

GLENCORE

BAAL BONE COLLIERY

April to June 2015
Environmental Monitoring Summary

1. Introduction

In accordance with Schedule 5, Condition 9 of Project Approval 09_0178 this report provides a summary of environmental monitoring results for Baal Bone Colliery, for the period **1 April 2015 to 31 June 2015**. Baal Bone's licensed discharge and monitoring locations are identified in **Drawing 1**.

2. Air quality

Monthly dust monitoring is carried out in accordance with Australian Standard AS3580.10.1, EPL requirements and Baal Bone's Air Quality Monitoring Program.

Monitoring is undertaken by the ALS Group Environmental Division, a NATA Accredited laboratory.

Baal Bone maintains a network of dust deposition gauges:

- Sample location DM1 (EPL monitoring point No. 7);
- Sample location DM2 (EPL monitoring point No. 13);
- Sample location DM3 (EPL monitoring point No. 14);
- Sample location DM4 (EPL monitoring point No. 15).

Locations of the dust deposition gauges are shown in Drawing 1.

Schedule 3, Condition 10 of Project Approval 09_0178 includes air quality impact assessment criteria for the project (summarised in Table 1). The pollutants to be monitored include deposited dust, TSP and PM10.

Table 1: Baal Bone Air Quality Impact Assessment Criteria

Pollutant	Averaging period	Criterion	
Deposited dust	Annual	Maximum increase	Maximum total
		2 g/m ² /month	4 g/m ² /month
TSP	Annual	90 µg/m ³	
PM ¹⁰	24 hour	50 µg/m ³	
	Annual	30 µg/m ³	

The monthly results for each of the monitoring locations are summarised in Table 2. Figures 1 to 4 provide monthly results for each site.

Table 2: Deposited dust monitoring results for 2015 (g/m²/month)

Month	DM1	DM2	DM3	DM4
January	0.3	0.6	0.5	0.6
February	0.7	0.4	0.7	0.6
March	0.6	0.5	0.5	0.5
April	1.2	0.1	0.3	0.2
May	1.9	0.4	0.5	0.4
June	0.2	1.3	0.2	0.2
July				
August				
September				
October				
November				
December				

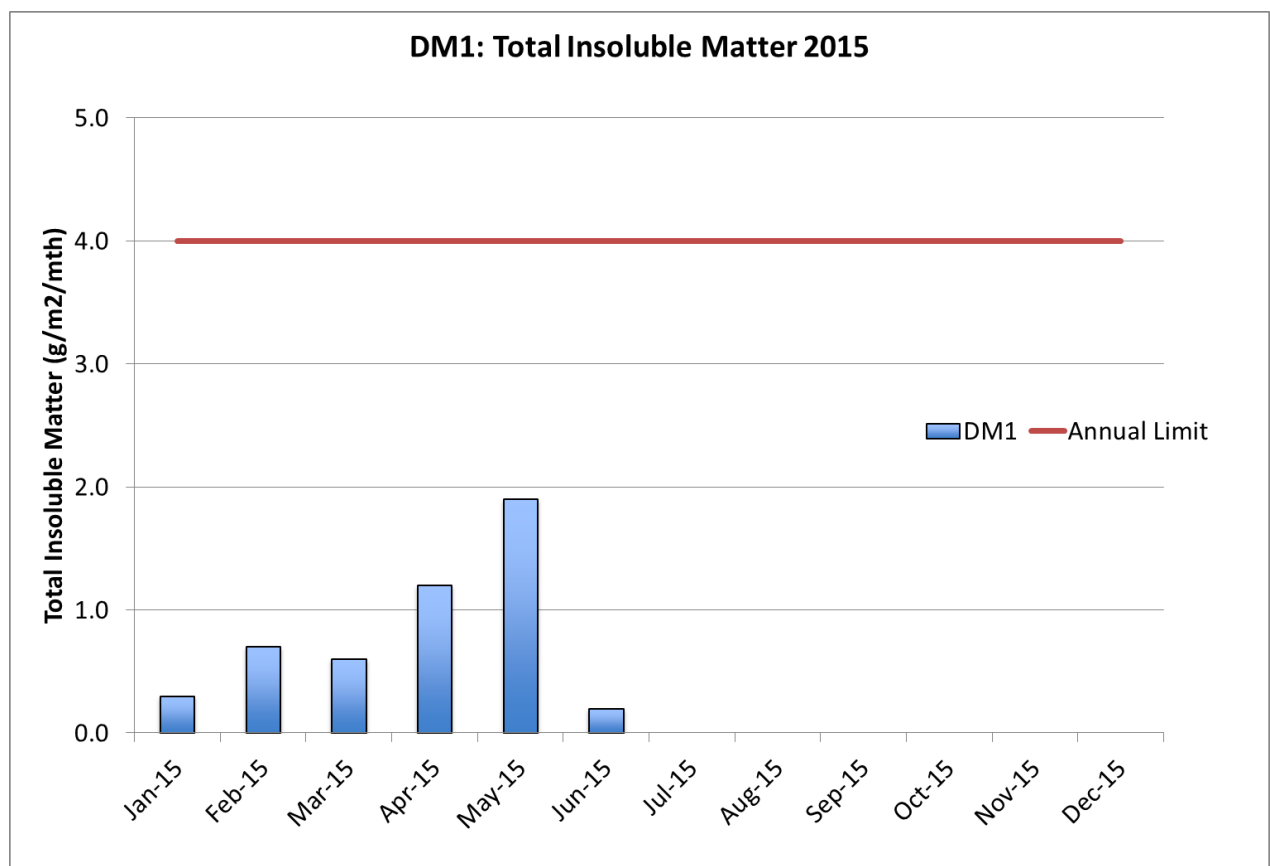


Figure 1: Dust monitoring gauge DM1 (EPL monitoring point No. 7)

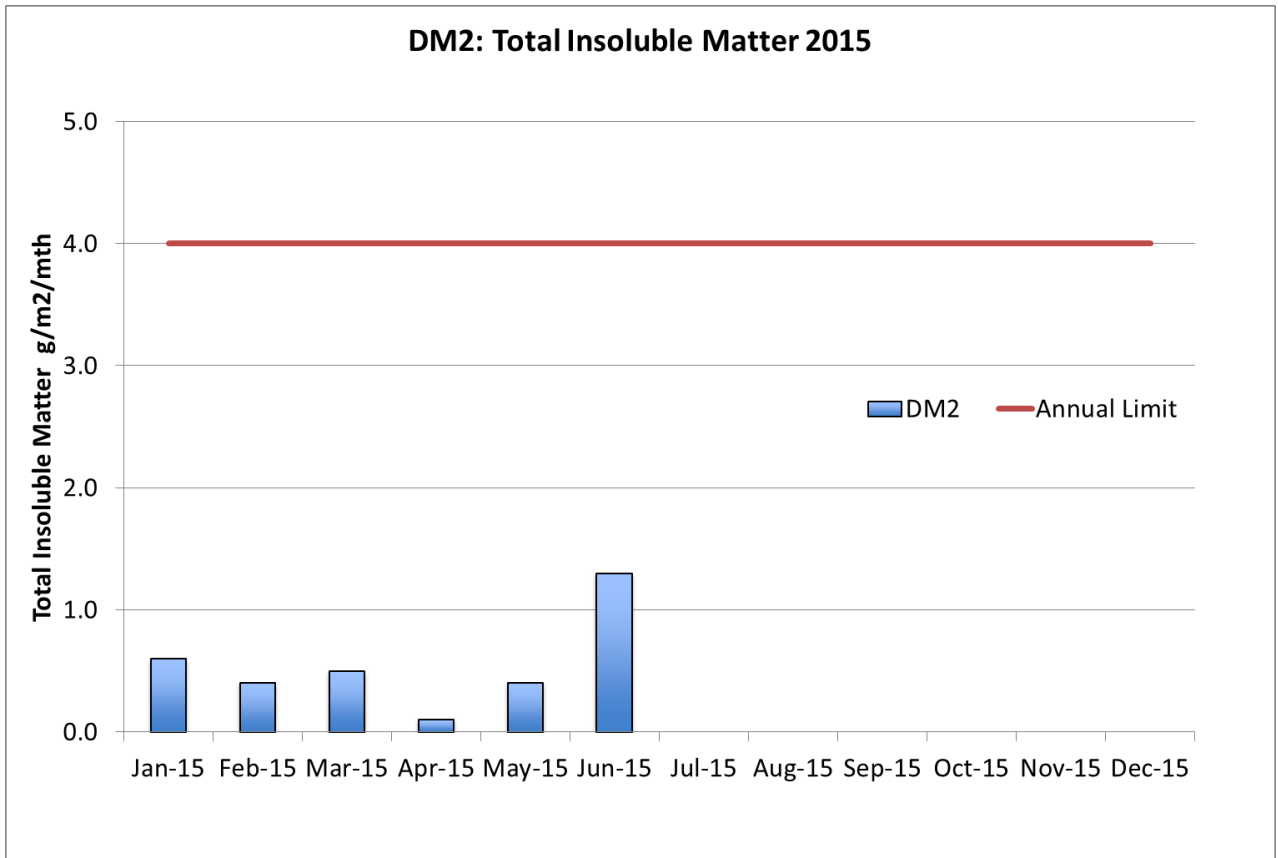


Figure 2: Dust monitoring gauge DM2 (EPL monitoring point No. 13)

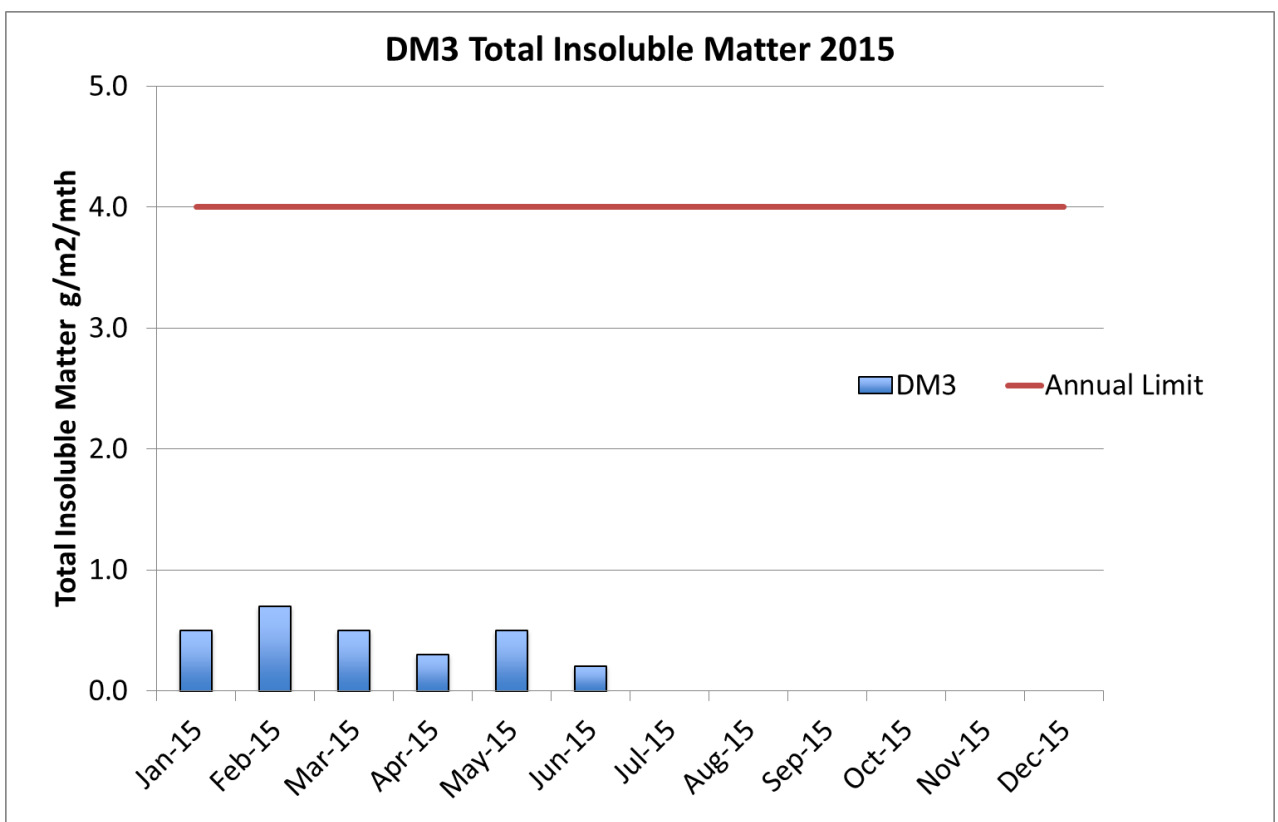


Figure 3: Dust monitoring gauge DM3 (EPL monitoring point No. 14)

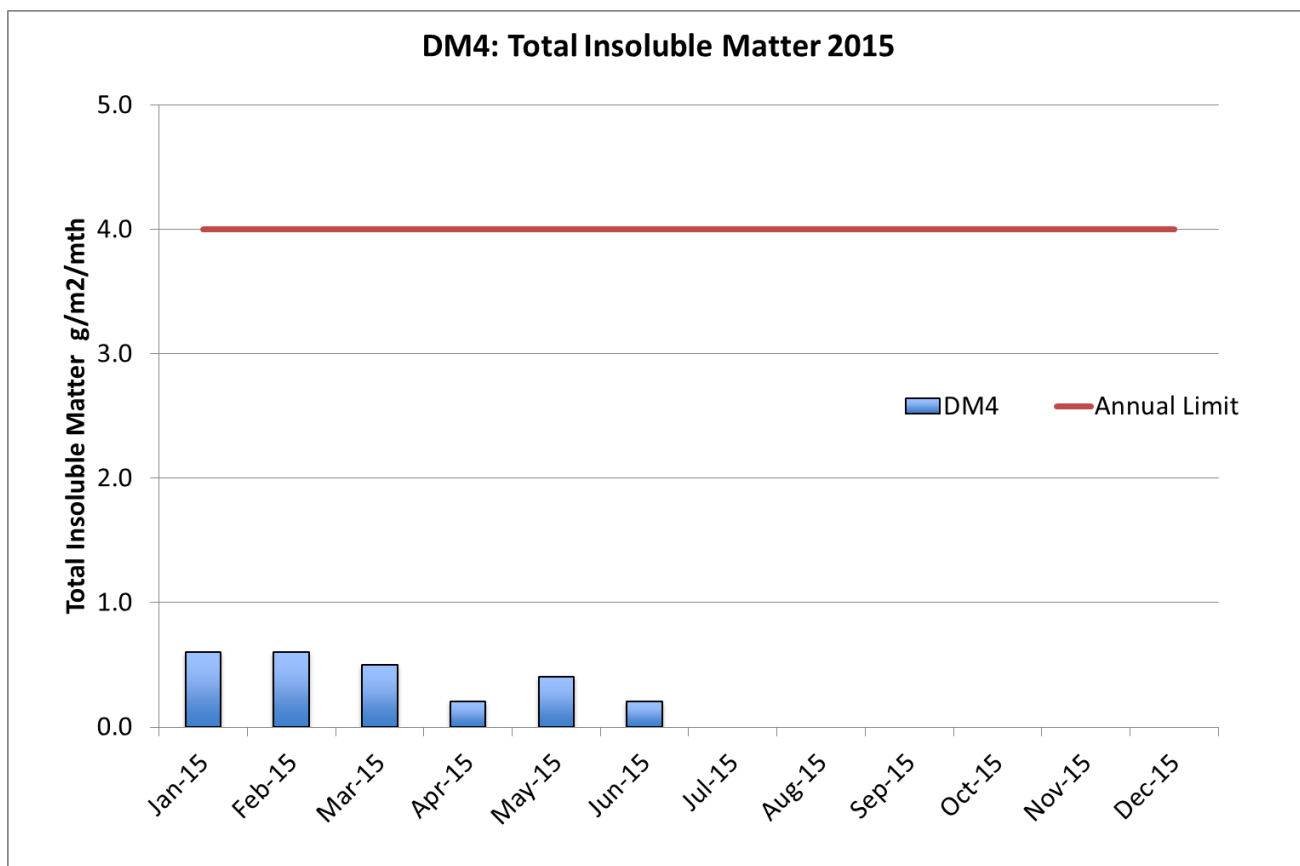


Figure 4: Dust monitoring gauge DM4 (EPL monitoring point No. 15)

3. Surface Water

Condition L2 of EPL 765 outlines water concentration limits for oil and grease, pH, total suspended solids and total iron. These limits are presented below in Table 3.

Table 3: EPL 765 concentration limits

	LD2	LDP1	WMP1
Oil and grease (mg/L)	-	10	-
pH	-	6.5-8.5	-
Total Suspended Solids (mg/L)	-	50	-
Total Iron (mg/L)	-	1.0	-

The monthly results for each of the monitoring locations are summarised in Table 4. Figures 5 to 8 provide monthly results for each pollutant.

Table 4: EPL Water quality results for the Quarter 2 2015

EPL Point	Month	EC uS/cm	O&G mg/L	SO ²⁻ ₄ mg/L	Fe mg/L	TSS mg/L	pH	BOD mg/L	Faecal Coliforms cos/100mls	N mg/L	P mg/L
LD2 ^a	April										
	May										
	June										
LDP1	April	1180	<1	313	0.18	2	8.1				
	May	1150	<1	292	0.07	1	8.1				
	June	1180	<1	278	0.18	1	8.0				
WMP1 ^b	April										
	May										
	June										

Notes

(a) No samples taken at LD2 during period as sample location was dry

(b) No samples taken at WMP1 during period as sample location was dry

Legend

BOD = Biological oxygen demand

O & G = Oil and Grease

EC = Electrical conductivity

P = Phosphorus

Fe = Iron

SO²⁻ = Sulfate₄

N = Nitrogen

TSS = Total suspended solids

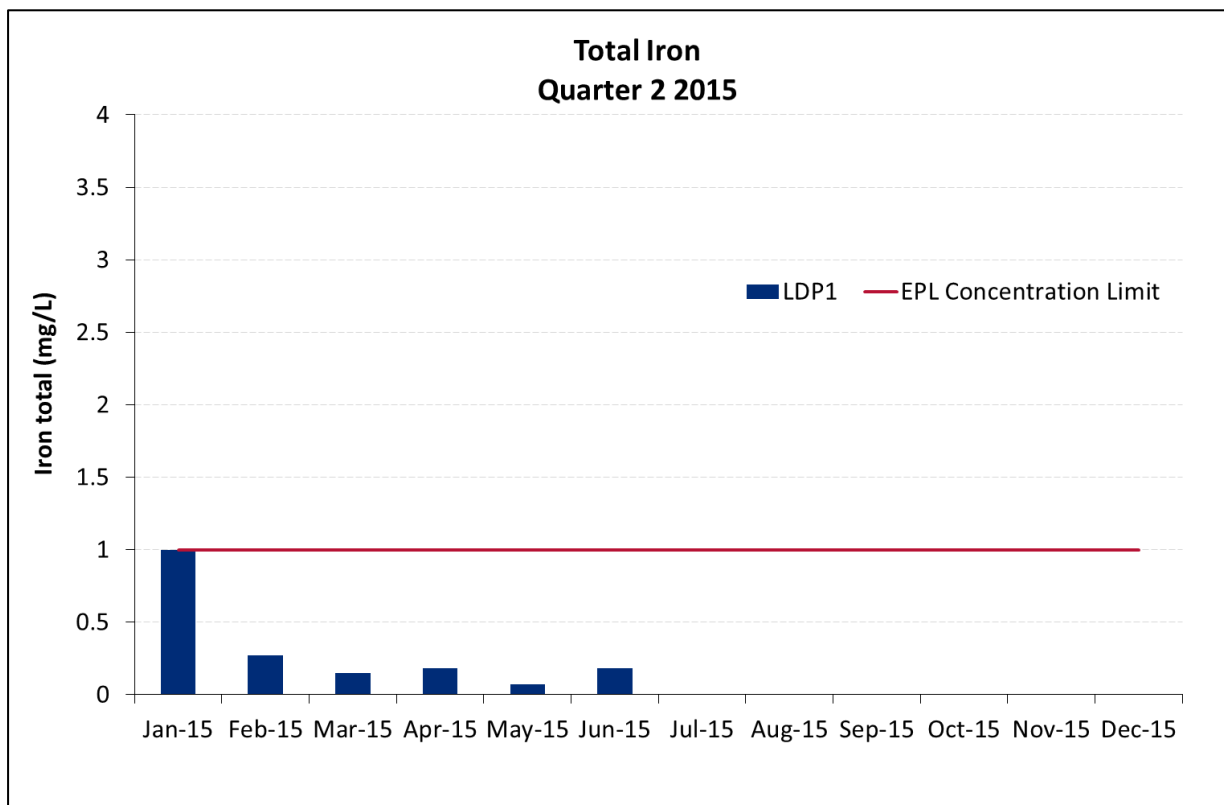


Figure 5: Total iron levels

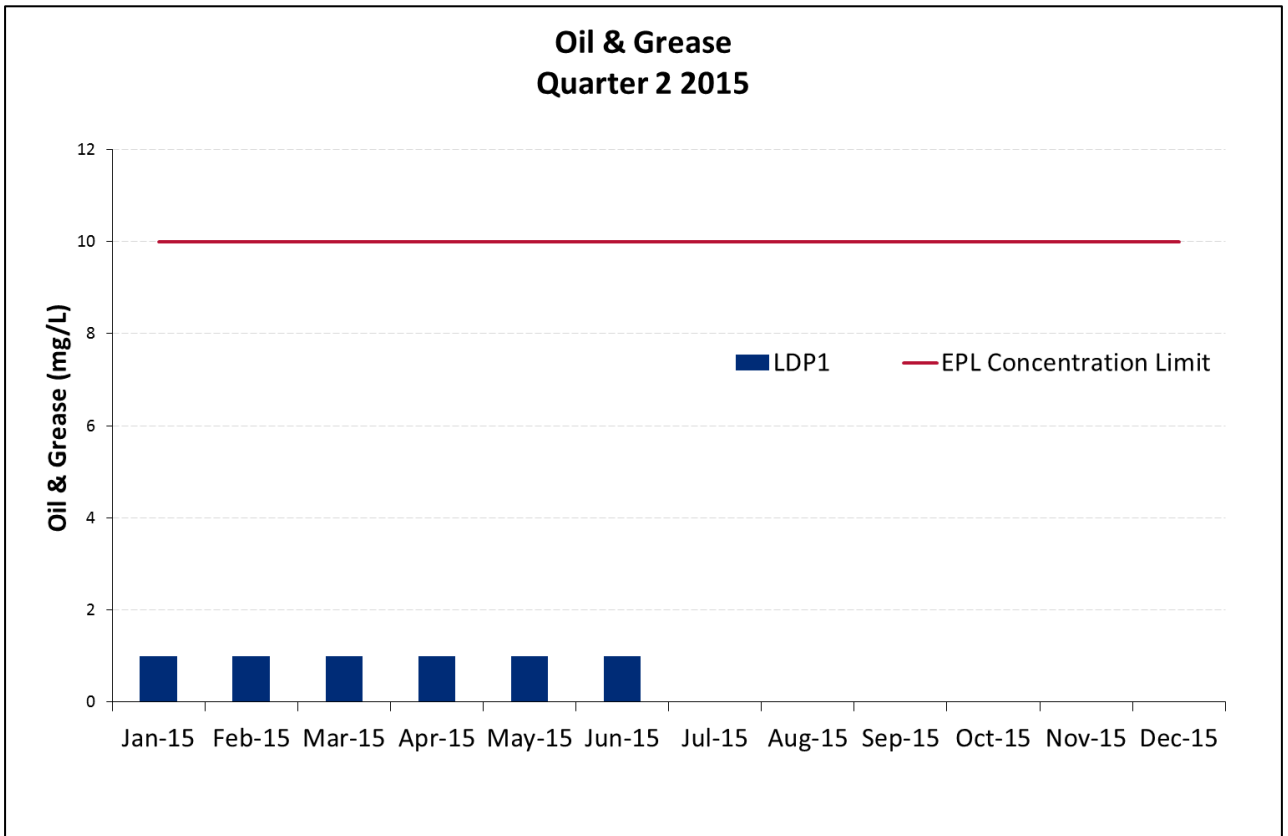


Figure 6: Oil and grease levels

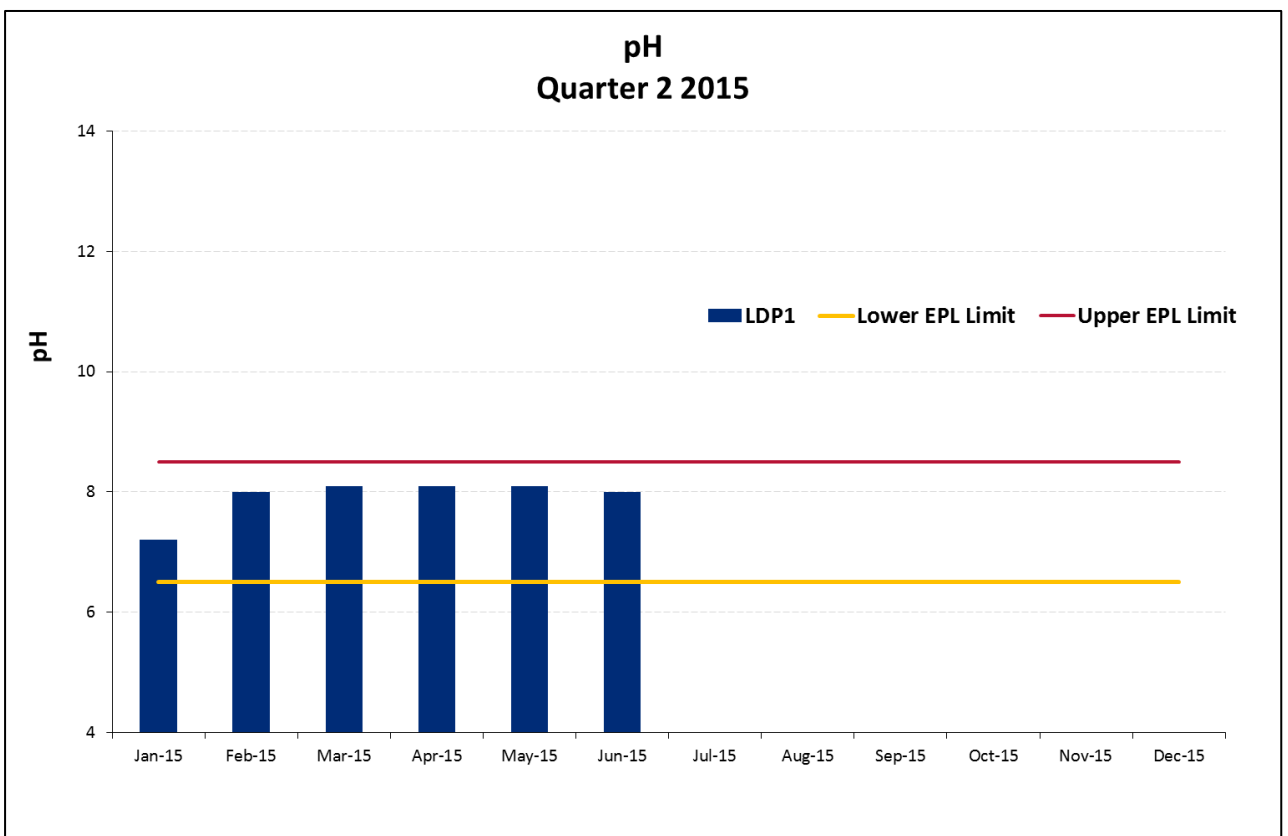


Figure 7: pH levels

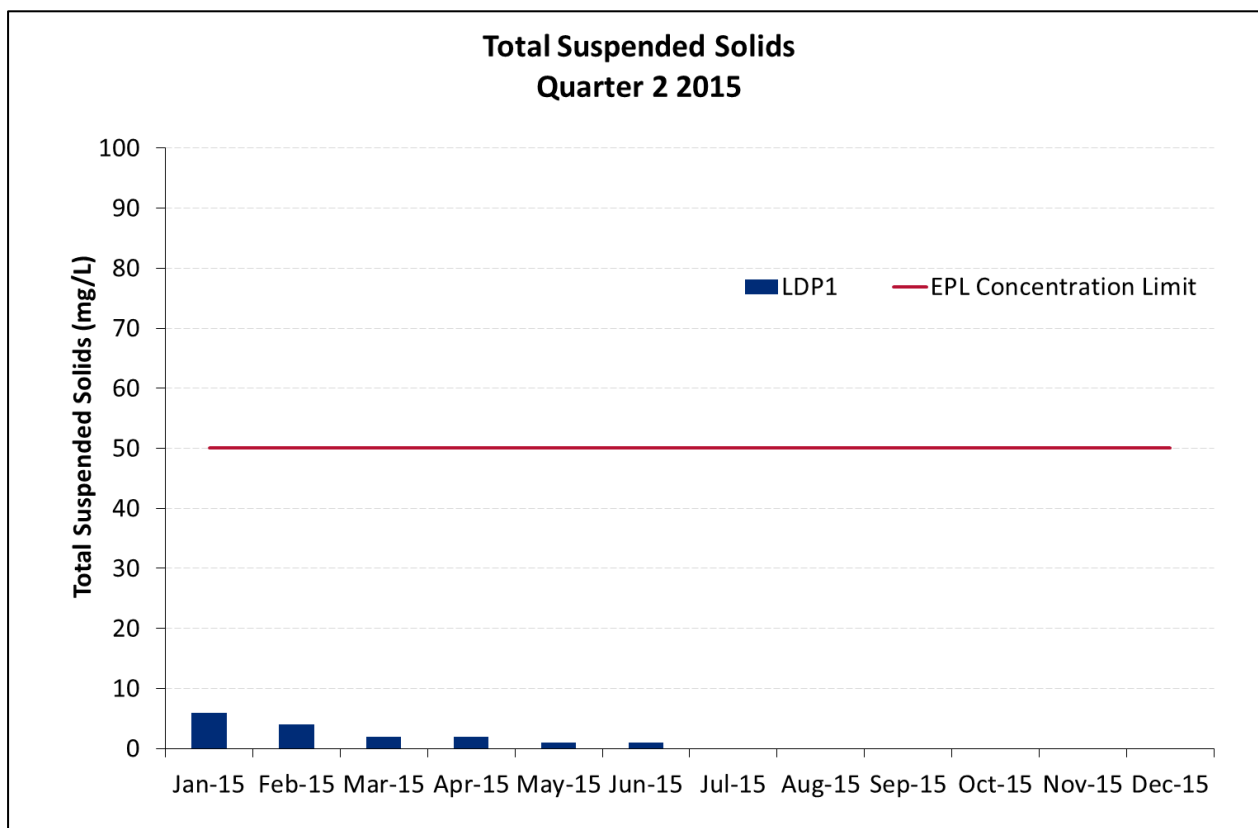


Figure 8: Total suspended solids levels

Monthly EPL reporting can be accessed at:

www.glencorecoal.com.au.webauth/EN/Operations/Baalbone/Pages/EPLreportingBaalBone

4. Noise

Noise Impact Assessment Criteria

Schedule 3, Condition 4 of Project Approval 09_0178 includes long term noise impact assessment criteria. Table 5.1 outlines the assessment criteria.

Table 4: Long term noise impact assessment criteria

Location	All periods dB(a) $L_{Aeq}(15 \text{ min})$	Night dB(a) $L_{A1}(1 \text{ min})$
R1	46	47
R2	41	48
R3	41	48
All other privately-owned land	35	45

No noise audits were carried out during the reporting period.

Previous noise audit reports can be accessed from the Baal Bone publications page at:

www.glencorecoal.com.au.webauth/EN/Operations/Baalbone/Pages/EPLreportingBaalBone

Drawing 1: Baal Bone Monitoring Points

