



13<sup>th</sup> August 2014

Mr Robert O'Hern  
Head – Regional Operations Unit – North West  
Environmental Protection Authority  
PO BOX 494  
ARMIDALE, NSW 2350

Dear Mr O'Hern

### **Submission of Pollution Reduction Program U1 & U2 Reports**

In accordance with Conditions U1 and U2 of Environment Protection Licence 12290, Werris Creek Coal (WCC) has attached a report prepared by Pacific Environment Limited "Werris Creek Coal PRP U1: Monitoring Results – Wheel Generated Dust" dated 29<sup>th</sup> July 2014 and enclosed with this letter "Werris Creek Coal Letter Report on Disturbing and Handling Overburden under Adverse Weather" dated 13<sup>th</sup> August 2014.

Should you have any queries in relation to this matter, please do not hesitate to contact the undersigned on 0267636018 or 0488497701.

Yours sincerely,

**Werris Creek Coal Pty Ltd**

**Andrew Wright**  
Environmental Officer



13<sup>th</sup> August 2014

Mr Robert O'Hern  
Head – Regional Operations Unit – North West  
Environmental Protection Authority  
PO BOX 494  
ARMIDALE, NSW 2350

Dear Mr O'Hern

### Werris Creek Coal Letter Report on Disturbing and Handling Overburden under Adverse Weather

Werris Creek Coal's (WCC) Environment Protection Licence (EPL) 12290 includes the following Condition U2 Particulate Matter Control Best Practice Implementation – Disturbing and Handling Overburden under Adverse Weather Conditions:

- U2.1 The licensee must alter or cease the use of equipment on overburden and the loading and dumping of overburden during adverse weather conditions to minimise the generation of particulate matter from 22 March 2013.
- U2.2 To assess compliance with Condition U2.1, the Licensee must:
  - undertake daily visual dust level assessments, continuously record real-time PM<sub>10</sub> levels and continuously measure and record real-time meteorological conditions; and
  - record changes to mining activities due to adverse weather conditions.
- U2.3 The Licensee must submit a report to the EPA which documents the results of the actions taken in accordance with Condition U2.1. The report must include an assessment of the effectiveness of changes made to mining activities due to adverse weather and document meteorological conditions and the resultant dust levels. The report must be submitted by the Licensee to the Environment Protection Authority Regional Manager Armidale, at PO Box 494, ARMIDALE by 15 August 2014.
- U2.4 The report required by Condition U2.3 must be made publicly available by the Licensee on the Licensee's website by (two weeks from submission date in 2.3 above).

The following letter report has been prepared to satisfy the EPL 12290 Condition U2 by reporting the results completed by WCC.

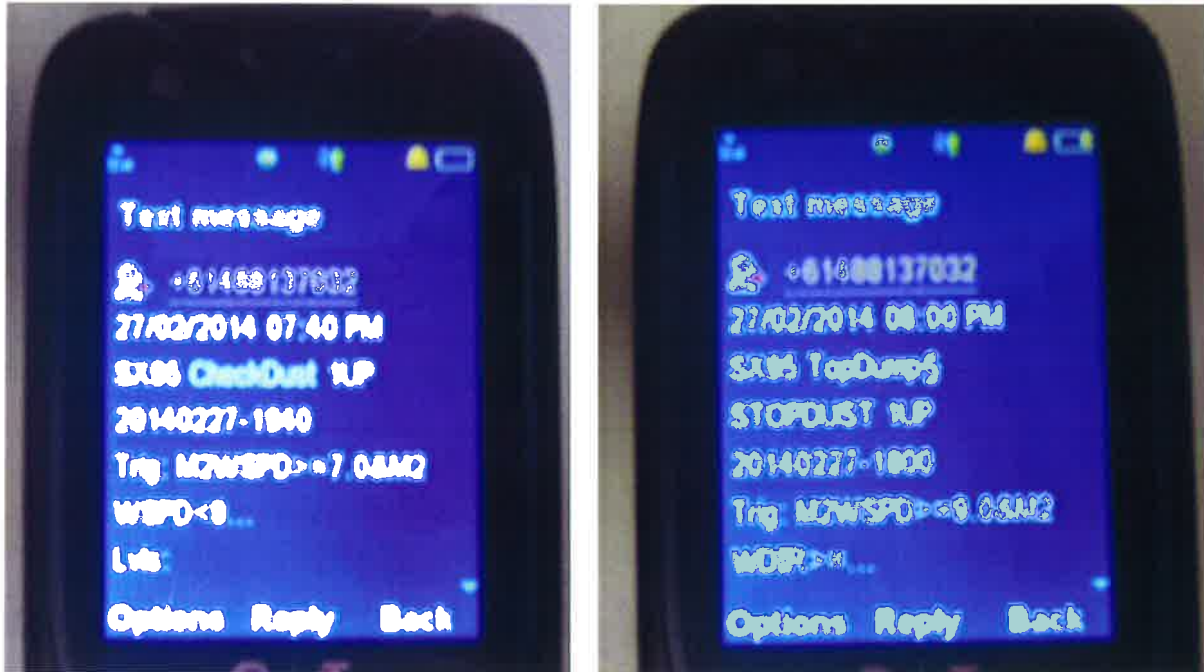
#### 1 INTRODUCTION

WCC engaged Pacific Environment Limited to prepare a report "Werris Creek PRP – Identification of Adverse Weather Conditions for Overburden Handling" dated 5<sup>th</sup> February 2014 (**Appendix A**). The report identified the wind conditions that would generate excessive dust at the mine boundary from five mining locations representing eastern and western in pit, eastern and western out of pit dump and RL445m (top) out of pit dump.

Using this information for quantifying adverse weather, WCC developed the following trigger action response plan (TARP) for overburden handling during mining operations.

Location	Wind Speed >7m/s	Wind Speed >9m/s			
		East	West	North	South
RL445m Dump	Check for Dust	STOP	STOP	STOP	STOP
Out of Pit (East)		Check	STOP	STOP	STOP
Out of Pit (West)		STOP	Check	STOP	Check
In Pit (East or West)	Check for Dust				

The various wind direction and wind speed triggers were integrated with the real time data as measured by onsite meteorological weather station (EPL ID#9). When trigger levels are recorded for six consecutive 5 minute periods, the "SentinelX" system sends SMS alerts to the Open Cut Examiner, Production Superintendent and Environmental Officer advising to "Check for Dust" or "STOP DUST" depending on the mining location and the prevailing wind conditions (images of SMS alerts below). Site management were trained on the new adverse weather TARPs on the 27<sup>th</sup> February 2014 and adverse weather management was incorporated into the Air Quality and Greenhouse Gas Management Plan approved 29<sup>th</sup> April 2014.



**SMS Alerts trigger by wind conditions – Left image for "Check Dust" and Right image for "STOP DUST"**

## 2 RESULTS

From 1<sup>st</sup> January 2014 to 31<sup>st</sup> July 2014, WCC documented daily visual dust level assessments, SMS alerts triggered (based on real time PM<sub>10</sub> levels and/or meteorological conditions continuous monitored at EPL ID#30 and #9 respectively – **Figure 1**) and if any changes to mining activities were undertaken in a spreadsheet titled "WCC Dust Inspections and Delays 2014" (**Appendix B**).

The below table summarises the information from **Appendix B** for the eleven occasions that the adverse weather alerts were triggered requiring actions to be taken to manage overburden dust ("STOP DUST" condition). The wind speed and direction listed in the table below was the average for the 30 minutes prior to the time of the alert. The PM<sub>10</sub> dust levels listed in the table below were calculated based on the 1 hour average prior to and the hour average PM<sub>10</sub> after the time of the alert.

Date	Time	Production Actions Taken to Adverse Weather Alert	Wind		Particulate Matter <10µm (PM <sub>10</sub> - µg/m <sup>3</sup> )	
			Direction °	Speed m/s	PrePM <sub>10</sub>	PostPM <sub>10</sub>
27/02/14	6pm	Production suspended one Excavator + Truck fleet and Drill for 30 minutes.	160	9.0	23.9	24.8
16/03/14	12:35pm	Production operating in pit due to rain.	305	11.5	17.8	18.2
16/03/14	4:15pm	End of Shift no mining operations.	287	11.2	19.2	19.3
03/05/14	11:20am	Production operating in pit due to rain.	305	9.7	17.1	17.2
03/05/14	12:50pm	Production not operating due to rain.	298	9.5	17.4	18.0
03/05/14	5:25pm	Production operating in pit due to rain.	291	10.0	18.2	18.0



Date	Time	Production Actions Taken to Adverse Weather Alert	Wind		Particulate Matter <10µm (PM <sub>10</sub> - µg/m <sup>3</sup> )	
			Direction °	Speed m/s	PrePM <sub>10</sub>	PostPM <sub>10</sub>
27/05/14	3:00pm	Open cut stop dumping on RL445 and dumped in pit. Production shift change at 4pm included a 30 minute delay for adverse conditions and then recommenced dumping in pit.	341	9.8	16.6	17.0
24/06/14	3:55pm	Production shift change at 4pm included a 30 minute delay for adverse conditions and then recommenced dumping in pit.	297	9.8	14.9	15.2
28/06/14	5:35am	End of Shift no mining operations.	354	9.5	14.9	15.8
28/06/14	9:00am	Production operating in pit from the start of shift.	352	11.4	14.9	14.5
9/07/14	4:30pm	Production shift change at 4pm included a 30 minute delay for adverse conditions and then recommenced dumping in pit.	320	10.4	13.1	12.4

It should be noted that the WCC to Werris Creek town source to receiver direction for dust emissions is between 182° and 204° and that none of the adverse weather triggers during the period were in that direction range.

### 3 ASSESSMENT OF EFFECTIVENESS AND CONCLUSION

A review of the pre and post (resultant) dust levels to an adverse weather alert did not identify any air quality impacts in Werris Creek town prior to or after any actions were undertaken by WCC as all measured PM<sub>10</sub> levels were below 25µg/m<sup>3</sup>. The reasons that this occurred were:

- On 16<sup>th</sup> March and 3<sup>rd</sup> May 2014 the adverse wind also coincided with rain;
- On 16<sup>th</sup> March and 28<sup>th</sup> June 2014 the adverse wind trigger was outside operating hours; and
- As mentioned in Section 2; the wind direction during adverse weather conditions was not blowing towards Werris Creek town.

While there were no observable changes in the resultant dust levels due to modified WCC mining operations in Werris Creek town, the dust modelling undertaken to develop the adverse weather TARP (**Appendix A**) indicates that on the occasions that operations were modified on the 27<sup>th</sup> February, 27<sup>th</sup> May, 24<sup>th</sup> and 28<sup>th</sup> June and 9<sup>th</sup> July 2014 that the production delay or change to in pit dumping would have reduced dust emissions if measured at the mine boundary.

The Annual Environmental Management Report 2013-2014 noted that for all wind speeds that there was only a maximum difference of 2.5µg/m<sup>3</sup> measured in Werris Creek town between April 2013 and March 2014 for wind directions towards Werris Creek compared to all other wind directions. Another reason that there were no observable changes in the resultant dust levels may be because there is negligible dust impact in Werris Creek town from WCC mining operations.

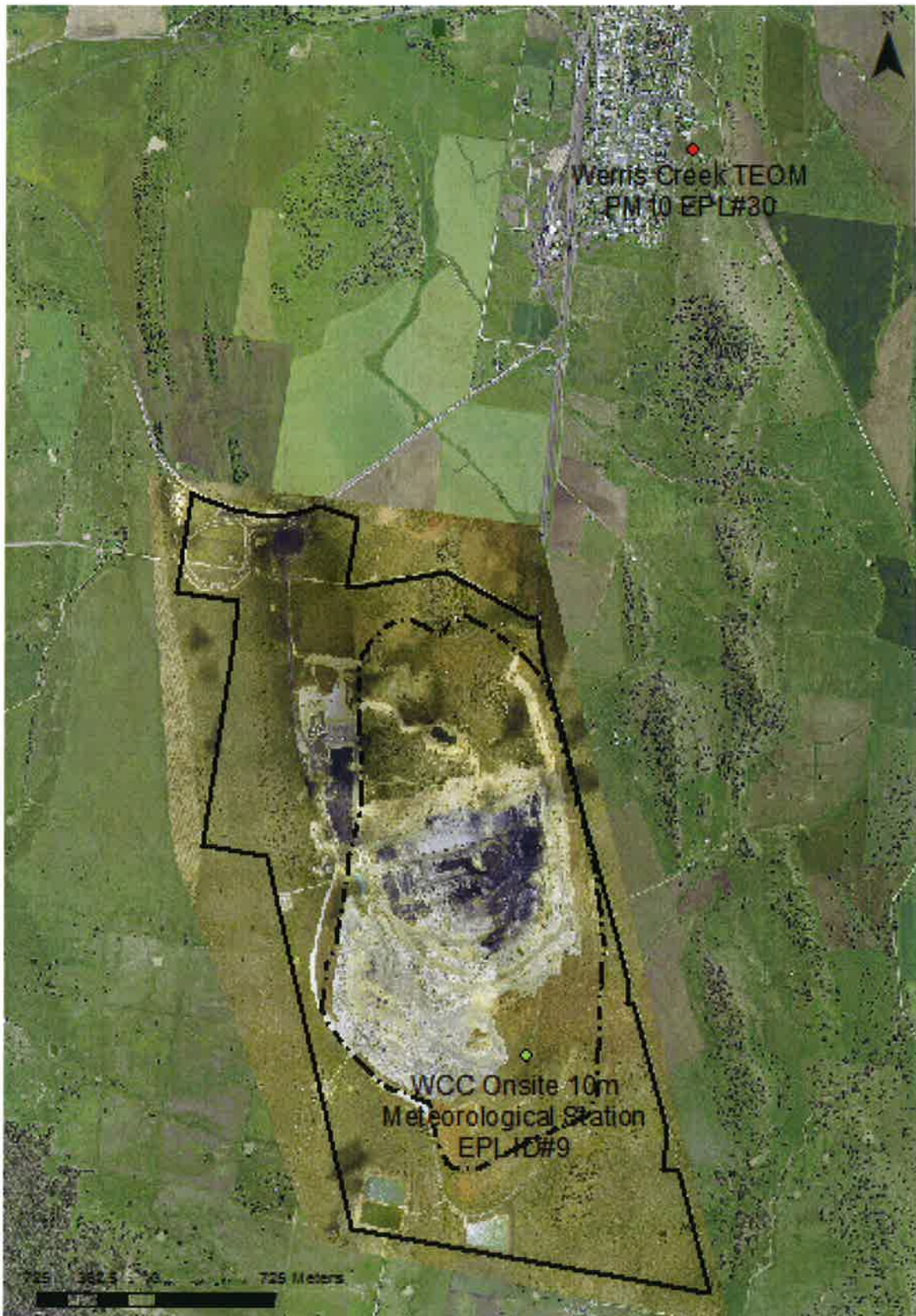
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Yours sincerely,

**Werris Creek Coal Pty Ltd**

**Andrew Wright**  
Environmental Officer





**Figure 1 – Location of WCC relative to Werris Creek town and the meteorological station and TEOM**