

6 December 2019

Julie Thomas  
Environmental Superintendent  
Muswellbrook Coal Company Ltd

Dear Julie,

## **Ambient Air Monitoring - Muscle Creek Rd - November 2019**

### **1.0 Introduction**

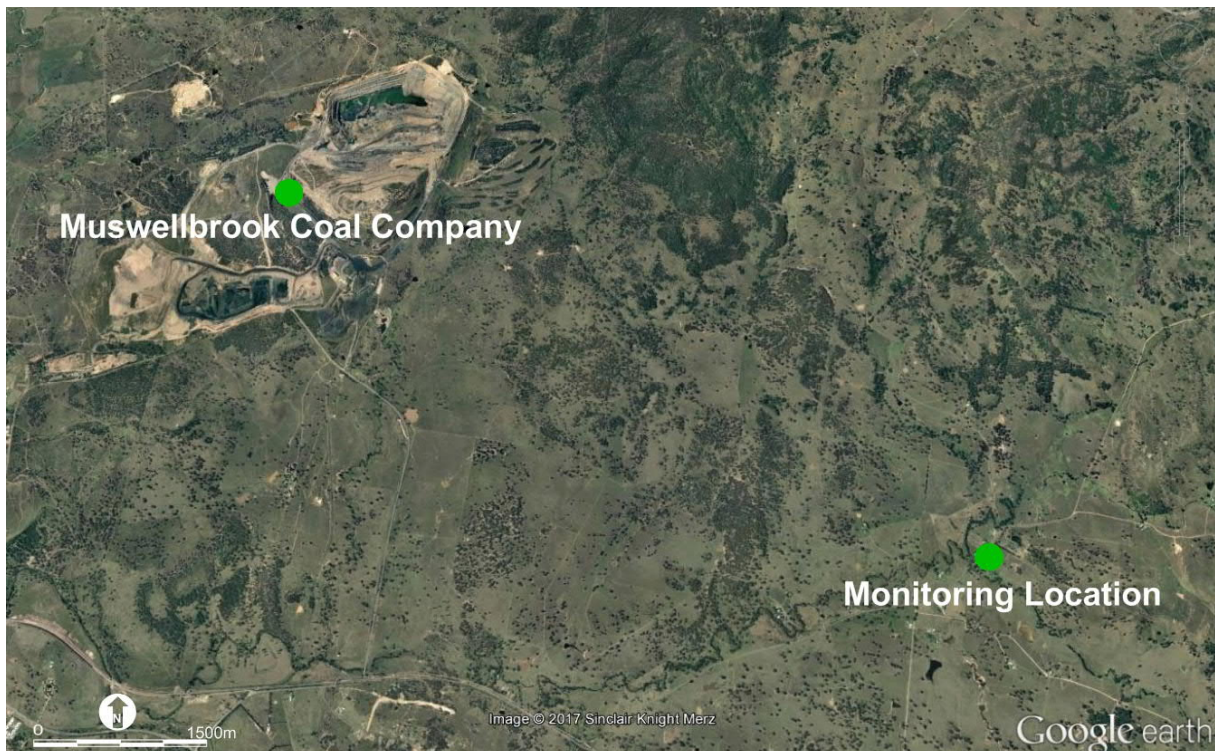
AECOM Australia Pty Ltd (AECOM) was appointed by Muswellbrook Coal Company Ltd (MCC) to provide static real time atmospheric monitoring for Hydrogen Sulfide (H<sub>2</sub>S) and Sulfur Dioxide (SO<sub>2</sub>) at one location on Muscle Creek Road, Muswellbrook.

Monitoring is conducted using a GrayWolf Advanced Sense II Probe with Hydrogen Sulfide and Sulfur Dioxide sensors capable of reading in the parts per billion range. Data is recorded as 5 minute average concentrations on an Advanced Sense hand held unit with live data then transmitted to an online account at regular intervals where it can be viewed and downloaded for further analysis by MCC and AECOM staff.

Meteorology data is obtained from the onsite MCC weather station, located approximately 6km to the northwest of the monitoring location. Wind data will be analysed each month with the aim of identifying any trends or relationships between the wind data and monitoring results. Results are reported on a monthly basis with this report presenting results for the period 1 November to 30 November 2019.

### **2.0 Site Location**

The monitoring location on Muscle Creek Rd was chosen due to it being downwind of the mine site during the prevailing north westerly winds. Siting was performed in accordance with AS 3580.1.1 2016.



**Figure 1 Muscle Creek Rd Monitoring Location**

### 3.0 Assessment Criteria

The gaseous ambient air quality criteria in **Table 1** and **Table 2** are reproduced from the MCC Development Consent (DA 205/2002, Condition 28).

**Table 1 H<sub>2</sub>S Assessment Criteria**

Analyte Averaging Period	Criteria	Unit
H <sub>2</sub> S 1 Hour Average	500	ppb
H <sub>2</sub> S 24 Hour Average	100	ppb

**Table 2 SO<sub>2</sub> Assessment Criteria**

Analyte Averaging Period	Criteria	Unit
SO <sub>2</sub> 1 Hour Average	200	ppb
SO <sub>2</sub> 24 Hour Average	80	ppb

### 4.0 Methodology

Monitoring is performed by a GrayWolf Advanced Sense II Probe fitted with H<sub>2</sub>S and SO<sub>2</sub> sensors. The unit is enclosed in a weatherproof case with the sensor at a height of approximately 1.8m above the ground. While the sensor is designed as a passive sampler, a small fan has been installed to generate airflow past the sensor ensuring adequate air movement to provide a representative atmosphere for gas analysis.

The GrayWolf monitor measures gasses in parts per million (ppm) with the following limits of detection (LOD).

- H<sub>2</sub>S: 0.01 ppm; and
- SO<sub>2</sub>: 0.01 ppm.

Readings are logged in parts per million (ppm) and are converted to parts per billion (ppb) for reporting purposes, with the LOD's being 10 ppb for both H<sub>2</sub>S and SO<sub>2</sub>. For the calculation of 1hr and 24hr averages, where the instrument returns a zero reading, half the instrument LOD value is used (5 ppb).

### 5.0 Results

A summary of the H<sub>2</sub>S and SO<sub>2</sub> results for November 2019 is presented in **Table 3**. **Table 4** provides a summary of 24hr (midnight to midnight) averages along with maximum 1hr averages for each day. Data is shown graphically against the relevant criteria in **Figure 2** and **Figure 3** with 1 hour data attached in **Tables 5** and **6**. It should be noted that the plots present 1 hour rolling averages calculated from raw data.

The Advanced Sense unit was re-installed on site on 5 November 2019 after previously being removed from site and sent away for repairs. As such, prior to 5 November no data was collected and has not been reported for this period.

**Table 3 Gaseous Monitoring Results – November 2019**

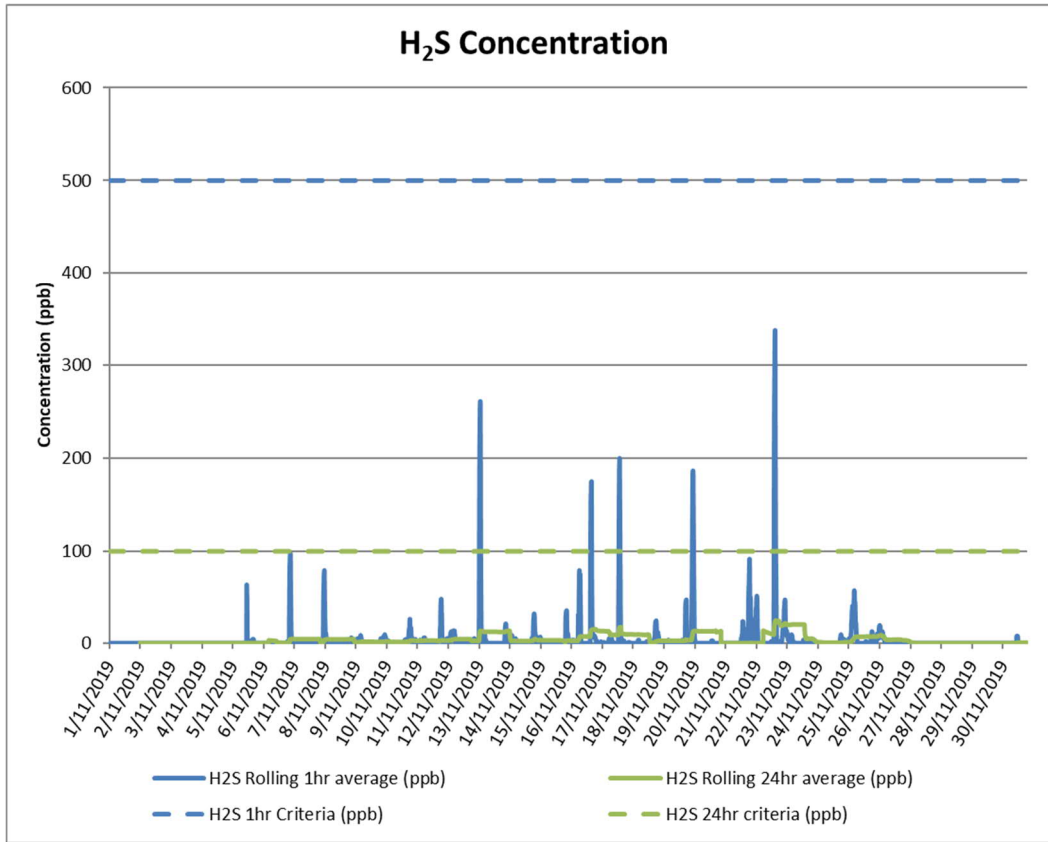
Parameter	Units	Hydrogen Sulfide (H <sub>2</sub> S)	Sulfur Dioxide (SO <sub>2</sub> )
Maximum 1 Hour Average	ppb	302.1	133.8
Maximum 24 Hour Average	ppb	22.8	15.3
Number of Exceedances – 1 Hour	-	0	0
Number of Exceedances – 24 Hour	-	0	0

There were no exceedances of the applicable criteria for either H<sub>2</sub>S or SO<sub>2</sub> for the November 2019 monitoring period. The data capture rates for November 2019 were 81.91% for both H<sub>2</sub>S and SO<sub>2</sub>.

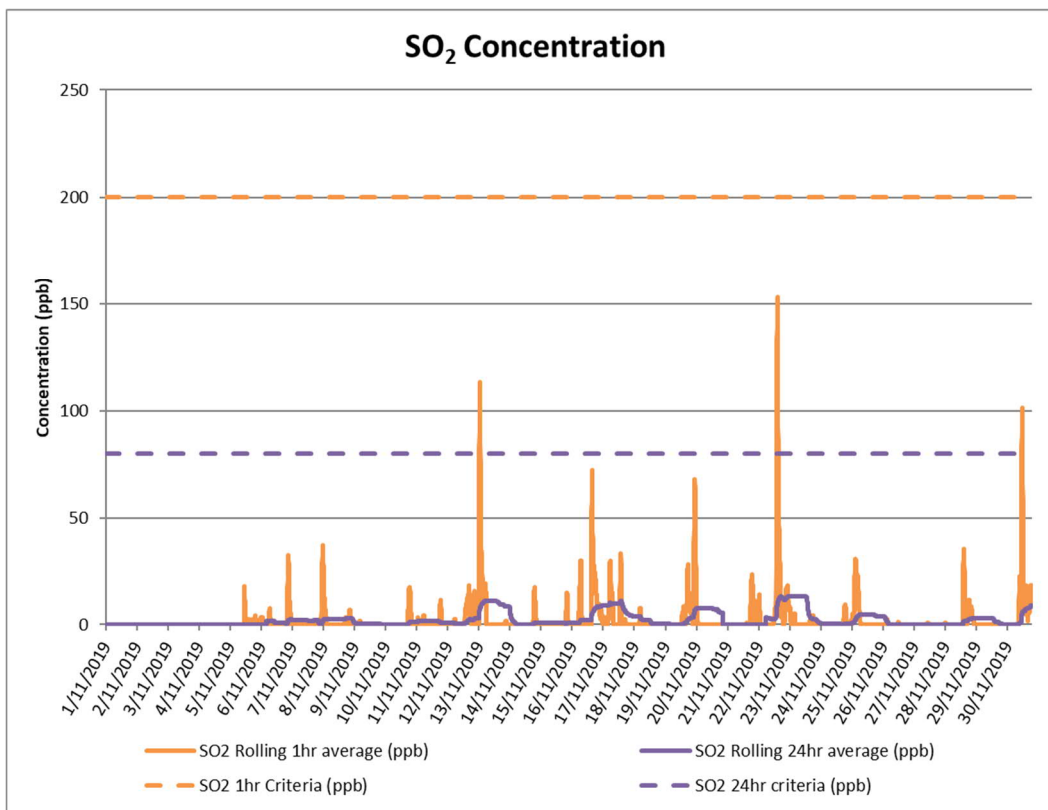
**Table 4 24hr Averages (Midnight to Midnight) and Maximum 1hr Averages – November 2019**

Date	Hydrogen Sulfide (H <sub>2</sub> S) (ppb)		Sulfur Dioxide (SO <sub>2</sub> ) (ppb)	
	24hr Average	Maximum 1hr Average	24hr Average	Maximum 1hr Average
1/11/2019	No Data	No Data	No Data	No Data
2/11/2019	No Data	No Data	No Data	No Data
3/11/2019	No Data	No Data	No Data	No Data
4/11/2019	No Data	No Data	No Data	No Data
5/11/2019	Insufficient Data	49.6	Insufficient Data	15.8
6/11/2019	9.0	97.9	6.8	32.5
7/11/2019	6.9	50.0	5.5	16.7
8/11/2019	6.8	35.8	6.8	32.5
9/11/2019	6.0	10.8	5.0	5.8
10/11/2019	6.7	18.8	5.9	17.5
11/11/2019	7.3	43.8	5.6	11.7
12/11/2019	6.5	13.3	6.9	15.0
13/11/2019	17.2	260.8	12.5	113.3
14/11/2019	7.2	29.2	5.6	14.2
15/11/2019	7.0	27.5	5.5	11.3
16/11/2019	17.1	172.1	11.9	63.8
17/11/2019	13.7	175.0	8.3	27.1
18/11/2019	6.6	24.6	5.2	8.3
19/11/2019	7.5	38.3	7.2	20.0
20/11/2019	17.3	184.2	10.0	68.3
21/11/2019	Insufficient Data	77.1	Insufficient Data	20.4
22/11/2019	22.8	302.1	15.3	133.8
23/11/2019	8.4	46.7	6.6	18.3
24/11/2019	5.4	9.6	5.3	9.6
25/11/2019	10.6	43.8	8.0	30.8
26/11/2019	6.9	17.9	5.1	6.3
27/11/2019	5*	5*	5.0	5.4
28/11/2019	5*	5*	6.8	33.3
29/11/2019	5*	5*	5.2	9.2
30/11/2019	5.3	11.3	12.4	63.3
<b>Criteria</b>	<b>100</b>	<b>500</b>	<b>80</b>	<b>200</b>
<b>Capture Rate</b>	<b>81.91%</b>		<b>81.91%</b>	

\* All raw data returned less than the instrument limit of detection. Half of the LOD value reported. Refer **Section 4.0**.



**Figure 2 H<sub>2</sub>S Concentrations – November 2019**



**Figure 3 SO<sub>2</sub> Concentrations – November 2019**

## 5.1 Meteorology

Meteorology data sourced from MCC's onsite meteorology station for November indicated winds were predominately from the North West quadrant as well as having a South East component. The average wind speed for the month was 2.5 m/s.

When winds are from the North West, the monitoring location is generally down wind of the mine site. A wind rose for this monitoring period can be found attached as **Figure 4**.

## 6.0 Conclusion

AECOM commenced ambient air quality monitoring on Muscle Creek Rd on 26 July 2017. Monitoring results for the period 1 to 30 November 2019 returned no exceedances of either the 1hr or 24hr criteria for H<sub>2</sub>S or SO<sub>2</sub>. The Advanced Sense unit was reinstalled on site on 5 November 2019 after previously being sent away for repairs. As such, no data was collected for the month prior to 5 November and has not been reported.

Wind data obtained from the MCC meteorology station indicates that winds for this period were predominantly from the North West quadrant as well as having a South East component placing the monitoring location generally down wind of the mine site for a significant period of November 2019.

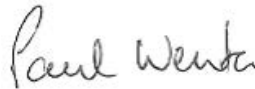
Yours faithfully,



James Enright  
Scientist – Compliance Services  
james.enright@aecom.com

Direct Dial: +T +61 2 4911 4900  
Direct Fax: +F +61 2 4911 4999

encl: Hourly Monitoring Data, Wind Rose



Paul Wenta  
Principal Scientist - Air Quality  
paul.wenta@aecom.com

Mobile: +61 438 670 281  
Direct Dial: +61 2 4911 4855  
Direct Fax: +61 2 4911 4999

Table 5 H<sub>2</sub>S 1hr Data (ppb) – August 2019

Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average
1/11/2019	0	No Data	2/11/2019	0	No Data	3/11/2019	0	No Data	4/11/2019	0	No Data	5/11/2019	0	No Data
1/11/2019	1	No Data	2/11/2019	1	No Data	3/11/2019	1	No Data	4/11/2019	1	No Data	5/11/2019	1	No Data
1/11/2019	2	No Data	2/11/2019	2	No Data	3/11/2019	2	No Data	4/11/2019	2	No Data	5/11/2019	2	No Data
1/11/2019	3	No Data	2/11/2019	3	No Data	3/11/2019	3	No Data	4/11/2019	3	No Data	5/11/2019	3	No Data
1/11/2019	4	No Data	2/11/2019	4	No Data	3/11/2019	4	No Data	4/11/2019	4	No Data	5/11/2019	4	No Data
1/11/2019	5	No Data	2/11/2019	5	No Data	3/11/2019	5	No Data	4/11/2019	5	No Data	5/11/2019	5	No Data
1/11/2019	6	No Data	2/11/2019	6	No Data	3/11/2019	6	No Data	4/11/2019	6	No Data	5/11/2019	6	No Data
1/11/2019	7	No Data	2/11/2019	7	No Data	3/11/2019	7	No Data	4/11/2019	7	No Data	5/11/2019	7	No Data
1/11/2019	8	No Data	2/11/2019	8	No Data	3/11/2019	8	No Data	4/11/2019	8	No Data	5/11/2019	8	No Data
1/11/2019	9	No Data	2/11/2019	9	No Data	3/11/2019	9	No Data	4/11/2019	9	No Data	5/11/2019	9	No Data
1/11/2019	10	No Data	2/11/2019	10	No Data	3/11/2019	10	No Data	4/11/2019	10	No Data	5/11/2019	10	No Data
1/11/2019	11	No Data	2/11/2019	11	No Data	3/11/2019	11	No Data	4/11/2019	11	No Data	5/11/2019	11	49.6
1/11/2019	12	No Data	2/11/2019	12	No Data	3/11/2019	12	No Data	4/11/2019	12	No Data	5/11/2019	12	5
1/11/2019	13	No Data	2/11/2019	13	No Data	3/11/2019	13	No Data	4/11/2019	13	No Data	5/11/2019	13	5
1/11/2019	14	No Data	2/11/2019	14	No Data	3/11/2019	14	No Data	4/11/2019	14	No Data	5/11/2019	14	7.1
1/11/2019	15	No Data	2/11/2019	15	No Data	3/11/2019	15	No Data	4/11/2019	15	No Data	5/11/2019	15	5
1/11/2019	16	No Data	2/11/2019	16	No Data	3/11/2019	16	No Data	4/11/2019	16	No Data	5/11/2019	16	7.9
1/11/2019	17	No Data	2/11/2019	17	No Data	3/11/2019	17	No Data	4/11/2019	17	No Data	5/11/2019	17	5
1/11/2019	18	No Data	2/11/2019	18	No Data	3/11/2019	18	No Data	4/11/2019	18	No Data	5/11/2019	18	5
1/11/2019	19	No Data	2/11/2019	19	No Data	3/11/2019	19	No Data	4/11/2019	19	No Data	5/11/2019	19	5
1/11/2019	20	No Data	2/11/2019	20	No Data	3/11/2019	20	No Data	4/11/2019	20	No Data	5/11/2019	20	5
1/11/2019	21	No Data	2/11/2019	21	No Data	3/11/2019	21	No Data	4/11/2019	21	No Data	5/11/2019	21	5
1/11/2019	22	No Data	2/11/2019	22	No Data	3/11/2019	22	No Data	4/11/2019	22	No Data	5/11/2019	22	5
1/11/2019	23	No Data	2/11/2019	23	No Data	3/11/2019	23	No Data	4/11/2019	23	No Data	5/11/2019	23	5
<b>Maximum</b>		<b>No Data</b>			<b>No Data</b>			<b>No Data</b>			<b>No Data</b>			<b>49.6</b>

Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average
6/11/2019	0	5	7/11/2019	0	5	8/11/2019	0	35.8	9/11/2019	0	5	10/11/2019	0	6.7
6/11/2019	1	5	7/11/2019	1	5	8/11/2019	1	10.0	9/11/2019	1	7.1	10/11/2019	1	6.3
6/11/2019	2	5	7/11/2019	2	5	8/11/2019	2	5	9/11/2019	2	7.9	10/11/2019	2	5.4
6/11/2019	3	5	7/11/2019	3	5	8/11/2019	3	5	9/11/2019	3	5.4	10/11/2019	3	5
6/11/2019	4	5	7/11/2019	4	5	8/11/2019	4	5	9/11/2019	4	9.6	10/11/2019	4	5
6/11/2019	5	5	7/11/2019	5	5	8/11/2019	5	5	9/11/2019	5	6.3	10/11/2019	5	5
6/11/2019	6	5.4	7/11/2019	6	5	8/11/2019	6	5	9/11/2019	6	5	10/11/2019	6	5.4
6/11/2019	7	5	7/11/2019	7	5	8/11/2019	7	5	9/11/2019	7	5	10/11/2019	7	5
6/11/2019	8	5	7/11/2019	8	5	8/11/2019	8	5	9/11/2019	8	5	10/11/2019	8	5
6/11/2019	9	5	7/11/2019	9	5	8/11/2019	9	5	9/11/2019	9	5	10/11/2019	9	5
6/11/2019	10	5	7/11/2019	10	5	8/11/2019	10	5	9/11/2019	10	5	10/11/2019	10	5
6/11/2019	11	5	7/11/2019	11	5	8/11/2019	11	5.4	9/11/2019	11	5	10/11/2019	11	5
6/11/2019	12	5	7/11/2019	12	5	8/11/2019	12	5.4	9/11/2019	12	5	10/11/2019	12	5
6/11/2019	13	5	7/11/2019	13	5	8/11/2019	13	5	9/11/2019	13	5	10/11/2019	13	5
6/11/2019	14	5	7/11/2019	14	5	8/11/2019	14	5.4	9/11/2019	14	5	10/11/2019	14	5
6/11/2019	15	5	7/11/2019	15	5	8/11/2019	15	5	9/11/2019	15	5	10/11/2019	15	7.9
6/11/2019	16	5	7/11/2019	16	5	8/11/2019	16	5.4	9/11/2019	16	5	10/11/2019	16	5.4
6/11/2019	17	5	7/11/2019	17	5	8/11/2019	17	5.4	9/11/2019	17	5	10/11/2019	17	5.8
6/11/2019	18	5	7/11/2019	18	5	8/11/2019	18	5.8	9/11/2019	18	5	10/11/2019	18	15.8
6/11/2019	19	5.8	7/11/2019	19	5.4	8/11/2019	19	5	9/11/2019	19	5.4	10/11/2019	19	18.8
6/11/2019	20	5	7/11/2019	20	5.4	8/11/2019	20	5.4	9/11/2019	20	7.9	10/11/2019	20	8.3
6/11/2019	21	97.9	7/11/2019	21	5	8/11/2019	21	8.3	9/11/2019	21	6.3	10/11/2019	21	6.7
6/11/2019	22	7.1	7/11/2019	22	5.8	8/11/2019	22	6.3	9/11/2019	22	7.5	10/11/2019	22	5.8
6/11/2019	23	5	7/11/2019	23	50.0	8/11/2019	23	5	9/11/2019	23	10.8	10/11/2019	23	7.1
<b>Maximum</b>		<b>97.9</b>			<b>50.0</b>			<b>35.8</b>			<b>10.8</b>			<b>18.8</b>

Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average
11/11/2019	0	5	12/11/2019	0	5.8	13/11/2019	0	5	14/11/2019	0	7.5	15/11/2019	0	6.3
11/11/2019	1	5.8	12/11/2019	1	5.4	13/11/2019	1	5.8	14/11/2019	1	5.8	15/11/2019	1	8.8
11/11/2019	2	5.4	12/11/2019	2	7.1	13/11/2019	2	260.8	14/11/2019	2	8.3	15/11/2019	2	5.8
11/11/2019	3	6.7	12/11/2019	3	13.3	13/11/2019	3	7.9	14/11/2019	3	7.9	15/11/2019	3	5.8
11/11/2019	4	5	12/11/2019	4	10.8	13/11/2019	4	6.3	14/11/2019	4	5	15/11/2019	4	5.4
11/11/2019	5	5.4	12/11/2019	5	12.5	13/11/2019	5	11.7	14/11/2019	5	7.5	15/11/2019	5	6.7
11/11/2019	6	8.8	12/11/2019	6	10.8	13/11/2019	6	6.7	14/11/2019	6	5.8	15/11/2019	6	5
11/11/2019	7	5	12/11/2019	7	5	13/11/2019	7	5.4	14/11/2019	7	5	15/11/2019	7	5
11/11/2019	8	5	12/11/2019	8	5	13/11/2019	8	5	14/11/2019	8	5	15/11/2019	8	5
11/11/2019	9	5	12/11/2019	9	5	13/11/2019	9	5	14/11/2019	9	5.4	15/11/2019	9	5
11/11/2019	10	5	12/11/2019	10	5	13/11/2019	10	5	14/11/2019	10	5	15/11/2019	10	5
11/11/2019	11	5	12/11/2019	11	5	13/11/2019	11	5	14/11/2019	11	5	15/11/2019	11	5
11/11/2019	12	5	12/11/2019	12	5	13/11/2019	12	5	14/11/2019	12	5	15/11/2019	12	5
11/11/2019	13	5	12/11/2019	13	5	13/11/2019	13	5	14/11/2019	13	5	15/11/2019	13	5
11/11/2019	14	5	12/11/2019	14	5	13/11/2019	14	5	14/11/2019	14	5	15/11/2019	14	5
11/11/2019	15	5	12/11/2019	15	5.4	13/11/2019	15	5	14/11/2019	15	5	15/11/2019	15	5
11/11/2019	16	5	12/11/2019	16	6.3	13/11/2019	16	5	14/11/2019	16	5	15/11/2019	16	5
11/11/2019	17	5	12/11/2019	17	5	13/11/2019	17	5	14/11/2019	17	5.4	15/11/2019	17	5
11/11/2019	18	5.8	12/11/2019	18	5	13/11/2019	18	5	14/11/2019	18	5.8	15/11/2019	18	5.4
11/11/2019	19	43.8	12/11/2019	19	5	13/11/2019	19	5	14/11/2019	19	9.2	15/11/2019	19	6.3
11/11/2019	20	10.0	12/11/2019	20	5	13/11/2019	20	5	14/11/2019	20	29.2	15/11/2019	20	5.4
11/11/2019	21	5	12/11/2019	21	7.5	13/11/2019	21	5	14/11/2019	21	12.5	15/11/2019	21	27.5
11/11/2019	22	5	12/11/2019	22	5.8	13/11/2019	22	21.7	14/11/2019	22	5.4	15/11/2019	22	16.7
11/11/2019	23	7.5	12/11/2019	23	5	13/11/2019	23	11.3	14/11/2019	23	6.7	15/11/2019	23	7.9
<b>Maximum</b>		<b>43.8</b>			<b>13.3</b>			<b>260.8</b>			<b>29.2</b>			<b>27.5</b>



Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average
16/11/2019	0	6.7	17/11/2019	0	5.4	18/11/2019	0	5	19/11/2019	0	5	20/11/2019	0	37.1
16/11/2019	1	5	17/11/2019	1	5.4	18/11/2019	1	5	19/11/2019	1	5.4	20/11/2019	1	184.2
16/11/2019	2	6.7	17/11/2019	2	5	18/11/2019	2	5	19/11/2019	2	5.4	20/11/2019	2	13.8
16/11/2019	3	6.3	17/11/2019	3	5.4	18/11/2019	3	5	19/11/2019	3	5	20/11/2019	3	5
16/11/2019	4	5.8	17/11/2019	4	5	18/11/2019	4	5	19/11/2019	4	5	20/11/2019	4	5
16/11/2019	5	5.8	17/11/2019	5	5	18/11/2019	5	5	19/11/2019	5	5.8	20/11/2019	5	5
16/11/2019	6	5.4	17/11/2019	6	5	18/11/2019	6	6.7	19/11/2019	6	5.8	20/11/2019	6	5
16/11/2019	7	34.6	17/11/2019	7	7.5	18/11/2019	7	5	19/11/2019	7	5	20/11/2019	7	5
16/11/2019	8	72.1	17/11/2019	8	5	18/11/2019	8	5	19/11/2019	8	6.3	20/11/2019	8	5
16/11/2019	9	8.8	17/11/2019	9	8.8	18/11/2019	9	5	19/11/2019	9	5	20/11/2019	9	5
16/11/2019	10	5	17/11/2019	10	5	18/11/2019	10	5	19/11/2019	10	5	20/11/2019	10	5
16/11/2019	11	5	17/11/2019	11	5	18/11/2019	11	5	19/11/2019	11	5	20/11/2019	11	5
16/11/2019	12	5	17/11/2019	12	5	18/11/2019	12	5.4	19/11/2019	12	5	20/11/2019	12	5
16/11/2019	13	5	17/11/2019	13	5	18/11/2019	13	5.4	19/11/2019	13	5	20/11/2019	13	5
16/11/2019	14	5	17/11/2019	14	5	18/11/2019	14	5	19/11/2019	14	5	20/11/2019	14	5
16/11/2019	15	5	17/11/2019	15	175.0	18/11/2019	15	5	19/11/2019	15	5	20/11/2019	15	5
16/11/2019	16	5	17/11/2019	16	32.5	18/11/2019	16	7.1	19/11/2019	16	7.1	20/11/2019	16	7.1
16/11/2019	17	172.1	17/11/2019	17	6.3	18/11/2019	17	5.8	19/11/2019	17	5.4	20/11/2019	17	5
16/11/2019	18	10.8	17/11/2019	18	6.3	18/11/2019	18	5	19/11/2019	18	5	20/11/2019	18	No Data
16/11/2019	19	9.2	17/11/2019	19	5.4	18/11/2019	19	9.6	19/11/2019	19	38.3	20/11/2019	19	No Data
16/11/2019	20	8.8	17/11/2019	20	5	18/11/2019	20	24.6	19/11/2019	20	17.1	20/11/2019	20	No Data
16/11/2019	21	5.8	17/11/2019	21	5	18/11/2019	21	10.8	19/11/2019	21	8.8	20/11/2019	21	No Data
16/11/2019	22	5.4	17/11/2019	22	5	18/11/2019	22	8.3	19/11/2019	22	7.9	20/11/2019	22	No Data
16/11/2019	23	5	17/11/2019	23	5.4	18/11/2019	23	5.4	19/11/2019	23	6.3	20/11/2019	23	No Data
<b>Maximum</b>		<b>172.1</b>			<b>175.0</b>			<b>24.6</b>			<b>38.3</b>			<b>184.2</b>

Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average
21/11/2019	0	No Data	22/11/2019	0	7.1	23/11/2019	0	18.8	24/11/2019	0	5	25/11/2019	0	6.3
21/11/2019	1	No Data	22/11/2019	1	8.3	23/11/2019	1	46.7	24/11/2019	1	5	25/11/2019	1	5.4
21/11/2019	2	No Data	22/11/2019	2	9.2	23/11/2019	2	12.1	24/11/2019	2	5	25/11/2019	2	5
21/11/2019	3	No Data	22/11/2019	3	50.8	23/11/2019	3	9.2	24/11/2019	3	5	25/11/2019	3	7.1
21/11/2019	4	No Data	22/11/2019	4	5	23/11/2019	4	6.7	24/11/2019	4	5	25/11/2019	4	6.3
21/11/2019	5	No Data	22/11/2019	5	5	23/11/2019	5	5	24/11/2019	5	5	25/11/2019	5	12.1
21/11/2019	6	No Data	22/11/2019	6	5	23/11/2019	6	10.4	24/11/2019	6	5	25/11/2019	6	40.0
21/11/2019	7	No Data	22/11/2019	7	5	23/11/2019	7	6.3	24/11/2019	7	5	25/11/2019	7	32.1
21/11/2019	8	No Data	22/11/2019	8	5	23/11/2019	8	5.4	24/11/2019	8	5	25/11/2019	8	43.8
21/11/2019	9	No Data	22/11/2019	9	5	23/11/2019	9	5	24/11/2019	9	5	25/11/2019	9	14.2
21/11/2019	10	No Data	22/11/2019	10	5	23/11/2019	10	5	24/11/2019	10	5	25/11/2019	10	5
21/11/2019	11	No Data	22/11/2019	11	5	23/11/2019	11	5	24/11/2019	11	5	25/11/2019	11	5
21/11/2019	12	No Data	22/11/2019	12	5	23/11/2019	12	5	24/11/2019	12	5	25/11/2019	12	5
21/11/2019	13	No Data	22/11/2019	13	5	23/11/2019	13	5	24/11/2019	13	5	25/11/2019	13	5
21/11/2019	14	No Data	22/11/2019	14	5.4	23/11/2019	14	5	24/11/2019	14	5	25/11/2019	14	5
21/11/2019	15	9.2	22/11/2019	15	5.4	23/11/2019	15	5	24/11/2019	15	5	25/11/2019	15	5
21/11/2019	16	25.0	22/11/2019	16	5.8	23/11/2019	16	6.7	24/11/2019	16	5	25/11/2019	16	5.4
21/11/2019	17	7.9	22/11/2019	17	302.1	23/11/2019	17	5	24/11/2019	17	5	25/11/2019	17	5.4
21/11/2019	18	7.1	22/11/2019	18	72.9	23/11/2019	18	5	24/11/2019	18	5	25/11/2019	18	5
21/11/2019	19	6.7	22/11/2019	19	5	23/11/2019	19	7.9	24/11/2019	19	5	25/11/2019	19	5
21/11/2019	20	6.3	22/11/2019	20	5	23/11/2019	20	5.8	24/11/2019	20	5.4	25/11/2019	20	5.8
21/11/2019	21	77.1	22/11/2019	21	5.8	23/11/2019	21	5	24/11/2019	21	9.6	25/11/2019	21	10.0
21/11/2019	22	45.8	22/11/2019	22	5	23/11/2019	22	6.7	24/11/2019	22	6.7	25/11/2019	22	10.0
21/11/2019	23	10.8	22/11/2019	23	9.6	23/11/2019	23	5	24/11/2019	23	6.7	25/11/2019	23	5.4
<b>Maximum</b>		<b>77.1</b>			<b>302.1</b>			<b>46.7</b>			<b>9.6</b>			<b>43.8</b>

Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average	Date	Hour	H <sub>2</sub> S 1hr Average
26/11/2019	0	5	27/11/2019	0	5	28/11/2019	0	5	29/11/2019	0	5	30/11/2019	0	5
26/11/2019	1	7.9	27/11/2019	1	5	28/11/2019	1	5	29/11/2019	1	5	30/11/2019	1	5
26/11/2019	2	8.8	27/11/2019	2	5	28/11/2019	2	5	29/11/2019	2	5	30/11/2019	2	5
26/11/2019	3	17.9	27/11/2019	3	5	28/11/2019	3	5	29/11/2019	3	5	30/11/2019	3	5
26/11/2019	4	10.8	27/11/2019	4	5	28/11/2019	4	5	29/11/2019	4	5	30/11/2019	4	5
26/11/2019	5	13.3	27/11/2019	5	5	28/11/2019	5	5	29/11/2019	5	5	30/11/2019	5	5
26/11/2019	6	8.3	27/11/2019	6	5	28/11/2019	6	5	29/11/2019	6	5	30/11/2019	6	5
26/11/2019	7	8.3	27/11/2019	7	5	28/11/2019	7	5	29/11/2019	7	5	30/11/2019	7	5
26/11/2019	8	5	27/11/2019	8	5	28/11/2019	8	5	29/11/2019	8	5	30/11/2019	8	5
26/11/2019	9	5	27/11/2019	9	5	28/11/2019	9	5	29/11/2019	9	5	30/11/2019	9	5
26/11/2019	10	5	27/11/2019	10	5	28/11/2019	10	5	29/11/2019	10	5	30/11/2019	10	5
26/11/2019	11	5	27/11/2019	11	5	28/11/2019	11	5	29/11/2019	11	5	30/11/2019	11	5
26/11/2019	12	5	27/11/2019	12	5	28/11/2019	12	5	29/11/2019	12	5	30/11/2019	12	5
26/11/2019	13	No Data	27/11/2019	13	5	28/11/2019	13	5	29/11/2019	13	5	30/11/2019	13	5
26/11/2019	14	No Data	27/11/2019	14	5	28/11/2019	14	5	29/11/2019	14	5	30/11/2019	14	5
26/11/2019	15	No Data	27/11/2019	15	5	28/11/2019	15	5	29/11/2019	15	5	30/11/2019	15	11.3
26/11/2019	16	5	27/11/2019	16	5	28/11/2019	16	5	29/11/2019	16	5	30/11/2019	16	5
26/11/2019	17	5	27/11/2019	17	5	28/11/2019	17	5	29/11/2019	17	5	30/11/2019	17	5
26/11/2019	18	5	27/11/2019	18	5	28/11/2019	18	5	29/11/2019	18	5	30/11/2019	18	5
26/11/2019	19	5	27/11/2019	19	5	28/11/2019	19	5	29/11/2019	19	5	30/11/2019	19	5
26/11/2019	20	5	27/11/2019	20	5	28/11/2019	20	5	29/11/2019	20	5	30/11/2019	20	5
26/11/2019	21	5	27/11/2019	21	5	28/11/2019	21	5	29/11/2019	21	5	30/11/2019	21	5
26/11/2019	22	5	27/11/2019	22	5	28/11/2019	22	5	29/11/2019	22	5	30/11/2019	22	5
26/11/2019	23	5	27/11/2019	23	5	28/11/2019	23	5	29/11/2019	23	5	30/11/2019	23	5
<b>Maximum</b>		<b>17.9</b>			<b>5*</b>			<b>5*</b>			<b>5*</b>			<b>11.3</b>

**Table 6 SO<sub>2</sub> 1hr Data (ppb) – November 2019**

Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average
1/11/2019	0	No Data	2/11/2019	0	No Data	3/11/2019	0	No Data	4/11/2019	0	No Data	5/11/2019	0	No Data
1/11/2019	1	No Data	2/11/2019	1	No Data	3/11/2019	1	No Data	4/11/2019	1	No Data	5/11/2019	1	No Data
1/11/2019	2	No Data	2/11/2019	2	No Data	3/11/2019	2	No Data	4/11/2019	2	No Data	5/11/2019	2	No Data
1/11/2019	3	No Data	2/11/2019	3	No Data	3/11/2019	3	No Data	4/11/2019	3	No Data	5/11/2019	3	No Data
1/11/2019	4	No Data	2/11/2019	4	No Data	3/11/2019	4	No Data	4/11/2019	4	No Data	5/11/2019	4	No Data
1/11/2019	5	No Data	2/11/2019	5	No Data	3/11/2019	5	No Data	4/11/2019	5	No Data	5/11/2019	5	No Data
1/11/2019	6	No Data	2/11/2019	6	No Data	3/11/2019	6	No Data	4/11/2019	6	No Data	5/11/2019	6	No Data
1/11/2019	7	No Data	2/11/2019	7	No Data	3/11/2019	7	No Data	4/11/2019	7	No Data	5/11/2019	7	No Data
1/11/2019	8	No Data	2/11/2019	8	No Data	3/11/2019	8	No Data	4/11/2019	8	No Data	5/11/2019	8	No Data
1/11/2019	9	No Data	2/11/2019	9	No Data	3/11/2019	9	No Data	4/11/2019	9	No Data	5/11/2019	9	No Data
1/11/2019	10	No Data	2/11/2019	10	No Data	3/11/2019	10	No Data	4/11/2019	10	No Data	5/11/2019	10	No Data
1/11/2019	11	No Data	2/11/2019	11	No Data	3/11/2019	11	No Data	4/11/2019	11	No Data	5/11/2019	11	15.8
1/11/2019	12	No Data	2/11/2019	12	No Data	3/11/2019	12	No Data	4/11/2019	12	No Data	5/11/2019	12	5
1/11/2019	13	No Data	2/11/2019	13	No Data	3/11/2019	13	No Data	4/11/2019	13	No Data	5/11/2019	13	5
1/11/2019	14	No Data	2/11/2019	14	No Data	3/11/2019	14	No Data	4/11/2019	14	No Data	5/11/2019	14	6.3
1/11/2019	15	No Data	2/11/2019	15	No Data	3/11/2019	15	No Data	4/11/2019	15	No Data	5/11/2019	15	5
1/11/2019	16	No Data	2/11/2019	16	No Data	3/11/2019	16	No Data	4/11/2019	16	No Data	5/11/2019	16	5.4
1/11/2019	17	No Data	2/11/2019	17	No Data	3/11/2019	17	No Data	4/11/2019	17	No Data	5/11/2019	17	5.4
1/11/2019	18	No Data	2/11/2019	18	No Data	3/11/2019	18	No Data	4/11/2019	18	No Data	5/11/2019	18	6.3
1/11/2019	19	No Data	2/11/2019	19	No Data	3/11/2019	19	No Data	4/11/2019	19	No Data	5/11/2019	19	6.7
1/11/2019	20	No Data	2/11/2019	20	No Data	3/11/2019	20	No Data	4/11/2019	20	No Data	5/11/2019	20	6.3
1/11/2019	21	No Data	2/11/2019	21	No Data	3/11/2019	21	No Data	4/11/2019	21	No Data	5/11/2019	21	5
1/11/2019	22	No Data	2/11/2019	22	No Data	3/11/2019	22	No Data	4/11/2019	22	No Data	5/11/2019	22	5
1/11/2019	23	No Data	2/11/2019	23	No Data	3/11/2019	23	No Data	4/11/2019	23	No Data	5/11/2019	23	5
<b>Maximum</b>		<b>No Data</b>			<b>No Data</b>			<b>No Data</b>			<b>No Data</b>			<b>15.8</b>

Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average
6/11/2019	0	7.1	7/11/2019	0	5	8/11/2019	0	32.5	9/11/2019	0	5	10/11/2019	0	5
6/11/2019	1	5	7/11/2019	1	5	8/11/2019	1	12.5	9/11/2019	1	5	10/11/2019	1	5
6/11/2019	2	5	7/11/2019	2	5	8/11/2019	2	7.1	9/11/2019	2	5	10/11/2019	2	5
6/11/2019	3	5.4	7/11/2019	3	5	8/11/2019	3	5	9/11/2019	3	5	10/11/2019	3	5
6/11/2019	4	5	7/11/2019	4	5	8/11/2019	4	5	9/11/2019	4	5	10/11/2019	4	5
6/11/2019	5	5	7/11/2019	5	5	8/11/2019	5	5	9/11/2019	5	5.8	10/11/2019	5	5
6/11/2019	6	8.3	7/11/2019	6	5	8/11/2019	6	5	9/11/2019	6	5	10/11/2019	6	5
6/11/2019	7	7.1	7/11/2019	7	5	8/11/2019	7	5	9/11/2019	7	5	10/11/2019	7	5
6/11/2019	8	5	7/11/2019	8	5	8/11/2019	8	5	9/11/2019	8	5	10/11/2019	8	5
6/11/2019	9	5	7/11/2019	9	5	8/11/2019	9	5	9/11/2019	9	5	10/11/2019	9	5
6/11/2019	10	5	7/11/2019	10	5	8/11/2019	10	5	9/11/2019	10	5	10/11/2019	10	5
6/11/2019	11	5	7/11/2019	11	5	8/11/2019	11	5	9/11/2019	11	5	10/11/2019	11	5
6/11/2019	12	5	7/11/2019	12	5	8/11/2019	12	5	9/11/2019	12	5	10/11/2019	12	5
6/11/2019	13	5.4	7/11/2019	13	5	8/11/2019	13	5	9/11/2019	13	5	10/11/2019	13	5
6/11/2019	14	5	7/11/2019	14	5	8/11/2019	14	5	9/11/2019	14	5	10/11/2019	14	5
6/11/2019	15	5	7/11/2019	15	5	8/11/2019	15	5	9/11/2019	15	5	10/11/2019	15	5
6/11/2019	16	5	7/11/2019	16	5	8/11/2019	16	5	9/11/2019	16	5	10/11/2019	16	5
6/11/2019	17	5	7/11/2019	17	5	8/11/2019	17	5.4	9/11/2019	17	5	10/11/2019	17	5
6/11/2019	18	5	7/11/2019	18	5.4	8/11/2019	18	6.3	9/11/2019	18	5	10/11/2019	18	7.9
6/11/2019	19	5	7/11/2019	19	5	8/11/2019	19	5.8	9/11/2019	19	5	10/11/2019	19	17.5
6/11/2019	20	5	7/11/2019	20	5	8/11/2019	20	5.4	9/11/2019	20	5	10/11/2019	20	10.8
6/11/2019	21	32.5	7/11/2019	21	5	8/11/2019	21	7.9	9/11/2019	21	5	10/11/2019	21	5
6/11/2019	22	11.7	7/11/2019	22	5.8	8/11/2019	22	5	9/11/2019	22	5	10/11/2019	22	5.4
6/11/2019	23	5.8	7/11/2019	23	16.7	8/11/2019	23	5	9/11/2019	23	5	10/11/2019	23	5
<b>Maximum</b>		<b>32.5</b>			<b>16.7</b>			<b>32.5</b>			<b>5.8</b>			<b>17.5</b>

Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average
11/11/2019	0	5.4	12/11/2019	0	5	13/11/2019	0	5	14/11/2019	0	5	15/11/2019	0	5
11/11/2019	1	5.4	12/11/2019	1	5	13/11/2019	1	5	14/11/2019	1	5	15/11/2019	1	5
11/11/2019	2	6.3	12/11/2019	2	5	13/11/2019	2	113.3	14/11/2019	2	5	15/11/2019	2	5
11/11/2019	3	5	12/11/2019	3	5	13/11/2019	3	35.8	14/11/2019	3	5	15/11/2019	3	5
11/11/2019	4	5.4	12/11/2019	4	5	13/11/2019	4	22.1	14/11/2019	4	5	15/11/2019	4	5
11/11/2019	5	5	12/11/2019	5	5	13/11/2019	5	13.3	14/11/2019	5	5	15/11/2019	5	5
11/11/2019	6	7.9	12/11/2019	6	5.8	13/11/2019	6	14.6	14/11/2019	6	5	15/11/2019	6	5
11/11/2019	7	5.4	12/11/2019	7	5.4	13/11/2019	7	10.4	14/11/2019	7	5	15/11/2019	7	5
11/11/2019	8	5	12/11/2019	8	5	13/11/2019	8	5	14/11/2019	8	5	15/11/2019	8	5
11/11/2019	9	5	12/11/2019	9	5	13/11/2019	9	5	14/11/2019	9	5	15/11/2019	9	5
11/11/2019	10	5	12/11/2019	10	5	13/11/2019	10	5	14/11/2019	10	5	15/11/2019	10	5
11/11/2019	11	5	12/11/2019	11	5	13/11/2019	11	5	14/11/2019	11	5	15/11/2019	11	5
11/11/2019	12	5	12/11/2019	12	5	13/11/2019	12	5	14/11/2019	12	5	15/11/2019	12	5
11/11/2019	13	5	12/11/2019	13	5	13/11/2019	13	5	14/11/2019	13	5	15/11/2019	13	5
11/11/2019	14	5	12/11/2019	14	5.4	13/11/2019	14	5	14/11/2019	14	5	15/11/2019	14	5
11/11/2019	15	5	12/11/2019	15	10.4	13/11/2019	15	5	14/11/2019	15	5	15/11/2019	15	5
11/11/2019	16	5	12/11/2019	16	13.3	13/11/2019	16	5	14/11/2019	16	5	15/11/2019	16	5
11/11/2019	17	5	12/11/2019	17	15.0	13/11/2019	17	5	14/11/2019	17	5	15/11/2019	17	5.4
11/11/2019	18	5	12/11/2019	18	12.1	13/11/2019	18	5	14/11/2019	18	5	15/11/2019	18	5
11/11/2019	19	11.7	12/11/2019	19	5.8	13/11/2019	19	5	14/11/2019	19	5	15/11/2019	19	5
11/11/2019	20	6.3	12/11/2019	20	5	13/11/2019	20	5	14/11/2019	20	14.2	15/11/2019	20	5
11/11/2019	21	5	12/11/2019	21	11.7	13/11/2019	21	5	14/11/2019	21	10.4	15/11/2019	21	9.2
11/11/2019	22	5	12/11/2019	22	11.7	13/11/2019	22	5.8	14/11/2019	22	5.4	15/11/2019	22	11.3
11/11/2019	23	5	12/11/2019	23	5	13/11/2019	23	5	14/11/2019	23	5	15/11/2019	23	5
<b>Maximum</b>		<b>11.7</b>			<b>15.0</b>			<b>113.3</b>			<b>14.2</b>			<b>11.3</b>

Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average
16/11/2019	0	5	17/11/2019	0	8.8	18/11/2019	0	5	19/11/2019	0	5	20/11/2019	0	12.1
16/11/2019	1	5	17/11/2019	1	5.8	18/11/2019	1	5	19/11/2019	1	5	20/11/2019	1	68.3
16/11/2019	2	5	17/11/2019	2	5	18/11/2019	2	5	19/11/2019	2	5	20/11/2019	2	22.1
16/11/2019	3	5	17/11/2019	3	5.4	18/11/2019	3	5	19/11/2019	3	5	20/11/2019	3	6.7
16/11/2019	4	5	17/11/2019	4	6.7	18/11/2019	4	5	19/11/2019	4	5	20/11/2019	4	5
16/11/2019	5	5	17/11/2019	5	5	18/11/2019	5	5	19/11/2019	5	5	20/11/2019	5	5
16/11/2019	6	5	17/11/2019	6	7.5	18/11/2019	6	8.3	19/11/2019	6	5	20/11/2019	6	5
16/11/2019	7	9.6	17/11/2019	7	27.1	18/11/2019	7	6.7	19/11/2019	7	5	20/11/2019	7	5
16/11/2019	8	27.5	17/11/2019	8	10.8	18/11/2019	8	5	19/11/2019	8	5	20/11/2019	8	5
16/11/2019	9	9.2	17/11/2019	9	16.7	18/11/2019	9	5	19/11/2019	9	5	20/11/2019	9	5
16/11/2019	10	5.4	17/11/2019	10	5	18/11/2019	10	5	19/11/2019	10	5	20/11/2019	10	5
16/11/2019	11	5	17/11/2019	11	5	18/11/2019	11	5	19/11/2019	11	5	20/11/2019	11	5
16/11/2019	12	5	17/11/2019	12	5	18/11/2019	12	5	19/11/2019	12	5	20/11/2019	12	5
16/11/2019	13	5	17/11/2019	13	5	18/11/2019	13	5	19/11/2019	13	5	20/11/2019	13	5
16/11/2019	14	5	17/11/2019	14	5	18/11/2019	14	5	19/11/2019	14	5	20/11/2019	14	5
16/11/2019	15	5	17/11/2019	15	26.7	18/11/2019	15	5	19/11/2019	15	7.1	20/11/2019	15	5
16/11/2019	16	5	17/11/2019	16	12.9	18/11/2019	16	5	19/11/2019	16	7.9	20/11/2019	16	5
16/11/2019	17	63.8	17/11/2019	17	5	18/11/2019	17	5	19/11/2019	17	9.2	20/11/2019	17	5
16/11/2019	18	32.5	17/11/2019	18	5.4	18/11/2019	18	5	19/11/2019	18	7.9	20/11/2019	18	No Data
16/11/2019	19	25.0	17/11/2019	19	5.8	18/11/2019	19	5	19/11/2019	19	20.0	20/11/2019	19	No Data
16/11/2019	20	18.3	17/11/2019	20	5	18/11/2019	20	5	19/11/2019	20	17.5	20/11/2019	20	No Data
16/11/2019	21	10.8	17/11/2019	21	5	18/11/2019	21	5	19/11/2019	21	12.5	20/11/2019	21	No Data
16/11/2019	22	8.8	17/11/2019	22	5	18/11/2019	22	5	19/11/2019	22	7.5	20/11/2019	22	No Data
16/11/2019	23	8.8	17/11/2019	23	5	18/11/2019	23	5	19/11/2019	23	7.1	20/11/2019	23	No Data
<b>Maximum</b>		<b>63.8</b>			<b>27.1</b>			<b>8.3</b>			<b>20.0</b>			<b>68.3</b>

Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average
21/11/2019	0	No Data	22/11/2019	0	5.4	23/11/2019	0	15.8	24/11/2019	0	5	25/11/2019	0	5
21/11/2019	1	No Data	22/11/2019	1	5	23/11/2019	1	18.3	24/11/2019	1	5	25/11/2019	1	5
21/11/2019	2	No Data	22/11/2019	2	5	23/11/2019	2	8.8	24/11/2019	2	5	25/11/2019	2	5
21/11/2019	3	No Data	22/11/2019	3	15.8	23/11/2019	3	8.8	24/11/2019	3	5	25/11/2019	3	5.4
21/11/2019	4	No Data	22/11/2019	4	5	23/11/2019	4	5	24/11/2019	4	5	25/11/2019	4	7.1
21/11/2019	5	No Data	22/11/2019	5	5	23/11/2019	5	5	24/11/2019	5	5	25/11/2019	5	14.6
21/11/2019	6	No Data	22/11/2019	6	5	23/11/2019	6	6.3	24/11/2019	6	5	25/11/2019	6	30.8
21/11/2019	7	No Data	22/11/2019	7	5	23/11/2019	7	6.3	24/11/2019	7	5	25/11/2019	7	21.7
21/11/2019	8	No Data	22/11/2019	8	5	23/11/2019	8	5	24/11/2019	8	5	25/11/2019	8	18.3
21/11/2019	9	No Data	22/11/2019	9	5	23/11/2019	9	5	24/11/2019	9	5	25/11/2019	9	7.9
21/11/2019	10	No Data	22/11/2019	10	5	23/11/2019	10	5	24/11/2019	10	5	25/11/2019	10	5
21/11/2019	11	No Data	22/11/2019	11	5	23/11/2019	11	5	24/11/2019	11	5	25/11/2019	11	5
21/11/2019	12	No Data	22/11/2019	12	5	23/11/2019	12	5	24/11/2019	12	5	25/11/2019	12	5
21/11/2019	13	No Data	22/11/2019	13	5	23/11/2019	13	5	24/11/2019	13	5	25/11/2019	13	5
21/11/2019	14	No Data	22/11/2019	14	5.4	23/11/2019	14	5	24/11/2019	14	5	25/11/2019	14	5
21/11/2019	15	5	22/11/2019	15	6.7	23/11/2019	15	5	24/11/2019	15	5	25/11/2019	15	5
21/11/2019	16	5	22/11/2019	16	10.8	23/11/2019	16	5	24/11/2019	16	5	25/11/2019	16	5
21/11/2019	17	5.4	22/11/2019	17	133.8	23/11/2019	17	5	24/11/2019	17	5	25/11/2019	17	5
21/11/2019	18	5	22/11/2019	18	68.3	23/11/2019	18	5	24/11/2019	18	5	25/11/2019	18	5
21/11/2019	19	5	22/11/2019	19	31.7	23/11/2019	19	7.1	24/11/2019	19	5	25/11/2019	19	5
21/11/2019	20	5	22/11/2019	20	10.8	23/11/2019	20	6.3	24/11/2019	20	5	25/11/2019	20	5
21/11/2019	21	20.4	22/11/2019	21	7.5	23/11/2019	21	5.8	24/11/2019	21	6.7	25/11/2019	21	5
21/11/2019	22	17.5	22/11/2019	22	5	23/11/2019	22	5	24/11/2019	22	9.6	25/11/2019	22	5
21/11/2019	23	9.2	22/11/2019	23	7.1	23/11/2019	23	5	24/11/2019	23	5.8	25/11/2019	23	5
<b>Maximum</b>		<b>20.4</b>			<b>133.8</b>			<b>18.3</b>			<b>9.6</b>			<b>30.8</b>



Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average	Date	Hour	SO <sub>2</sub> 1hr Average
26/11/2019	0	5	27/11/2019	0	5	28/11/2019	0	5	29/11/2019	0	9.2	30/11/2019	0	5
26/11/2019	1	5	27/11/2019	1	5	28/11/2019	1	5	29/11/2019	1	6.3	30/11/2019	1	5
26/11/2019	2	5	27/11/2019	2	5	28/11/2019	2	5	29/11/2019	2	5	30/11/2019	2	5
26/11/2019	3	5	27/11/2019	3	5	28/11/2019	3	5	29/11/2019	3	5	30/11/2019	3	5
26/11/2019	4	5	27/11/2019	4	5	28/11/2019	4	5.4	29/11/2019	4	5	30/11/2019	4	5
26/11/2019	5	5	27/11/2019	5	5	28/11/2019	5	5	29/11/2019	5	5	30/11/2019	5	5
26/11/2019	6	6.3	27/11/2019	6	5	28/11/2019	6	5	29/11/2019	6	5	30/11/2019	6	5
26/11/2019	7	5	27/11/2019	7	5	28/11/2019	7	5	29/11/2019	7	5	30/11/2019	7	5
26/11/2019	8	5	27/11/2019	8	5	28/11/2019	8	5	29/11/2019	8	5	30/11/2019	8	5
26/11/2019	9	5	27/11/2019	9	5	28/11/2019	9	5	29/11/2019	9	5	30/11/2019	9	5
26/11/2019	10	5	27/11/2019	10	5	28/11/2019	10	5	29/11/2019	10	5	30/11/2019	10	5
26/11/2019	11	5	27/11/2019	11	5	28/11/2019	11	5	29/11/2019	11	5	30/11/2019	11	5
26/11/2019	12	5	27/11/2019	12	5	28/11/2019	12	5	29/11/2019	12	5	30/11/2019	12	5
26/11/2019	13	No Data	27/11/2019	13	5	28/11/2019	13	5	29/11/2019	13	5	30/11/2019	13	10.4
26/11/2019	14	No Data	27/11/2019	14	5.4	28/11/2019	14	5	29/11/2019	14	5	30/11/2019	14	20.0
26/11/2019	15	No Data	27/11/2019	15	5	28/11/2019	15	5	29/11/2019	15	5	30/11/2019	15	63.3
26/11/2019	16	5	27/11/2019	16	5	28/11/2019	16	5	29/11/2019	16	5	30/11/2019	16	57.5
26/11/2019	17	5	27/11/2019	17	5	28/11/2019	17	5	29/11/2019	17	5	30/11/2019	17	10.8
26/11/2019	18	5	27/11/2019	18	5	28/11/2019	18	33.3	29/11/2019	18	5	30/11/2019	18	16.3
26/11/2019	19	5	27/11/2019	19	5	28/11/2019	19	9.6	29/11/2019	19	5	30/11/2019	19	11.3
26/11/2019	20	5	27/11/2019	20	5	28/11/2019	20	5	29/11/2019	20	5	30/11/2019	20	6.3
26/11/2019	21	5	27/11/2019	21	5	28/11/2019	21	6.3	29/11/2019	21	5	30/11/2019	21	8.8
26/11/2019	22	5	27/11/2019	22	5	28/11/2019	22	11.7	29/11/2019	22	5	30/11/2019	22	11.7
26/11/2019	23	5	27/11/2019	23	5	28/11/2019	23	7.5	29/11/2019	23	5	30/11/2019	23	15.4
<b>Maximum</b>		<b>6.3</b>			<b>5.4</b>			<b>33.3</b>			<b>9.2</b>			<b>63.3</b>

## November 2019

Calms (%): 11.9  
Maximum Wind Speed (m/s): 8.361112  
Prevailing Wind Direction (degree): 135

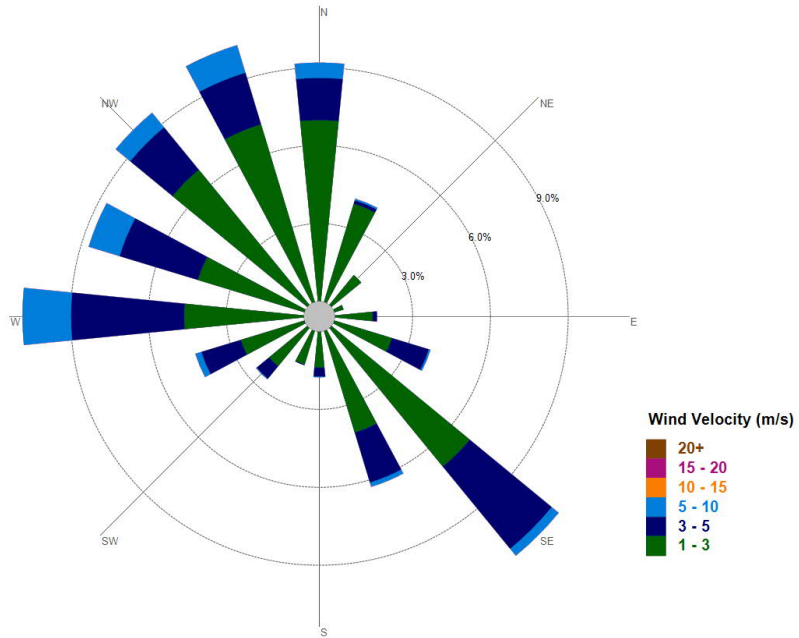


Figure 4 MCC November 2019 Meteorology Data