

BAAL BONE UNDERGROUND

GLENCORE

Q4 2023 Monitoring Summary October to December 2023



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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 October 2023 to 31 December 2023**. Baal Bone's licensed discharge and monitoring locations are identified in **Figure 7**.

2. Air quality

On 10 August 2022, EPL 765 was amended to remove dust and weather monitoring points and conditions. On 19 October 2022 Baal Bone Colliery received approval from DPIE for "the cessation of the attended noise monitoring and depositional dust and meteorological monitoring at the EPL Monitoring Points No. 7, 13, 14 and 15". Dust samples collected in October 2022 are the final dust results.

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 1**.

Table 1: EPL 765 concentration limits

	EPL Monitoring Point 16 (LDP1) and EPL Monitoring Point 17 (LDP17)
Oil and grease (mg/L)	10
pH	6.5-8.5
Total Suspended Solids (mg/L)	50
Dissolved Iron (mg/L)	1.0

Notes:

- On 22/06/21 the EPA issued a Notice of Variation of Licence No. 765 which removed the requirement to conduct water sampling at LD2. As a part of mine closure works at Baal Bone Colliery, the sewerage treatment plant has been removed from the site, and the transpiration bed area reshaped and rehabilitated. As such the EPA removed EPA Identification Point 2 from the licence along with all associated monitoring requirements for that point.
- On 5/10/2022 EPL 765 was varied to add LDP17 and associated monitoring and limit conditions. October 2022 was the first monthly sample.

The monthly results for each of the monitoring locations are summarised in **Table 4**. Results highlighted in **red** are outside of EPL concentration limits. **Figure 3** to **Figure 6** provide monthly results for each pollutant.

Table 2: EPL Water quality results for 2023

EPL Point	Month	EC uS/cm	O&G mg/L	SO ²⁻ ₄ mg/L	Fe mg/L	TSS mg/L	pH -
EPL Point 16 (LDP1)	Jan	1602	<5	453	<0.05	<5	7.3
	Feb	1606	<5	469	0.24	<5	6.6
	Mar	1290	<5	469	0.26	<5	7
	Apr	1361	<5	483	0.16	<5	6.7
	May	1336	<5	453	<0.05	<5	7.3
	Jun	1558	<5	368	0.16	<5	7
	Jul	1413	<5	424	<0.05	9	7.2
	Aug	1664	<5	458	0.12	<5	7
	Sep	1787	<5	473	<0.05	<5	7.2
	Oct	1958	<5	465	0.12	<5	7.2
	Nov	1659	<5	551	0.14	6	6.9
	Dec	1332	<5	506	0.18	<5	6.6
EPL Point 17 (LDP17)	Jan	No discharge at LDP17 from January to December 2023.					
	Feb						
	Mar						
	Apr						
	May						
	Jun						
	Jul						
	Aug						
	Sep						
	Oct						
	Nov						
	Dec						

Legend

BOD = Biological oxygen demand
 EC = Electrical conductivity
 Fe = Iron (dissolved iron)

N = Nitrogen
 O & G = Oil and Grease
 P = Phosphorus

SO₂- = Sulfate₄
 TSS = Total suspended solids

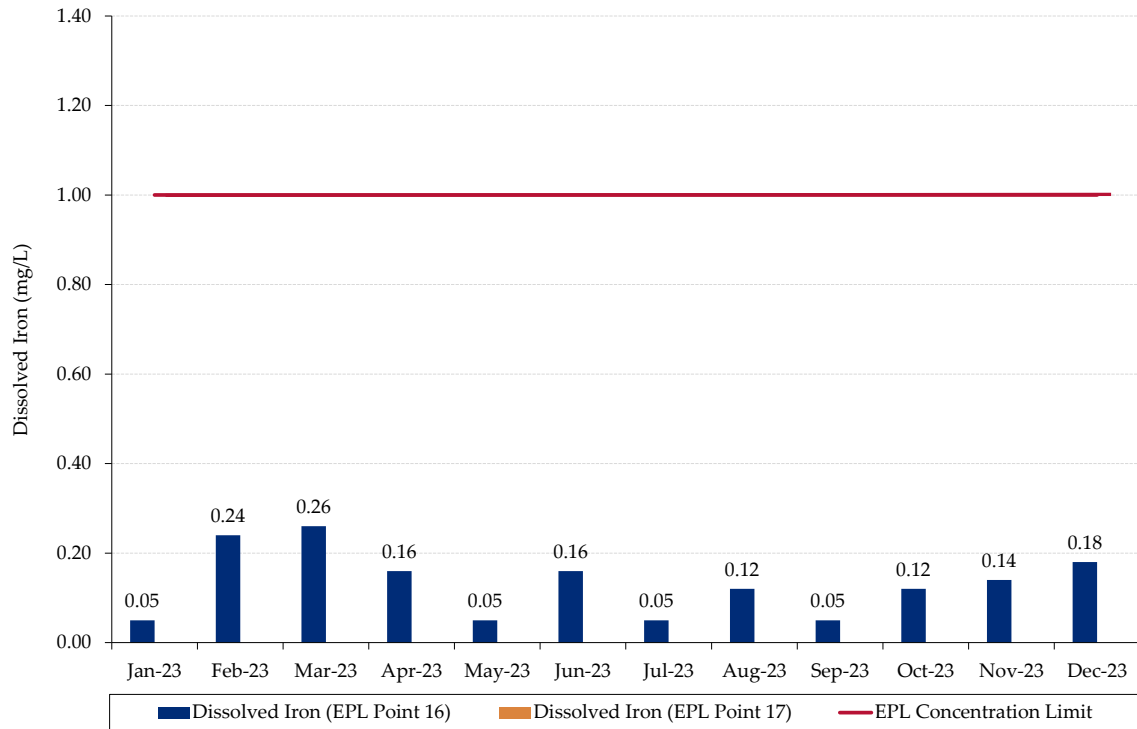


Figure 1: Monthly Dissolved Iron

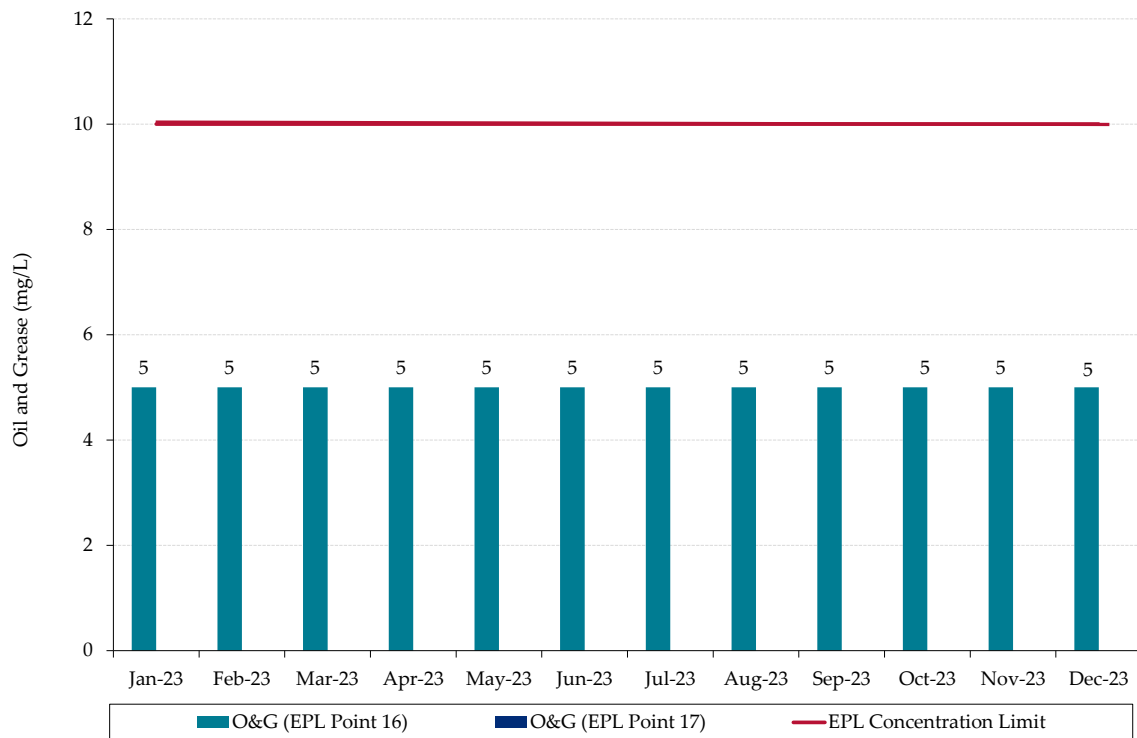


Figure 2: Monthly Oil and Grease

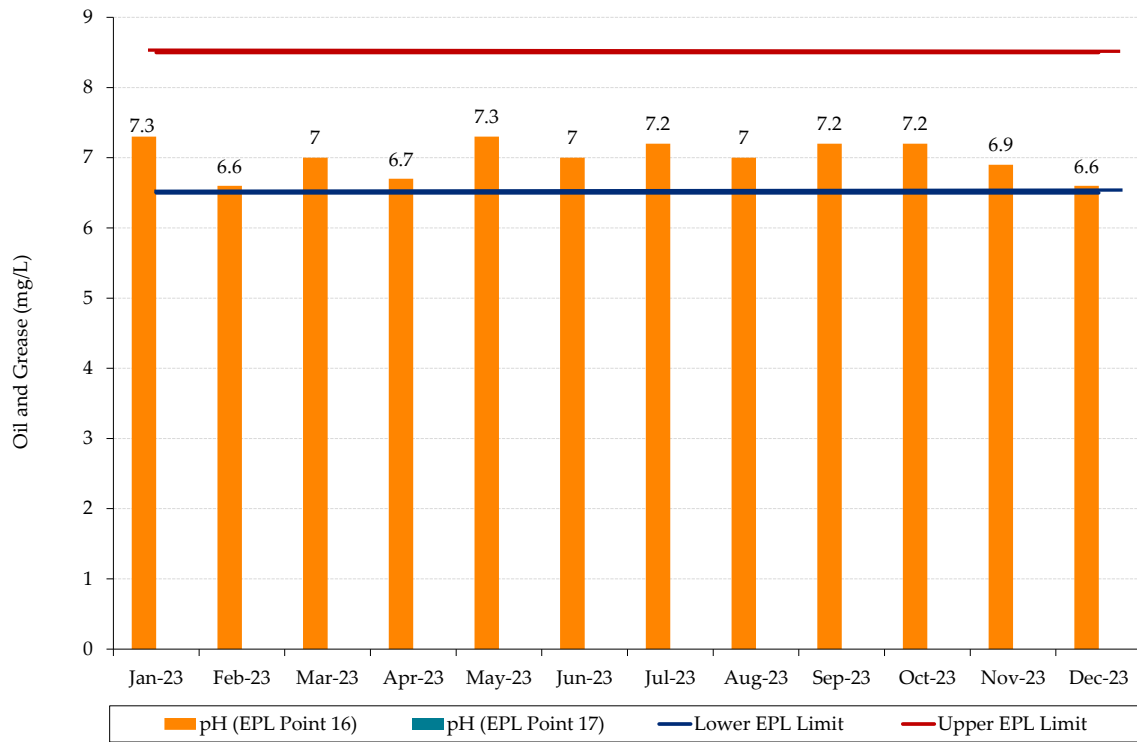


Figure 5: Monthly pH

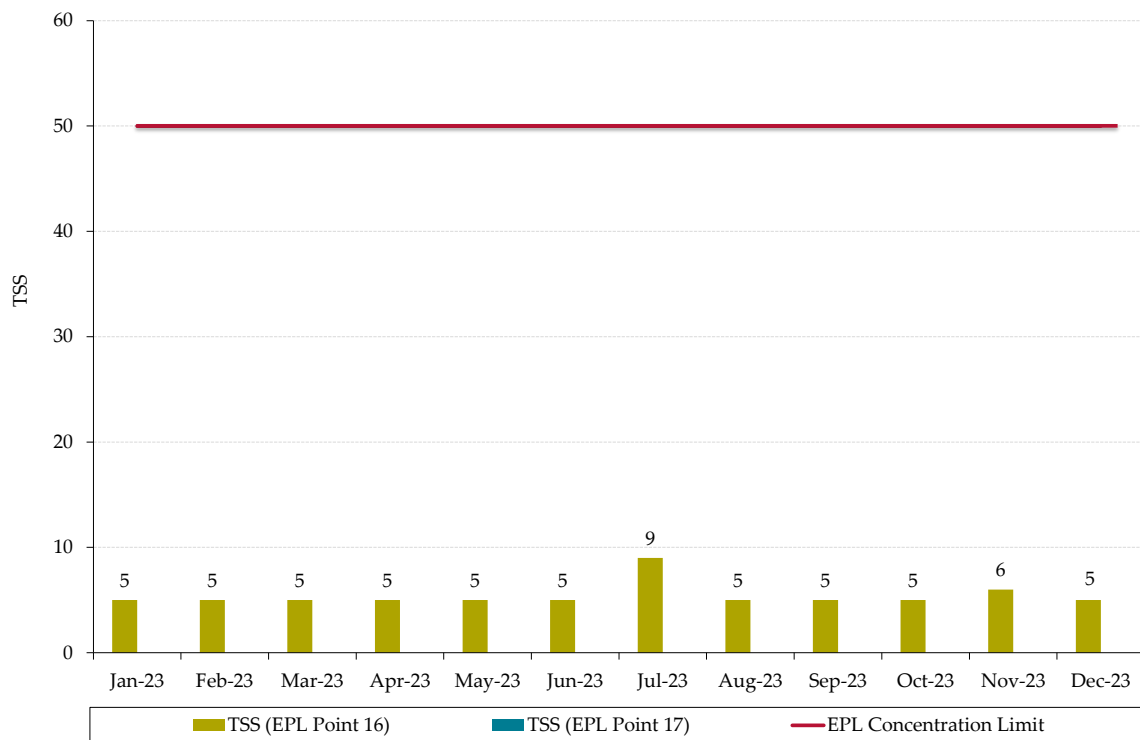


Figure 6: Monthly Total Suspended Solids

A summary of monitoring results for EPL discharge and monitoring points (those with specified concentration limits) can be found below for the 2023 reporting period:

- All monthly dissolved iron results below the EPL concentration limit of 1.0 mg/L;
- All Oil and grease levels were below the EPL concentration limit of 10 mg/L;
- All pH results within upper and lower EPL concentration limits; and
- All monthly TSS results were below the EPL concentration limit of 50 mg/L.

Note: Monthly EPL reporting can be accessed at: [Reporting documents - Baal Bone Colliery \(glencore.com.au\)](https://www.glencore.com.au/reporting-documents-baal-bone-coliery).

4. Noise

On 10 August 2022, EPL 765 was amended to remove dust and weather monitoring points and conditions. On 19 October 2022 Baal Bone Colliery received approval from DPIE for “the cessation of the attended noise monitoring and depositional dust and meteorological monitoring at the EPL Monitoring Points No. 7, 13, 14 and 15”.

Previous noise audit reports can be accessed from the Baal Bone publications web page at: [Reporting documents - Baal Bone Colliery \(glencore.com.au\)](https://www.glencore.com.au/reporting-documents-baal-bone-coliery).



Figure 7: Baal Bone Colliery EPL Monitoring Points