.0
21/08:30am	9.5	7.2	5.7	77	1.7	NE	7	9	4	5	1025.7	1025.7	0.0
21/08:00am	8.4	4.8	4.8	78	1.6	ENE	13	17	7	9	1025.6	1025.6	0.0
21/07:30am	6.7	3.3	4.0	83	1.1	ENE	11	11	6	6	1025.4	1025.4	0.0
21/07:00am	6.2	3.1	3.7	84	1.1	ENE	9	11	5	6	1025.3	1025.3	0.0
21/06:30am	5.6	2.5	3.4	86	0.9	ENE	9	11	5	6	1025.0	1025.0	0.0
21/06:00am	5.2	2.0	3.2	87	0.8	NE	9	9	5	5	1024.9	1024.9	0.0
21/05:30am	4.7	1.4	2.7	87	0.8	ENE	9	11	5	6	1024.7	1024.7	0.0
21/05:00am	6.1	2.6	3.6	84	1.1	ENE	11	13	6	7	1024.6	1024.6	0.0
21/04:30am	5.6	2.4	2.8	82	1.1	ENE	9	11	5	6	1024.7	1024.7	0.0
21/04:00am	6.2	3.2	3.9	85	1.0	ENE	9	11	5	6	1024.8	1024.8	0.0
21/03:30am	5.6	2.1	3.6	87	0.8	ENE	11	11	6	6	1024.7	1024.7	0.0
21/03:00am	5.6	2.5	3.6	87	0.8	NE	9	11	5	6	1024.7	1024.7	0.0
21/02:30am	6.3	3.7	4.0	85	1.0	ENE	7	9	4	5	1024.9	1024.9	0.0
21/02:00am	6.3	3.6	3.8	84	1.1	ENE	7	9	4	5	1025.0	1025.0	0.0
21/01:30am	6.4	3.4	4.1	85	1.0	NE	9	11	5	6	1025.1	1025.1	0.0
21/01:00am	6.6	3.6	4.3	85	1.0	NE	9	11	5	6	1025.0	1025.0	0.0
21/12:30am	6.1	3.5	4.3	88	0.8	NE	7	7	4	4	1025.0	1025.0	0.0
21/12:00am	6.4	3.9	4.6	88	0.8	NNE	7	9	4	5	1025.2	1025.2	0.0





Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 9am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
22/03:00pm	14.7	7.9	6.8	59	3.8	NE	32	41	17	22	1017.6	1017.6	0.0
22/02:30pm	14.9	8.4	6.7	58	4.0	NE	30	39	16	21	1017.6	1017.6	0.0
22/02:00pm	15.1	8.6	6.7	57	4.1	NE	30	39	16	21	1017.9	1017.9	0.0
22/01:30pm	15.5	9.4	6.8	56	4.3	NE	28	33	15	18	1018.4	1018.4	0.0
22/01:00pm	15.0	9.8	7.1	59	3.9	NE	24	32	13	17	1019.0	1019.0	0.0
22/12:30pm	15.0	10.6	7.3	60	3.8	NE	20	26	11	14	1019.8	1019.8	0.0
22/12:00pm	14.6	9.3	6.7	59	3.8	NE	24	32	13	17	1020.3	1020.3	0.0
22/11:30am	14.7	9.3	6.5	58	4.0	NE	24	32	13	17	1020.9	1020.9	0.0
22/11:00am	14.6	9.1	5.9	56	4.2	NE	24	32	13	17	1021.6	1021.6	0.0
22/10:30am	14.3	8.8	5.9	57	4.0	NE	24	37	13	20	1021.5	1021.5	0.0
22/10:00am	14.1	7.6	4.9	54	4.3	NE	28	37	15	20	1021.5	1021.5	0.0
22/09:30am	13.7	6.8	4.8	55	4.1	NE	30	39	16	21	1021.2	1021.2	0.0
22/09:00am	12.9	6.0	4.6	57	3.8	NE	30	39	16	21	1021.0	1021.0	0.0
22/08:30am	12.6	5.6	4.3	57	3.8	NE	30	39	16	21	1021.0	1021.0	0.0
22/08:00am	12.6	5.2	3.8	55	4.0	NE	32	41	17	22	1021.0	1021.0	0.0
22/07:30am	12.2	5.5	3.9	57	3.7	NE	28	35	15	19	1021.1	1021.1	0.0
22/07:00am	12.3	6.0	3.8	56	3.8	NE	26	35	14	19	1020.6	1020.6	0.0
22/06:30am	12.1	5.8	3.6	56	3.8	NE	26	33	14	18	1020.1	1020.1	0.0
22/06:00am	11.8	5.8	3.6	57	3.6	NE	24	30	13	16	1019.9	1019.9	0.0
22/05:30am	11.6	5.6	3.6	58	3.5	NE	24	30	13	16	1019.7	1019.7	0.0
22/05:00am	11.8	5.8	3.6	57	3.6	NE	24	32	13	17	1020.0	1020.0	0.0
22/04:30am	11.6	5.7	3.9	59	3.4	NE	24	30	13	16	1020.3	1020.3	0.0
22/04:00am	11.7	5.0	3.7	58	3.6	NE	28	35	15	19	1020.3	1020.3	0.0
22/03:30am	12.1	5.4	3.6	56	3.8	NE	28	39	15	21	1020.6	1020.6	0.0
22/03:00am	11.6	5.0	4.1	60	3.3	NE	28	33	15	18	1020.7	1020.7	0.0
22/02:30am	11.5	5.3	4.3	61	3.2	NE	26	33	14	18	1020.9	1020.9	0.0
22/02:00am	11.4	4.4	4.2	61	3.2	NE	30	37	16	20	1020.8	1020.8	0.0
22/01:30am	11.5	4.9	4.3	61	3.2	NE	28	35	15	19	1021.2	1021.2	0.0
22/01:00am	10.5	6.1	4.6	67	2.6	NNE	17	20	9	11	1022.0	1022.0	0.0
22/12:30am	11.5	6.4	4.3	61	3.2	NNE	20	26	11	14	1021.5	1021.5	0.0
22/12:00am	12.0	6.1	4.0	58	3.6	NE	24	30	13	16	1021.3	1021.3	0.0



### Monitoring Round 2 – 5/7/21 (12:00 pm) to 9/7/21 (12:00 pm)

Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 9am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
05/11:30pm	7.9	5.0	4.8	81	1.4	ENE	9	13	5	7	1022.8	1022.8	0.0
05/11:00pm	7.7	4.4	4.8	82	1.3	NE	11	13	6	7	1023.2	1023.2	0.0
05/10:30pm	7.9	5.0	4.8	81	1.4	NE	9	11	5	6	1023.2	1023.2	0.0
05/10:00pm	7.7	4.4	4.8	82	1.3	NE	11	11	6	6	1023.3	1023.3	0.0
05/09:30pm	8.6	5.3	4.8	77	1.7	ENE	11	13	6	7	1023.4	1023.4	0.0
05/09:00pm	8.4	5.6	5.3	81	1.4	ENE	9	9	5	5	1023.6	1023.6	0.0
05/08:30pm	8.4	5.9	5.0	79	1.5	NE	7	9	4	5	1023.6	1023.6	0.0
05/08:00pm	9.2	6.5	5.4	77	1.7	ENE	9	13	5	7	1023.5	1023.5	0.0
05/07:30pm	8.7	6.0	5.4	80	1.5	NE	9	11	5	6	1023.4	1023.4	0.0
05/07:00pm	9.1	6.8	5.5	78	1.6	NE	7	9	4	5	1023.2	1023.2	0.0
05/06:30pm	10.4	7.3	5.4	71	2.3	NE	11	13	6	7	1023.0	1023.0	0.0
05/06:00pm	10.5	7.8	5.7	72	2.2	NNE	9	9	5	5	1022.9	1022.9	0.0
05/05:30pm	11.2	8.9	5.7	69	2.5	NNE	7	9	4	5	1022.7	1022.7	0.0
05/05:00pm	11.7	9.1	6.0	68	2.7	NNE	9	11	5	6	1022.7	1022.7	0.0
05/04:30pm	12.4	9.6	5.1	61	3.4	NE	9	11	5	6	1022.6	1022.6	0.0
05/04:00pm	12.9	10.5	5.1	59	3.6	NE	7	9	4	5	1022.5	1022.5	0.0
05/03:30pm	12.8	9.9	4.8	58	3.7	NNE	9	11	5	6	1022.7	1022.7	0.0
05/03:00pm	13.1	10.9	6.0	62	3.3	NNE	7	11	4	6	1023.0	1023.0	0.0
05/02:30pm	12.7	10.0	5.8	63	3.2	NNW	9	11	5	6	1023.2	1023.2	0.0
05/02:00pm	13.4	10.6	5.1	57	3.9	N	9	15	5	8	1023.4	1023.4	0.0
05/01:30pm	12.6	9.9	5.8	63	3.2	NNE	9	11	5	6	1023.6	1023.6	0.0
05/01:00pm	12.4	10.3	6.5	67	2.8	NE	7	11	4	6	1024.2	1024.2	0.0
05/12:30pm	12.8	10.2	6.2	64	3.1	NNE	9	15	5	8	1024.6	1024.6	0.0
05/12:00pm	12.9	11.0	7.6	70	2.6	NE	7	11	4	6	1025.3	1025.3	0.0



Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 9am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
06/11:30pm	7.0	3.3	4.5	84	1.1	NE	13	15	7	8	1022.0	1022.0	0.0
06/11:00pm	6.7	3.7	4.0	83	1.2	NE	9	11	5	6	1022.1	1022.1	0.0
06/10:30pm	7.0	3.6	4.1	82	1.2	NE	11	13	6	7	1022.0	1022.0	0.0
06/10:00pm	7.3	4.3	4.3	81	1.3	ENE	9	11	5	6	1021.8	1021.8	0.0
06/09:30pm	7.9	4.6	4.5	79	1.5	ENE	11	13	6	7	1021.7	1021.7	0.0
06/09:00pm	7.9	5.0	4.5	79	1.5	ENE	9	11	5	6	1021.7	1021.7	0.0
06/08:30pm	8.3	5.0	4.3	76	1.7	ENE	11	13	6	7	1021.6	1021.6	0.0
06/08:00pm	9.2	6.0	5.2	76	1.8	ENE	11	13	6	7	1021.7	1021.7	0.0
06/07:30pm	10.0	6.8	5.0	71	2.2	ENE	11	13	6	7	1021.6	1021.6	0.0
06/07:00pm	10.8	7.6	5.3	69	2.5	ENE	11	13	6	7	1021.4	1021.4	0.0
06/06:30pm	10.5	7.8	5.5	71	2.3	NE	9	11	5	6	1021.3	1021.3	0.0
06/06:00pm	11.2	8.5	5.5	68	2.6	NE	9	11	5	6	1021.0	1021.0	0.0
06/05:30pm	11.7	8.9	5.3	65	2.9	N	9	9	5	5	1021.0	1021.0	0.0
06/05:00pm	13.2	10.9	5.6	60	3.6	N	7	9	4	5	1020.9	1020.9	0.0
06/04:30pm	14.0	10.6	5.9	58	3.8	N	13	15	7	8	1020.7	1020.7	0.0
06/04:00pm	14.6	10.2	4.9	52	4.5	N	17	24	9	13	1020.6	1020.6	0.0
06/03:30pm	15.0	11.0	5.0	51	4.7	NNW	15	24	8	13	1020.5	1020.5	0.0
06/03:00pm	15.2	10.5	5.1	51	4.7	NNW	19	24	10	13	1020.4	1020.4	0.0
06/02:30pm	15.3	11.1	5.5	52	4.6	NNW	17	24	9	13	1020.5	1020.5	0.0
06/02:00pm	15.5	11.2	6.8	56	4.3	NNW	19	24	10	13	1020.6	1020.6	0.0
06/01:30pm	15.0	10.0	4.4	49	4.9	NNW	20	30	11	16	1020.7	1020.7	0.0
06/01:00pm	15.1	10.8	5.3	52	4.6	NNW	17	26	9	14	1021.1	1021.1	0.0
06/12:30pm	14.3	10.7	6.6	60	3.7	N	15	20	8	11	1021.7	1021.7	0.0
06/12:00pm	14.4	10.8	6.7	60	3.7	N	15	20	8	11	1022.2	1022.2	0.0
06/11:30am	12.3	9.0	6.4	67	2.8	NNE	13	19	7	10	1022.9	1022.9	0.0
06/11:00am	12.0	8.3	6.5	69	2.6	NNE	15	17	8	9	1023.2	1023.2	0.0
06/10:30am	11.5	7.7	6.0	69	2.6	NNE	15	19	8	10	1023.3	1023.3	0.0
06/10:00am	11.5	7.7	5.8	68	2.7	NE	15	19	8	10	1023.2	1023.2	0.0
06/09:30am	10.4	6.0	5.0	69	2.4	NNE	17	20	9	11	1023.0	1023.0	0.0
06/09:00am	10.4	6.1	5.4	71	2.3	NNE	17	20	9	11	1022.9	1022.9	0.0
06/08:30am	9.4	6.3	5.6	77	1.7	NE	11	13	6	7	1022.8	1022.8	0.0
06/08:00am	7.4	4.2	4.9	84	1.1	NE	11	15	6	8	1022.7	1022.7	0.0
06/07:30am	6.9	3.6	4.7	86	1.0	NE	11	13	6	7	1022.5	1022.5	0.0
06/07:00am	6.5	3.5	4.2	85	1.0	NE	9	11	5	6	1022.4	1022.4	0.0
06/06:30am	6.9	4.0	4.4	84	1.1	ENE	9	11	5	6	1022.0	1022.0	0.0
06/06:00am	7.2	4.3	4.5	83	1.2	ENE	9	11	5	6	1021.7	1021.7	0.0
06/05:30am	7.8	4.9	4.7	81	1.4	NE	9	11	5	6	1021.5	1021.5	0.0
06/05:00am	7.1	4.8	4.6	84	1.1	NNE	6	9	3	5	1021.4	1021.4	0.0
06/04:30am	8.2	5.0	5.0	80	1.4	ENE	11	13	6	7	1021.3	1021.3	0.0
06/04:00am	8.0	4.7	4.6	79	1.5	ENE	11	13	6	7	1021.5	1021.5	0.0
06/03:30am	7.8	4.9	4.6	80	1.4	ENE	9	11	5	6	1021.7	1021.7	0.0
06/03:00am	7.5	4.6	4.5	81	1.3	NE	9	11	5	6	1021.8	1021.8	0.0
06/02:30am	7.8	4.9	4.4	79	1.5	NE	9	13	5	7	1021.8	1021.8	0.0
06/02:00am	8.1	5.2	4.5	78	1.6	NNE	9	13	5	7	1021.7	1021.7	0.0
06/01:30am	9.1	6.1	4.1	71	2.2	E	9	13	5	7	1021.7	1021.7	0.0
06/01:00am	7.8	4.9	4.4	79	1.5	NE	9	11	5	6	1022.0	1022.0	0.0
06/12:30am	7.8	4.5	4.6	80	1.4	NE	11	13	6	7	1022.2	1022.2	0.0
06/12:00am	7.4	4.5	4.4	81	1.3	NE	9	11	5	6	1022.5	1022.5	0.0





Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 9am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
07/11:30pm	9.1	3.9	2.2	62	2.9	NE	19	24	10	13	1019.6	1019.6	0.0
07/11:00pm	9.2	3.8	2.3	62	2.9	NE	20	22	11	12	1019.6	1019.6	0.0
07/10:30pm	10.1	4.7	2.5	59	3.2	NE	20	22	11	12	1019.8	1019.8	0.0
07/10:00pm	10.0	4.9	3.1	62	3.0	NE	19	22	10	12	1019.9	1019.9	0.0
07/09:30pm	10.4	5.4	3.4	62	3.0	NE	19	22	10	12	1019.9	1019.9	0.0
07/09:00pm	9.8	4.7	3.3	64	2.8	NE	19	20	10	11	1020.1	1020.1	0.0
07/08:30pm	9.7	5.1	3.7	66	2.6	NE	17	20	9	11	1020.1	1020.1	0.0
07/08:00pm	10.3	5.8	4.0	65	2.8	NE	17	20	9	11	1020.0	1020.0	0.0
07/07:30pm	9.8	6.6	5.2	73	2.1	ENE	11	13	6	7	1020.0	1020.0	0.0
07/07:00pm	10.8	7.6	5.3	69	2.5	ENE	11	13	6	7	1019.9	1019.9	0.0
07/06:30pm	9.7	6.8	4.7	71	2.2	ENE	9	11	5	6	1019.9	1019.9	0.0
07/06:00pm	12.3	9.8	5.0	61	3.3	ENE	7	9	4	5	1019.8	1019.8	0.0
07/05:30pm	12.8	10.5	5.0	59	3.6	N	6	7	3	4	1019.7	1019.7	0.0
07/05:00pm	12.8	9.7	5.5	61	3.4	N	11	13	6	7	1019.7	1019.7	0.0
07/04:30pm	14.7	11.3	5.8	55	4.2	N	13	17	7	9	1019.6	1019.6	0.0
07/04:00pm	15.7	11.2	4.4	47	5.3	N	17	20	9	11	1019.6	1019.6	0.0
07/03:30pm	16.0	11.7	5.3	49	5.1	N	17	24	9	13	1019.7	1019.7	0.0
07/03:00pm	15.9	11.0	4.3	46	5.4	NNW	19	24	10	13	1019.8	1019.8	0.0
07/02:30pm	15.7	9.8	3.8	45	5.5	NNW	24	30	13	16	1020.1	1020.1	0.0
07/02:00pm	16.0	10.1	3.8	44	5.6	NNW	24	32	13	17	1020.2	1020.2	0.0
07/01:30pm	16.0	10.6	4.7	47	5.3	N	22	28	12	15	1020.5	1020.5	0.0
07/01:00pm	15.8	9.6	4.2	46	5.4	NNW	26	33	14	18	1021.0	1021.0	0.0
07/12:30pm	15.6	9.7	4.0	46	5.3	NNW	24	33	13	18	1021.5	1021.5	0.0
07/12:00pm	15.9	11.1	4.6	47	5.3	N	19	24	10	13	1022.0	1022.0	0.0
07/11:30am	14.8	11.1	6.4	57	4.0	NNE	15	20	8	11	1022.6	1022.6	0.0
07/11:00am	13.6	8.6	4.7	55	4.1	NNE	20	24	11	13	1023.1	1023.1	0.0
07/10:30am	13.2	8.4	4.4	55	4.0	N	19	24	10	13	1023.2	1023.2	0.0
07/10:00am	11.8	7.0	4.5	61	3.3	NNE	19	22	10	12	1023.5	1023.5	0.0
07/09:30am	11.7	7.2	4.2	60	3.4	NE	17	20	9	11	1023.4	1023.4	0.0
07/09:00am	10.8	6.6	3.6	61	3.2	NE	15	19	8	10	1023.5	1023.5	0.0
07/08:30am	9.4	5.0	2.9	64	2.8	NE	15	20	8	11	1023.1	1023.1	0.0
07/08:00am	8.4	4.4	2.8	68	2.4	NNE	13	20	7	11	1022.8	1022.8	0.0
07/07:30am	8.2	3.0	2.4	67	2.4	NE	19	26	10	14	1022.5	1022.5	0.0
07/07:00am	7.9	3.5	2.8	70	2.1	NE	15	19	8	10	1022.4	1022.4	0.0
07/06:30am	7.8	3.4	2.9	71	2.1	NE	15	20	8	11	1022.2	1022.2	0.0
07/06:00am	8.1	3.4	3.2	71	2.1	NE	17	20	9	11	1022.0	1022.0	0.0
07/05:30am	8.1	3.4	3.4	72	2.0	NE	17	20	9	11	1021.7	1021.7	0.0
07/05:00am	7.0	3.1	3.3	77	1.6	NE	13	17	7	9	1021.6	1021.6	0.0
07/04:30am	6.4	2.4	2.7	77	1.5	NE	13	17	7	9	1021.6	1021.6	0.0
07/04:00am	6.7	2.4	3.0	77	1.5	NE	15	17	8	9	1021.6	1021.6	0.0
07/03:30am	6.8	2.5	3.1	77	1.5	NE	15	26	8	14	1021.7	1021.7	0.0
07/03:00am	7.1	2.8	3.5	78	1.5	NE	15	17	8	9	1021.8	1021.8	0.0
07/02:30am	6.7	2.4	3.3	79	1.4	NE	15	17	8	9	1021.9	1021.9	0.0
07/02:00am	6.7	2.8	3.5	80	1.4	NE	13	17	7	9	1021.8	1021.8	0.0
07/01:30am	6.5	2.6	3.3	80	1.3	NE	13	15	7	8	1021.8	1021.8	0.0
07/01:00am	7.1	3.3	3.7	79	1.4	NE	13	15	7	8	1021.9	1021.9	0.0
07/12:30am	7.3	3.5	3.9	79	1.5	NE	13	13	7	7	1021.7	1021.7	0.0
07/12:00am	7.3	3.2	4.3	81	1.3	NE	15	17	8	9	1021.8	1021.8	0.0



Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press MSL hPa	Rain since 5am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
08/11:30pm	8.7	4.7	2.9	67	2.5	ENE	13	17	7	9	1015.7	1015.7	0.0
08/11:00pm	8.9	4.9	2.9	66	2.6	NE	13	17	7	9	1015.8	1015.8	0.0
08/10:30pm	9.3	5.0	3.1	65	2.7	NE	15	19	8	10	1015.9	1015.9	0.0
08/10:00pm	9.0	5.0	3.0	66	2.6	NE	13	17	7	9	1015.9	1015.9	0.0
08/09:30pm	9.8	5.4	2.9	62	3.0	NE	15	17	8	9	1015.9	1015.9	0.0
08/09:00pm	10.5	5.7	2.8	59	3.3	NE	17	20	9	11	1015.7	1015.7	0.0
08/08:30pm	10.9	5.7	2.7	57	3.5	ENE	19	26	10	14	1015.7	1015.7	0.0
08/08:00pm	10.2	5.9	3.3	62	3.0	NE	15	20	8	11	1015.9	1015.9	0.0
08/07:30pm	10.5	5.8	3.3	61	3.1	NE	17	20	9	11	1015.7	1015.7	0.0
08/07:00pm	9.8	5.9	3.3	64	2.8	NE	13	17	7	9	1015.6	1015.6	0.0
08/06:30pm	10.3	6.4	3.3	62	3.0	NE	13	17	7	9	1015.3	1015.3	0.0
08/06:00pm	10.8	6.9	3.6	61	3.2	NE	13	17	7	9	1015.1	1015.1	0.0
08/05:30pm	11.4	7.2	3.7	59	3.4	ENE	15	19	8	10	1015.0	1015.0	0.0
08/05:00pm	12.3	7.1	3.3	54	4.0	ENE	20	24	11	13	1014.7	1014.7	0.0
08/04:30pm	13.2	8.0	3.8	53	4.2	ENE	20	30	11	16	1014.8	1014.8	0.0
08/04:00pm	13.6	8.7	4.2	53	4.3	ENE	19	24	10	13	1014.7	1014.7	0.0
08/03:30pm	13.7	8.3	4.3	53	4.3	NE	22	26	12	14	1014.8	1014.8	0.0
08/03:00pm	14.2	9.4	4.5	52	4.5	NE	19	26	10	14	1014.9	1014.9	0.0
08/02:30pm	14.4	9.9	4.4	51	4.6	NE	17	22	9	12	1014.8	1014.8	0.0
08/02:00pm	14.3	10.2	4.6	52	4.5	NE	15	19	8	10	1014.8	1014.8	0.0
08/01:30pm	14.7	10.2	4.4	50	4.8	NE	17	22	9	12	1015.3	1015.3	0.0
08/01:00pm	14.7	10.6	4.1	49	4.9	NE	15	20	8	11	1016.1	1016.1	0.0
08/12:30pm	14.0	9.9	4.6	53	4.3	NE	15	20	8	11	1016.8	1016.8	0.0
08/12:00pm	14.6	9.7	4.3	50	4.7	NNE	19	22	10	12	1017.5	1017.5	0.0
08/11:30am	14.0	8.9	4.3	52	4.4	NE	20	26	11	14	1017.7	1017.7	0.0
08/11:00am	13.6	8.1	4.2	53	4.3	NE	22	28	12	15	1018.0	1018.0	0.0
08/10:30am	13.1	7.6	4.0	54	4.1	NE	22	28	12	15	1018.2	1018.2	0.0
08/10:00am	12.3	6.6	3.0	53	4.1	NE	22	28	12	15	1018.4	1018.4	0.0
08/09:30am	11.9	5.9	3.2	55	3.8	NE	24	28	13	15	1018.2	1018.2	0.0
08/09:00am	10.8	5.6	2.6	57	3.5	NE	19	24	10	13	1018.3	1018.3	0.0
08/08:30am	10.1	5.3	2.7	60	3.2	NE	17	22	9	12	1018.2	1018.2	0.0
08/08:00am	8.6	4.2	2.6	66	2.5	NE	15	17	8	9	1018.2	1018.2	0.0
08/07:30am	7.2	3.1	2.1	70	2.1	NE	13	15	7	8	1018.2	1018.2	0.0
08/07:00am	8.5	3.3	2.3	65	2.6	ENE	19	20	10	11	1018.3	1018.3	0.0
08/06:30am	7.0	2.9	2.1	71	2.0	NNE	13	15	7	8	1018.4	1018.4	0.0
08/06:00am	8.2	3.7	2.2	66	2.5	NE	15	20	8	11	1018.4	1018.4	0.0
08/05:30am	7.6	2.7	2.1	68	2.3	NE	17	19	9	10	1018.3	1018.3	0.0
08/05:00am	8.0	3.1	2.3	67	2.4	NE	17	20	9	11	1018.2	1018.2	0.0
08/04:30am	6.4	2.6	1.9	73	1.8	ENE	11	17	6	9	1018.1	1018.1	0.0
08/04:00am	6.4	2.6	1.7	72	1.9	NE	11	13	6	7	1018.3	1018.3	0.0
08/03:30am	6.7	2.1	1.8	71	2.0	NNE	15	17	8	9	1018.6	1018.6	0.0
08/03:00am	8.3	3.1	2.3	66	2.5	NE	19	22	10	12	1018.6	1018.6	0.0
08/02:30am	8.6	3.4	2.2	64	2.7	NE	19	22	10	12	1018.6	1018.6	0.0
08/02:00am	9.6	4.2	2.2	60	3.1	NE	20	24	11	13	1018.6	1018.6	0.0
08/01:30am	9.3	4.1	2.2	61	3.0	ENE	19	22	10	12	1018.7	1018.7	0.0
08/01:00am	9.1	3.8	2.0	61	3.0	ENE	19	24	10	13	1018.9	1018.9	0.0
08/12:30am	8.6	3.7	2.0	63	2.7	NE	17	22	9	12	1019.2	1019.2	0.0
08/12:00am	8.6	3.4	2.2	64	2.7	ENE	19	22	10	12	1019.5	1019.5	0.0



Date/Time CST	Temp °C	App Temp °C	Dew Point °C	Rel Hum %	Delta-T °C	Wind					Press QNH hPa	Press M SL hPa	Rain since 3am mm
						Dir	Spd km/h	Gust km/h	Spd kts	Gust kts			
09/12:30pm	13.5	10.9	9.2	75	2.2	NW	13	17	7	9	1017.4	1017.4	0.0
09/12:00pm	13.0	10.9	8.3	73	2.3	WNW	9	11	5	6	1017.6	1017.6	0.0
09/11:30am	12.6	10.8	8.1	74	2.2	N	7	13	4	7	1017.8	1017.8	0.0
09/11:00am	11.7	9.0	5.8	67	2.7	N	9	13	5	7	1018.0	1018.0	0.0
09/10:30am	11.3	8.2	5.4	67	2.7	NE	11	13	6	7	1017.9	1017.9	0.0
09/10:00am	10.8	7.3	5.6	70	2.4	NNE	13	17	7	9	1017.7	1017.7	0.0
09/09:30am	10.1	6.3	4.0	66	2.7	NNE	13	17	7	9	1017.4	1017.4	0.0
09/09:00am	9.3	6.3	4.1	70	2.3	NNE	9	11	5	6	1017.3	1017.3	0.0
09/08:30am	7.4	4.3	3.6	77	1.6	NE	9	11	5	6	1016.9	1016.9	0.0
09/08:00am	7.4	3.8	3.1	74	1.8	ENE	11	15	6	8	1016.5	1016.5	0.0
09/07:30am	4.8	1.4	2.0	82	1.1	ENE	9	11	5	6	1016.4	1016.4	0.0
09/07:00am	5.1	1.7	1.6	78	1.4	NE	9	11	5	6	1016.1	1016.1	0.0
09/06:30am	5.9	2.1	1.8	75	1.6	ENE	11	13	6	7	1015.7	1015.7	0.0
09/06:00am	6.8	3.1	2.5	74	1.8	NE	11	13	6	7	1015.5	1015.5	0.0
09/05:30am	7.5	3.4	2.4	70	2.1	ENE	13	17	7	9	1015.3	1015.3	0.0
09/05:00am	6.6	3.3	2.5	75	1.7	NE	9	13	5	7	1015.1	1015.1	0.0
09/04:30am	6.6	3.2	1.9	72	1.9	NE	9	11	5	6	1014.9	1014.9	0.0
09/04:00am	6.4	2.7	2.5	76	1.6	NNE	11	17	6	9	1014.9	1014.9	0.0
09/03:30am	5.6	2.2	1.7	76	1.6	NE	9	11	5	6	1014.7	1014.7	0.0
09/03:00am	5.7	1.9	1.6	75	1.6	NE	11	13	6	7	1014.8	1014.8	0.0
09/02:30am	6.6	2.8	1.9	72	1.9	ENE	11	13	6	7	1015.0	1015.0	0.0
09/02:00am	7.8	3.4	2.5	69	2.2	ENE	15	19	8	10	1015.1	1015.1	0.0
09/01:30am	7.3	3.2	2.4	71	2.0	NE	13	15	7	8	1015.3	1015.3	0.0
09/01:00am	7.4	3.3	2.5	71	2.0	NE	13	15	7	8	1015.5	1015.5	0.0
09/12:30am	7.4	3.3	2.3	70	2.1	NE	13	17	7	9	1015.6	1015.6	0.0
09/12:00am	7.4	3.4	2.7	72	2.0	NE	13	17	7	9	1015.6	1015.6	0.0





## Appendix B – Evaporation Results – Adelaide Airport

Table B1 Evaporation across the two monitoring rounds

Evaporation			
Monitoring Round 1		Monitoring Round 2	
Date	Evaporation (mm)*	Date	Evaporation (mm)*
19/6/21	0.48	6/7/21	0.32
20/6/21	0.48	7/7/21	1.28
21/6/21	0.96	8/7/21	0.24
22/6/21	2.4	9/7/21	1.76
Sum	4.32	Sum	3.6

\* Adjusted to 80% of measured value.