



Suite 2B, 14 Glen Street Eastwood,
NSW 2122
Phone: 02 9874 2123
Fax: 02 9874 2125
Email: info@airsciences.com.au
Web: www.airsciences.com.au
ACN: 151 202 765 | ABN: 74 955 076 914

15 March 2019

Tony Proust
Newnes Kaolin Environmental Manager
Via email: aproust@tpg.com.au

RE: Newnes Kaolin Weather Station Meteorological Data Review

Dear Tony,

Todoroski Air Sciences has reviewed the available meteorological data recorded at the recently repaired/ upgraded Newnes Kaolin Weather Station located at Clarence, New South Wales (NSW). This letter report outlines the work performed to the Newnes Kaolin Weather Station and provides a comparison of weather data before and after the repairs/ upgrade.

Weather station repairs/ upgrade

It was identified that the Newnes Kaolin Weather Station instruments (wind speed and wind direction) were physically damaged and needed replacement, with repairs to also needed to the weather station mast due to issues with the instrument cross member and guy wires.

On 6 December 2018, the Newnes Kaolin Weather Station was repaired/ upgraded and involved the following tasks:

- ✦ Installation of a new wind speed and direction instrument;
- ✦ Installation of additional guy wires for mast support; and,
- ✦ General servicing of the data logger and weather station.

Comparison of meteorological data

Meteorological data collected at the Newnes Kaolin Weather Station for the January 2018 and December 2018 periods have been used as a comparison for before and after the repairs/ upgrade were completed.

Figure 1 and **Figure 2** display windroses for these periods respectively.

From **Figure 1** it can be seen that prior to the repairs/ upgrades the weather instruments were recording erroneous wind speeds and directions as indicated by calm winds only arising from the north. In comparison the data recorded with the repaired/ upgraded weather station displays sensible wind speeds and directions. **Figure 2** indicates winds predominantly from the northeast quadrant, ranging from light to moderate wind speeds.

Figure 3 presents an annual windrose for the neighbouring Clarence Colliery weather station during 2018. The windrose indicates winds typically flow along a west-southwest to east-northeast axis for the area. The available data from the Newnes Kaolin Weather Station (see **Figure 2**) suggests a similar pattern of wind and further implies the station is recording sensible wind speeds and directions.

Summary and conclusion

Overall, the repairs/ upgrade to the Newnes Kaolin Weather Station appear to have been successful with sensible data being recorded.

It is recommend that the weather station be checked regularly for any anomalous readings and a further review of the data be performed following collection of a year's worth of data.

Please feel free to contact us if you would like to clarify any aspect of the report.

Yours faithfully,

Todoroski Air Sciences



Philip Henschke

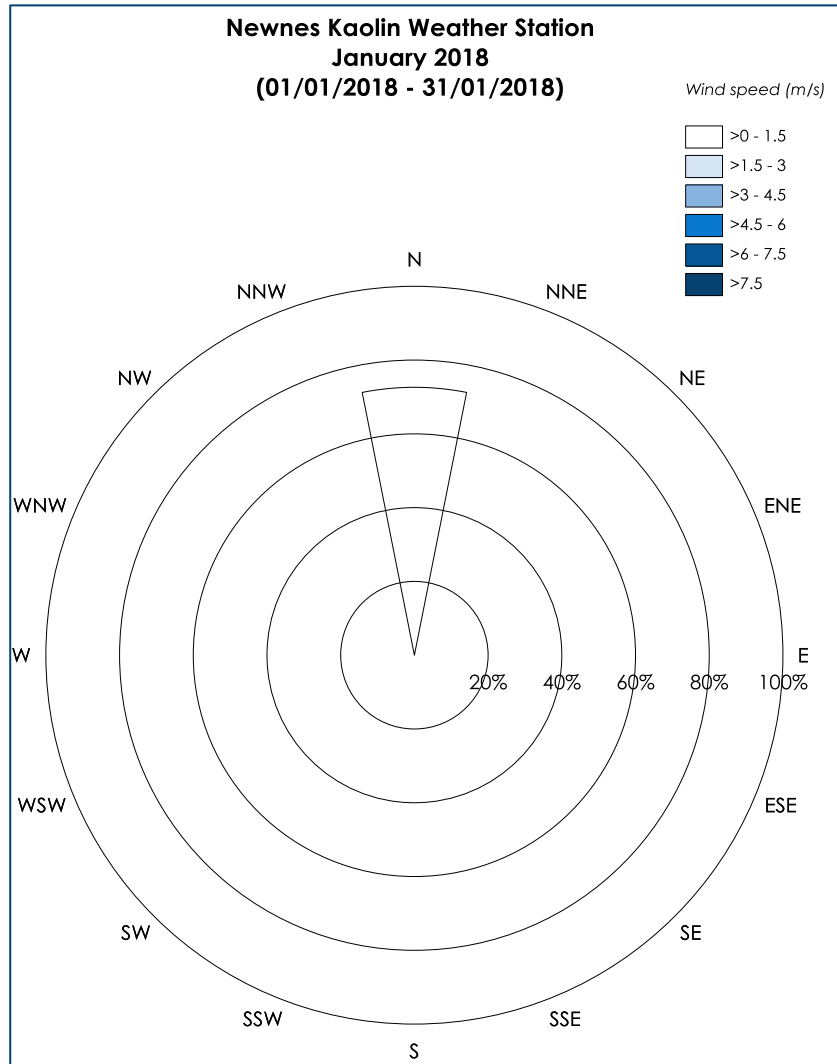


Figure 1: Newnes Kaolin Weather Station – January 2018

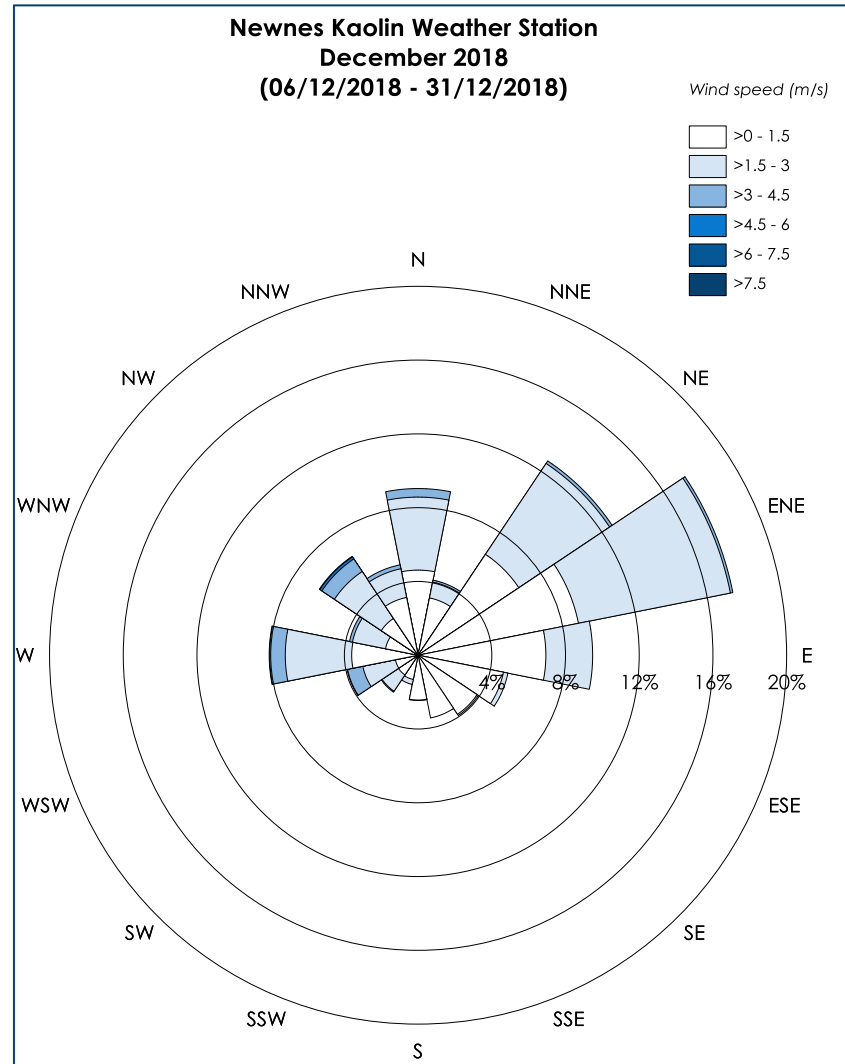


Figure 2: Newnes Kaolin weather station windrose - December 2018

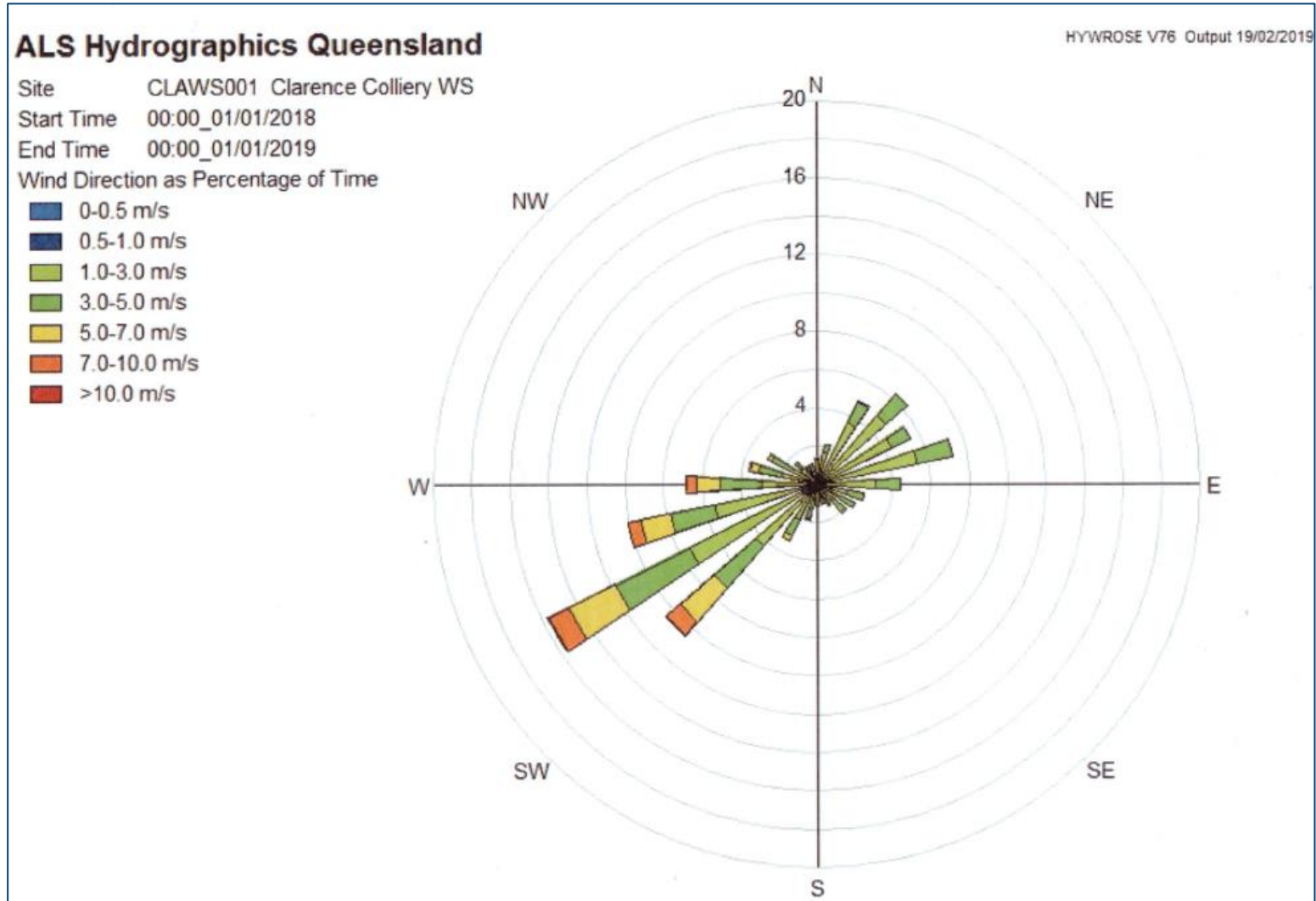


Figure 3: Clarence Colliery windrose - 2018