



# Balranald Mineral Sands Project

## 2021 Annual Review

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Approved date:	30 March 2022
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Approved by:	Andrew Porter
Document owner:	Andrew Porter
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## ANNUAL REVIEW DETAILS

Details of the operations are summarised in Table 1 below.

**Table 1: Annual Review**

Name of operation	Balranald Mineral Sands Project
Name of operator	Iluka Resources Limited
Development consent / project approval #	SSD – 5285
Name of holder of development consent / project approval	Iluka Resources Limited
Mining Lease #	ML 1736
Name of holder of mining lease	Iluka Resources Limited
Water licence #	WAL31101 and WAL31102
Name of holder of water licence	Iluka Resources Limited
MOP / RMP start date	18 May 2016 (OUT16/19802)
MOP / RMP end date	02 July 2022
Annual Review start date	01 January 2020
Annual Review end date	31 December 2020

*I, Andrew Porter, certify that this audit report is a true and accurate record of the compliance status of the Balranald Mineral Sands Project for the period 1<sup>st</sup> January – 31<sup>st</sup> December 2021 and that I am authorised to make this statement on behalf of Iluka Resources.*

Name of authorised reporting officer	Andrew Porter
Title of authorised reporting officer	Project Manager
Signature of authorised reporting officer	
Date	30 March 2022

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## 1 STATEMENT OF COMPLIANCE

This report is the 2021 Annual Review for the Balranald Mineral Sands Project (the 'Balranald Project' or the 'Project') as required by Condition 4, Schedule 5 of the development consent granted under the provisions of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act).

A summary of the compliance status of the operation with the conditions of the relevant approvals is provided in Table 2.

**Table 2: Statement of compliance**

Statutory approval	All conditions complied with
SSD Development consent (SSD-5285)	Yes
Mining Lease 1736	Yes

## 2 INTRODUCTION

### 2.1 Operations overview

On 5 April 2016 Iluka Resources Limited (Iluka) was granted development consent for the Balranald Mineral Sands Project under Part 4 of the EP&A Act.

The Balranald Project includes construction, mining, primary processing and rehabilitation of two linear mineral sand deposits, known as the West Balranald and Nepean deposits located approximately 12 kilometers (km) and 66 km north-west of the town of Balranald. Figure 2.1 shows the regional location of the Project.

In addition, the Balranald Project includes undertaking a bulk sampling activity (the activity) at the West Balranald deposit involving the removal of up to 100,000 tonnes (t) of mineral ore.

This bulk sampling activity was implemented in three stages known as T1, T2 and T3. They were undertaken in accordance with the approval under Part 5 of the EP&A Act from NSW Trade & Investment, Resources & Energy (Reference OUT13/28341 and OUT15/27702).

T1 and T2 were completed in March 2016 and September 2016 respectively. From September 2016 to September 2019 the site was in care and maintenance. In July 2019, Iluka initiated discussions with the regulators to commence a further trial.

The T3 trial site re-establishment commenced in September 2019 with mining commencing in June 2020 and concluding in September 2020.

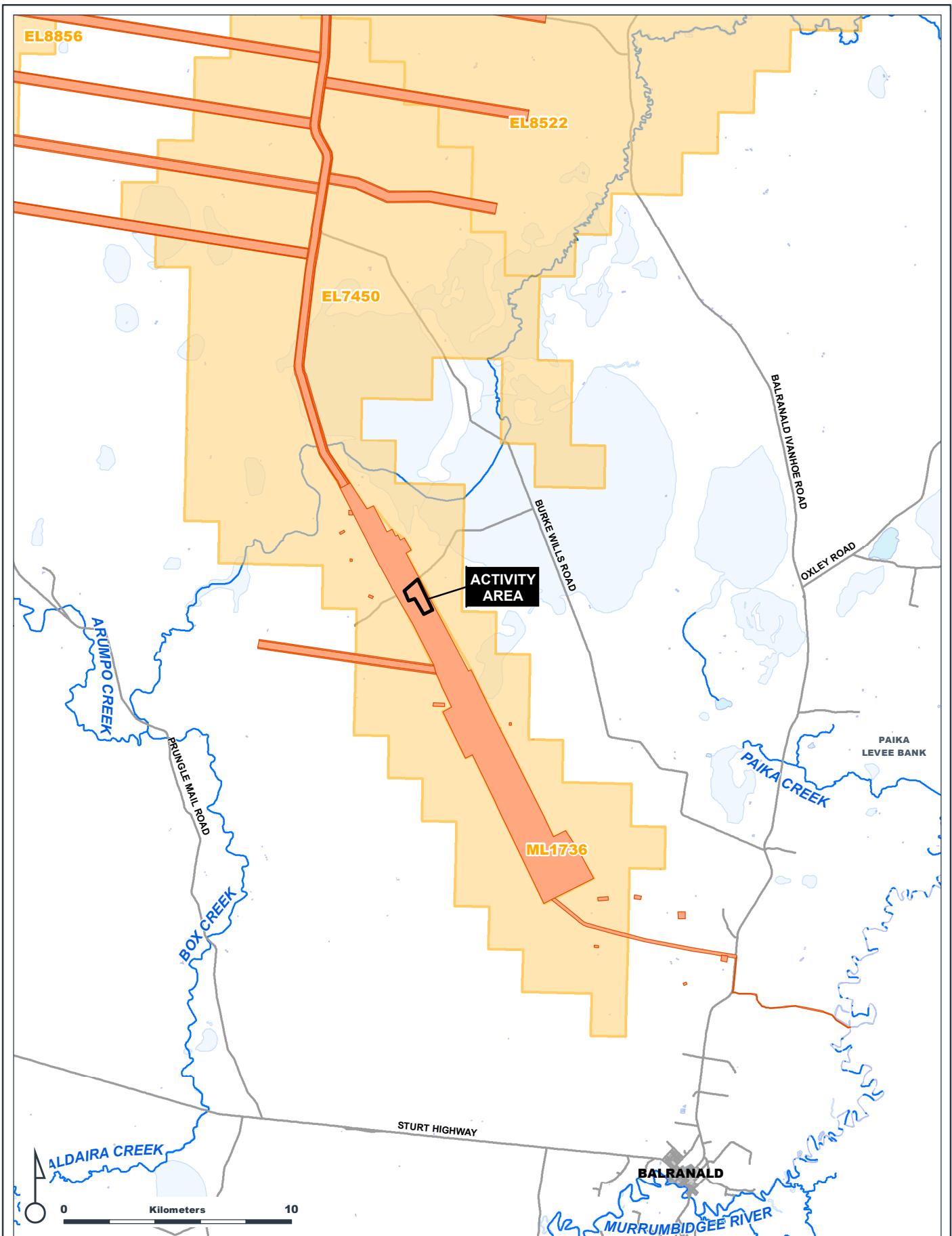
The Activity Area was placed into care and maintenance in late November 2020 and remained in care and maintenance the full 2021 reporting period.

### 2.2 Environmental management responsibilities

Table 3 provides the details of the Iluka personnel with environmental management responsibilities during the reporting period.

**Table 3: Environmental management responsibilities**

Name	Role	Contact details
Andrew Porter	Project Manager	<a href="mailto:Andrew.Porter@iluka.com">Andrew.Porter@iluka.com</a>
Dave Wright	Owners Representative	<a href="mailto:Dave.Wright@iluka.com">Dave.Wright@iluka.com</a>
Vicki Hood	HSEC Manager	<a href="mailto:Vicki.Hood@iluka.com">Vicki.Hood@iluka.com</a>



## ANNUAL REVIEW PROJECT LOCATION

- Major watercourse
- Activity Area
- Balranald approved project boundary (2016)
- Iluka Tenements
- Relic and ephemeral lake
- Perennial lake

**BALRANALD**



**ILUKA**

ORIG: GB

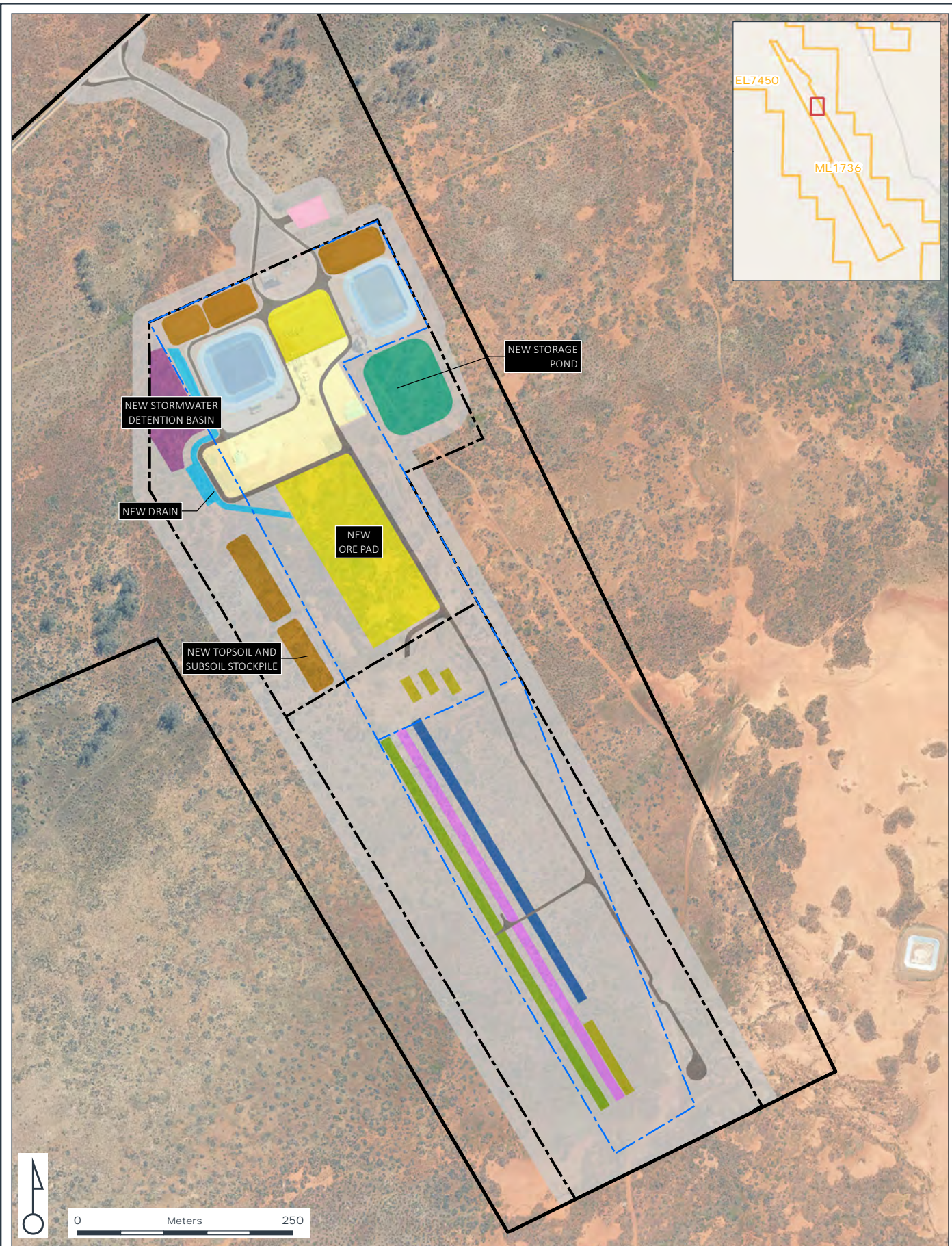
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**FIGURE: 1**



### T3 GENERAL ARRANGEMENT

- |                    |                                       |   |                         |
|--------------------|---------------------------------------|---|-------------------------|
| Previous Fenceline | Access road                           | Plant, equipment and administration buildings | Stockpile               |
| New Fenceline      | 2019 Operations Area                  | Process water dam                             | Previously Mined Stopes |
| Activity Area      | Site office and light vehicle carpark | Spoon drain                                   | Stope 3B                |
| Ore pad            | Fines storage pond                    | Stormwater detention basin                    | Stope 5                 |
|                    |                                       |   | Stope 6                 |

BALRANALD



GDA 1994 MGA Zone 54

L:\Maps\2020\Registered\Murray Basin\Balranald\244897v00\_T3\_GA.mxd

### 3 APPROVALS

The Balranald Project is a Level 1 mine and was assessed as a State Significant development under Part 4 of the EP&A Act.

The current approvals (including consents, authorizations, licenses and management plans) for the Project are summarised in Table 4 and Table 5 below.

In discussion with regulators, updates were made to the Environmental Management Plan and Mining Operations Plan during 2019, to cover the T3 activities which recommenced in September 2019.

**Table 4: Current consents, authorizations and licenses**

Type	Identification	Details
Development Consent	SSD-5285	Granted: April 2016 Duration: 16 years
Mining Lease	ML1736	Granted: May 2016 Duration: 21 years
Environment Projection Licence	EPL20795	Granted: June 2016
Water Access Licence(s)	WAL31101 WAL31102	Total allocation volume – 2,500 ML

**Table 5: Approved management plans**

Management Plan	Date of approval and approving agency
Environmental Management Plan (EMP): Bulk Sampling Activities (21 October 2019, Version 2)	15 November 2019; NSW Environment Protection Authority; Reference: DOC19/530575-8
Mining Operations Plan (MOP): Bulk Sampling Activities (21 August 2021)	7 September 2021; Resources Regulator, NSW Department of Planning, Industry and Environment; Reference: MAAG0011986, LETT0006500
Balranald Project: Aboriginal Cultural Heritage Management Plan (ACHMP) (14 April 2016, Version 1)	14 April 2016; NSW Office of Environment and Heritage; Reference: DOC16/184303 29 April 2016; NSW Department of Planning and Environment; Reference: 11/22089-2

## **4 OPERATIONS SUMMARY**

### **4.1 Introduction**

T3 mining commenced in early August 2020 and was completed in early November 2020. The site was demobilized and put into care and maintenance in November 2020. No further construction or operational activities occurred in 2021.

### **4.2 Site construction**

No construction activities occurred in 2021.

### **4.3 Mining operations**

No mining or processing operations occurred in 2021.

### **4.4 Demobilisation**

Demobilisation was completed in 2020.

Notification was provided to the Resources Regulator on 18 November 2020 of suspension of mining operations.

The sand and HMC tailings stockpiles were covered with tarps to minimise windblown materials and are monitored regularly to ensure the tarps remain effective.

The site is secured with an agricultural stock fence and locked gate. Exclusion zone signs are placed around the perimeter.

### **4.5 Next reporting period**

The site is expected to stay in care and maintenance for a further 12 – 24 months whilst detailed feasibility studies are undertaken. During this time no further bulk sampling activities will be undertaken however some site activities including ongoing monitoring, exploration and other preparatory works may occur.

To ensure ongoing management of environmental factors during the care and maintenance period the Environmental Management Plan (EMP) and Pollution Incident Response Management Plan (PIRMP) were updated to put in place ongoing monitoring and management events.

## **5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW**

No actions required from the previous Annual Review.

## **6 ENVIRONMENTAL PERFORMANCE**

The Environmental Management Plan (EMP) developed for the bulk sampling activities was updated in October 2019 to address the recommencement of the T3. It detailed the performance criteria (where relevant), mitigation and management and environmental performance monitoring (where relevant) for the activity.

An updated Mining Operations Plan (MOP) was also prepared.

Iluka contracted EMM to undertake environmental monitoring and inspections in accordance with conditions set under SSD-5285.

Table 6 provides a summary of the environmental performance monitoring completed during the reporting period.



**Table 6: Environmental performance summary**

Aspect	Approval criteria / EIS prediction	Performance during period	Trend / key management implications
Weeds	SSD-5285. Condition 17, Schedule 3 – Control weeds	Add hoc inspections were conducted over 2021 noting the occurrence of weeds.  The site activities, concurrent grazing land use and significant rainfall experienced in 2021 resulted in weed populations in open areas.	The significant rainfall restricted access to the site so there was no weed spraying carried out. A concerted weed control program will be implemented during removal of the T3 infrastructure in 2022 and 2023. Inspections will continue in 2022.
Subsidence	No specific condition, Subsidence Management Plan (SMP) prepared as part of EMP	Subsidence was monitored as per the SMP. Nine irregular subsidence events (sink holes) occurred during mining as outlined in Section 6.1. A	Ongoing biannual monitoring as outlined in Section 6.1.
Groundwater	SSD-5285. Condition 15, Schedule 3 – Groundwater Management Plan (GMP) appended to EMP.	Groundwater monitoring continued as outlined in Section 6.2	Ongoing monitoring as outlined in Section 6.2.
Noise	SSD-5285. Condition 3, 4 and 5, Schedule 3 – Noise	No noise monitoring carried out during 2021.	No further monitoring
Air quality	SSD-5285. Condition 6, 7, 8 and 9, Schedule 3 – Air quality	Monitoring was conducted as required in December 2021	Monitor will continue in 2022.
Biodiversity	SSD-5285. Condition 16 and 17, Schedule 3 – Biodiversity	Mitigation measures were implemented as outlined in the EMP. 3.48 ha of vegetation was cleared for drilling activities.	All areas were reinstated at the completion of the drilling works. Any future activities continue to be conducted in accordance with Site Disturbance Clearance Procedure as outlined in the EMP
Cultural heritage	SSD-5285. Condition 18, 19, 20 and 21 – Heritage	An approved Aboriginal Cultural Heritage Management Plan remains in place.	

## 6.1 Subsidence monitoring outcomes

Two subsidence surveys were conducted in 2021.

One new subsidence event was detected in November 2021. As with all other subsidence events this occurred inside the mine exclusion zone with no risk to personnel. This will be stabilised when safe to do so via backfilling with lime dosed sand tails, with subsoil and topsoil capping to occur when the exclusion zone is cleared for access and rehabilitation. The success of this stabilisation will be monitored over time.

## 6.2 Groundwater monitoring outcomes

Post the T3 trial completion in November 2020, Iluka implemented a post-mining groundwater monitoring program with 3 monitoring events conducted in February, May and October 2021. The near mining bores were sampled for laboratory analysis on all three dates, and the regional and third-party bores were sampled during the October 2021 monitoring event.

The post-mining groundwater monitoring was undertaken in accordance with the T3 Groundwater Management Plan (EM2020).

Some isolated exceedances of groundwater SSTLs were observed but were determined to be due to natural fluctuations or local mineralization (elevated background concentrations). These exceedances have been observed consistently pre-activity, during activity and post-mining. A detailed summary of groundwater monitoring against compliance requirements is provided in Appendix A: “Hydrogeochemical assessment addendum post the T3 mining trial” Section 5.

## 7 WATER MANAGEMENT

Water usage during the 2021 was in accordance with a 2,500 megalitre (ML) water trade with Tronox assigned to Iluka’s Water Access Licence’s (WAL) 31101 and WAL31102.

Water use for the over the reporting period is summarised in Table 7. Nominated extraction points during the activity included production bores PB2, PB04 (Loxton Parilla Sands Aquifer, WAL31102) and the Karra Bore (Lower Renmark Group Aquifer, WAL31101).

**Table 7: Summary of water use**

Water Licence #	Water Source and Water Sharing Plan	Entitlement / allocation*	Passive take / inflows	Active pumping	Total (ML)
31101	Western Murray Porous Rock Groundwater Source	150 ML	0 ML	0 ML	0 ML
31102	NSW Murray Darling Basin Porous Rock Groundwater Sources	2350 ML	0 ML	0 ML	0 ML

\*Temporary allocation leased from permanent allocation holder for the water licensing period 2016-2019.

## 8 REHABILITATION

Following completion of the T3 site activity in November 2020 all mining plant and equipment was decommissioned and removed from site. Basic surface equipment remains on site – screen, cyclones, thickener, pumps plus associated pipes and spares.

Stockpiles of Heavy Mineral Concentrate and sand tailings remains on site. The material is covered with tarpaulins to minimise dust generation.

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## **9 COMMUNITY**

No community complaints were received during the 2021 reporting period. A copy of the complaints register for the Project is provided on the Iluka Resources website in accordance with the Condition 11, Schedule 5 of SD-5285.

Engagement with the landowner, neighbours and the Balranald Shire Council was carried out as required.

## **10 INDEPENDENT AUDIT**

COVID-19 pandemic travel restrictions and inclement weather conditions on site limited regulator site visits during 2021.

There were no site visits by DPE or the EPA during 2021.

A site visit by DPE and the Resources Regulator are planned for April and May 2022.

DPE-Planning issued a letter to Iluka on 20 January 2021 confirming that as construction of the mine has not formally commenced under the development consent, and only bulk sampling activities are currently being undertaken, the requirement for an independent audit under Condition 8 Schedule 5 has not yet been triggered.

## **11 INCIDENTS AND NON-COMPLIANCE**

### **11.1 Non-compliances**

No non-compliances with the conditions of the relevant statutory approvals occurred during the 2021 reporting period.

### **11.2 Reportable incidents or exceedances**

No reportable incidents with the conditions of the relevant statutory approvals occurred during the 2021 reporting period.

### **11.3 Official cautions or warnings**

No official cautions, warning letters, penalty notices or prosecution proceedings were received by any regulatory agency for the Project during the 2021 reporting period.

## **12 ACTIVITIES FOR NEXT REPORTING PERIOD (2022)**

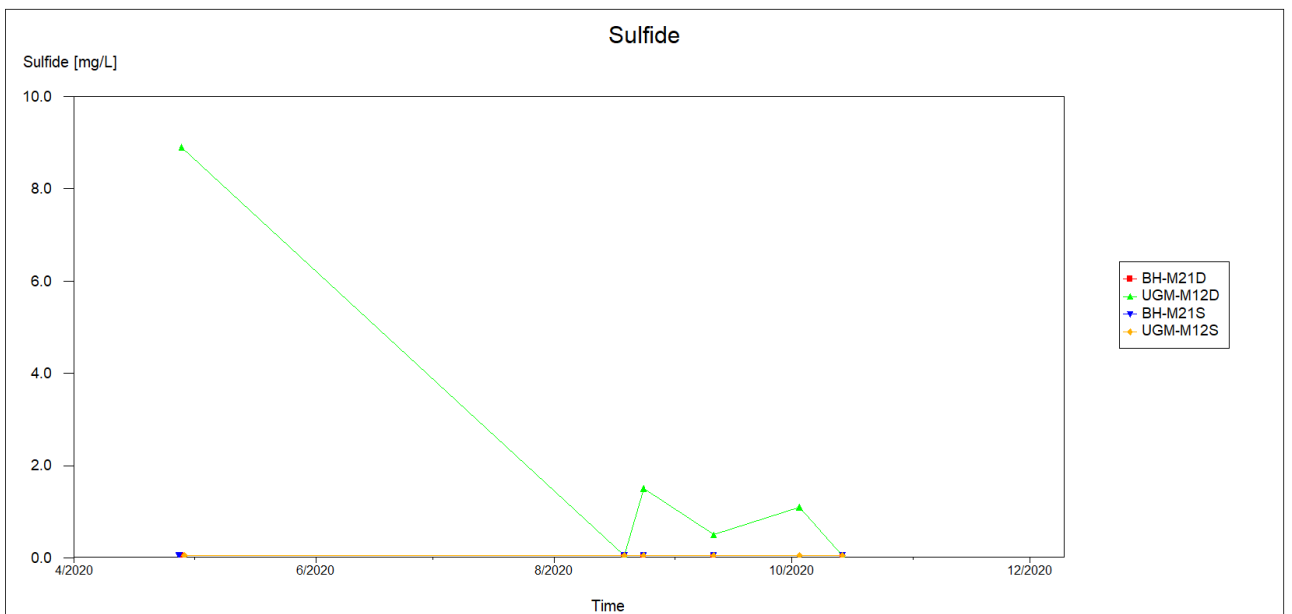
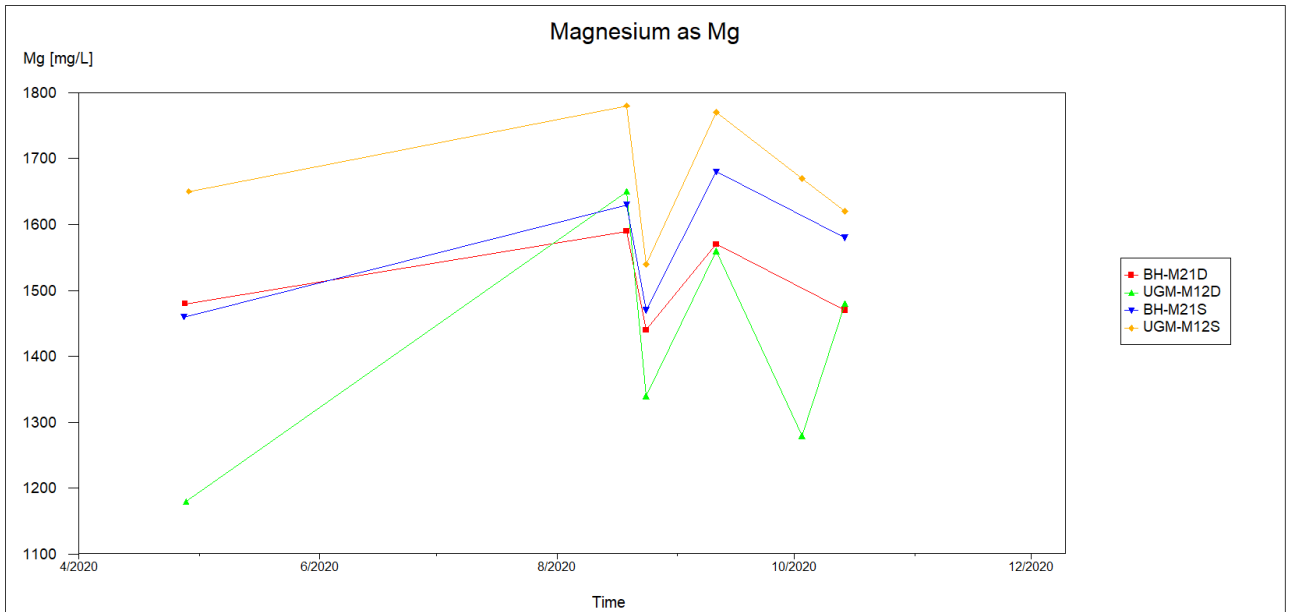
The T3 site is expected to stay in care and maintenance for the 2022 reporting period. During this time no further bulk sampling activities will be undertaken however some site activities including ongoing monitoring, exploration and other preparatory works may occur.

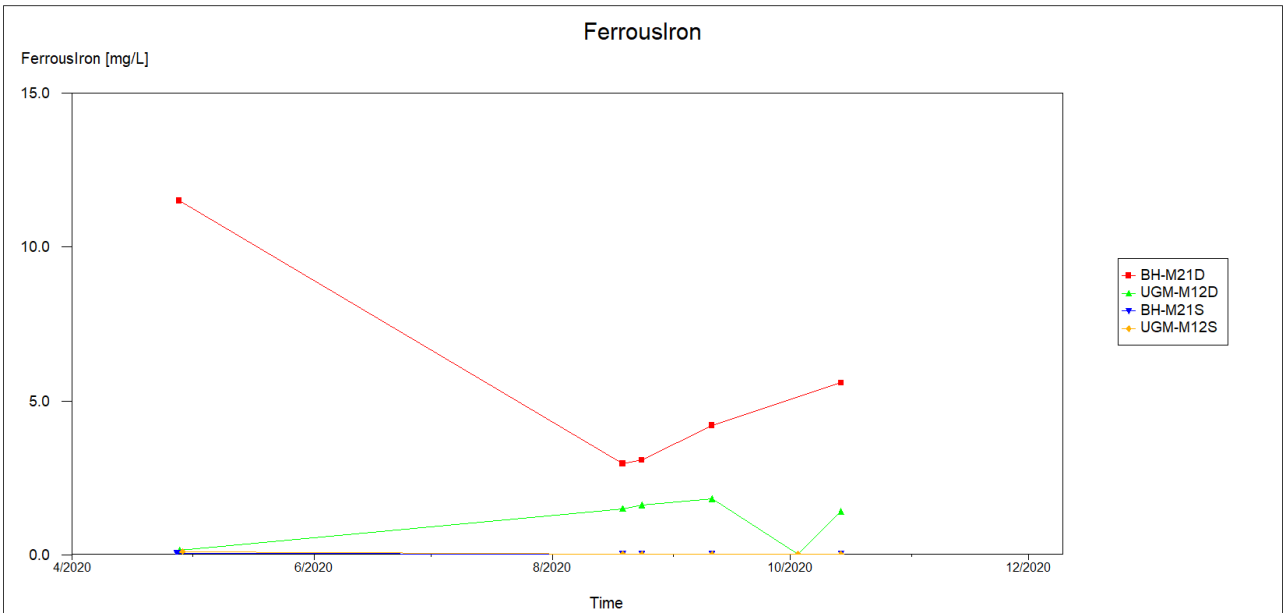
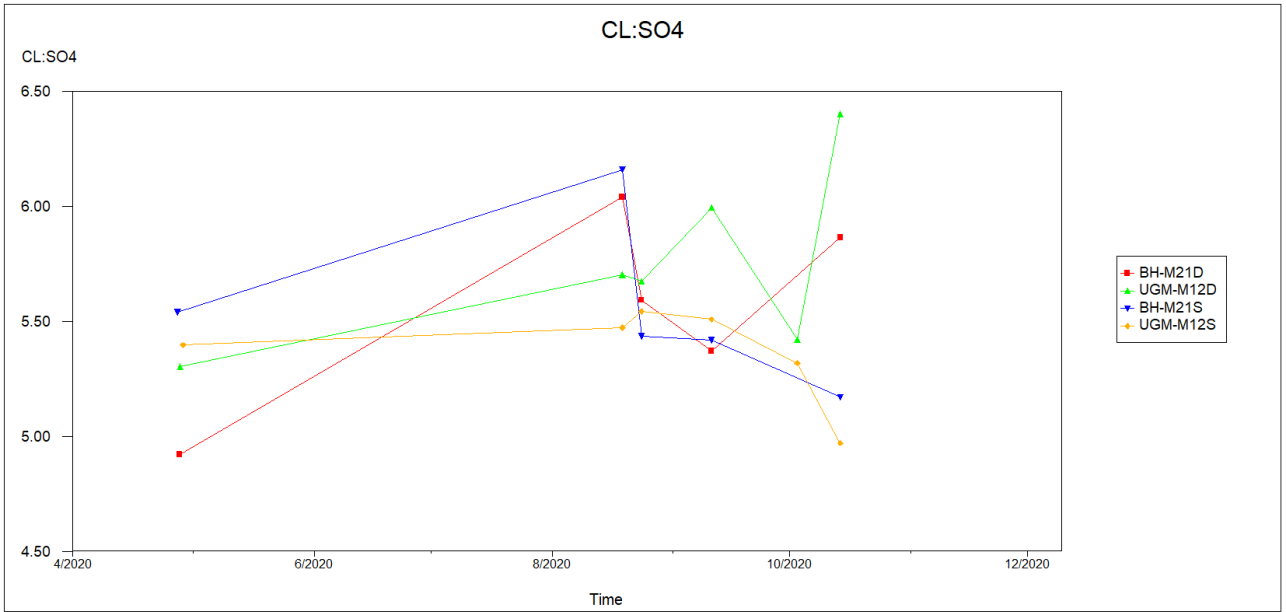
To ensure ongoing management of environmental factors during the care and maintenance period monitoring will continue in accordance with the updated EMP and PIRMP.

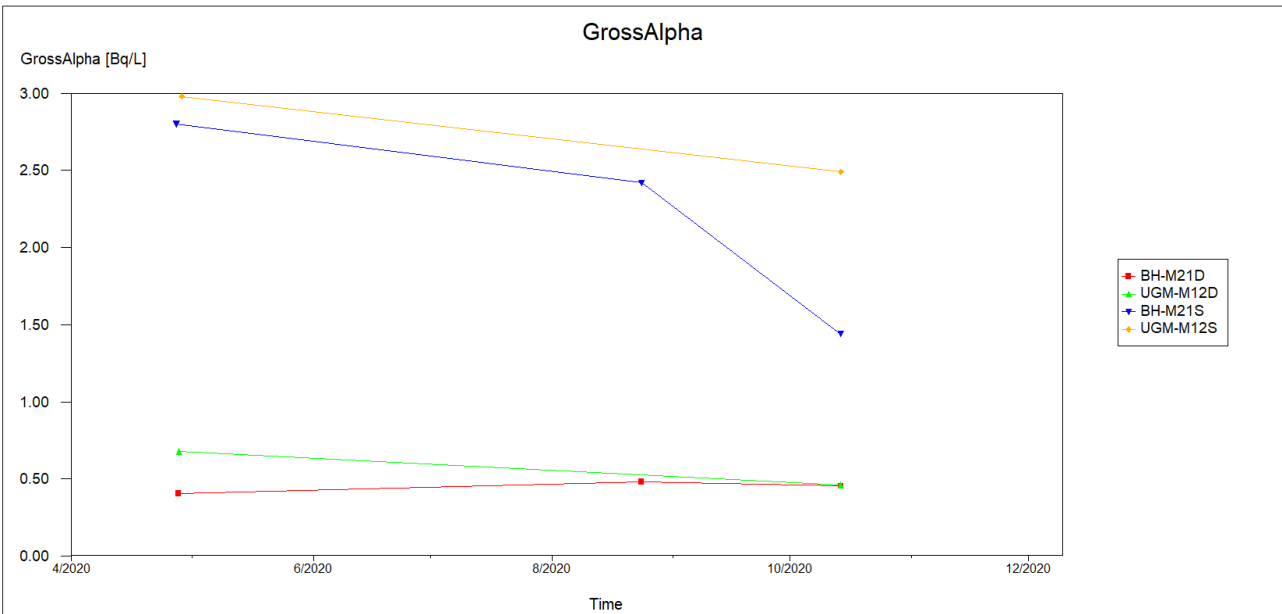
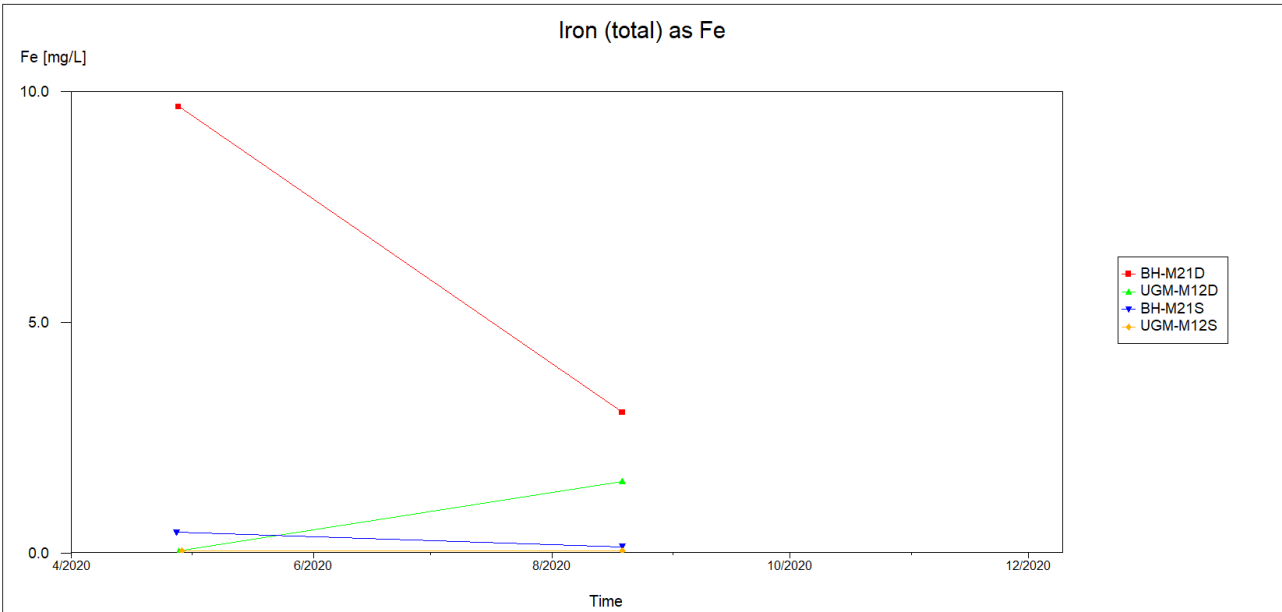
## APPENDICES

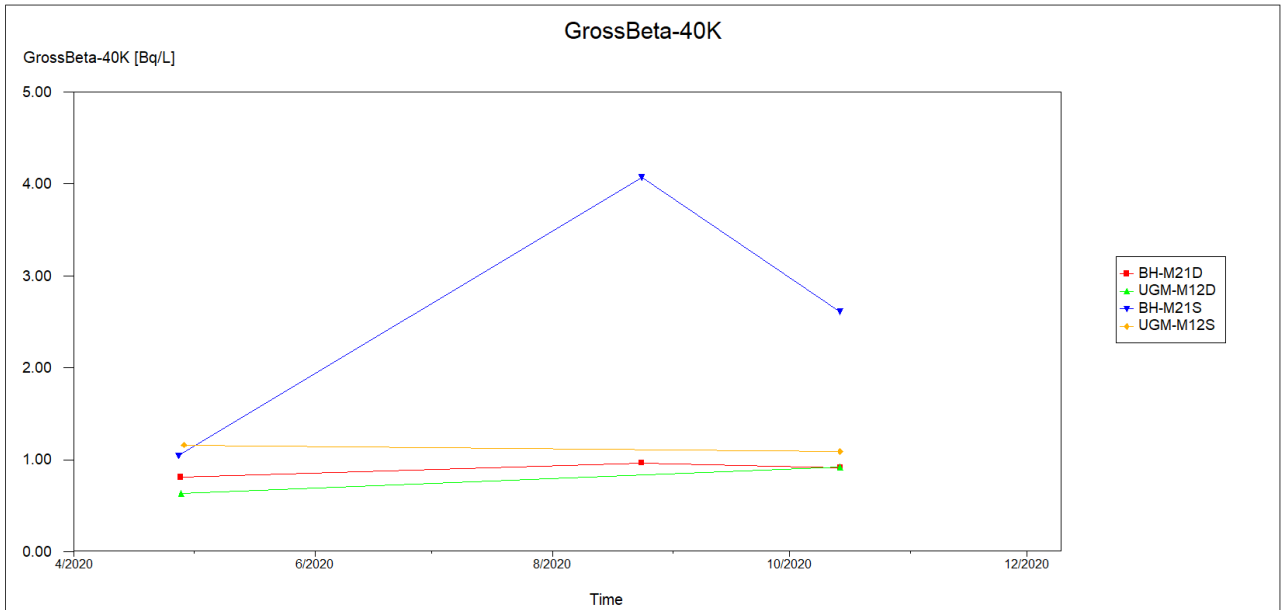
### A-1.1 Appendix A: Data from Hydrogeochemical assessment 2021

## A.1 Mining bores

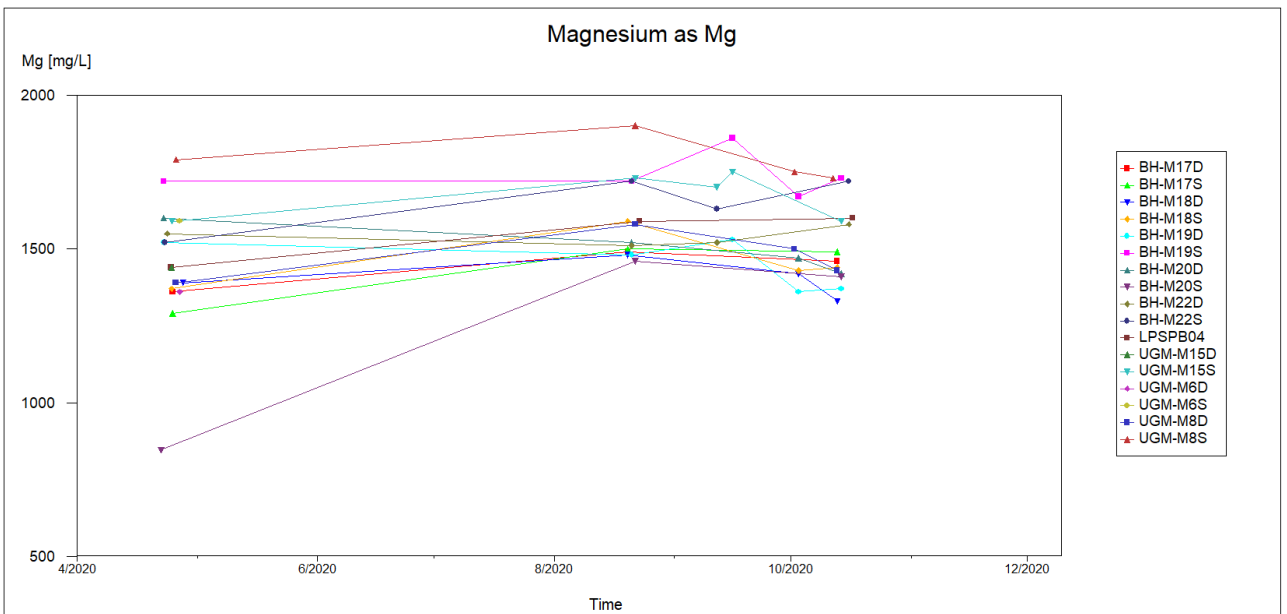




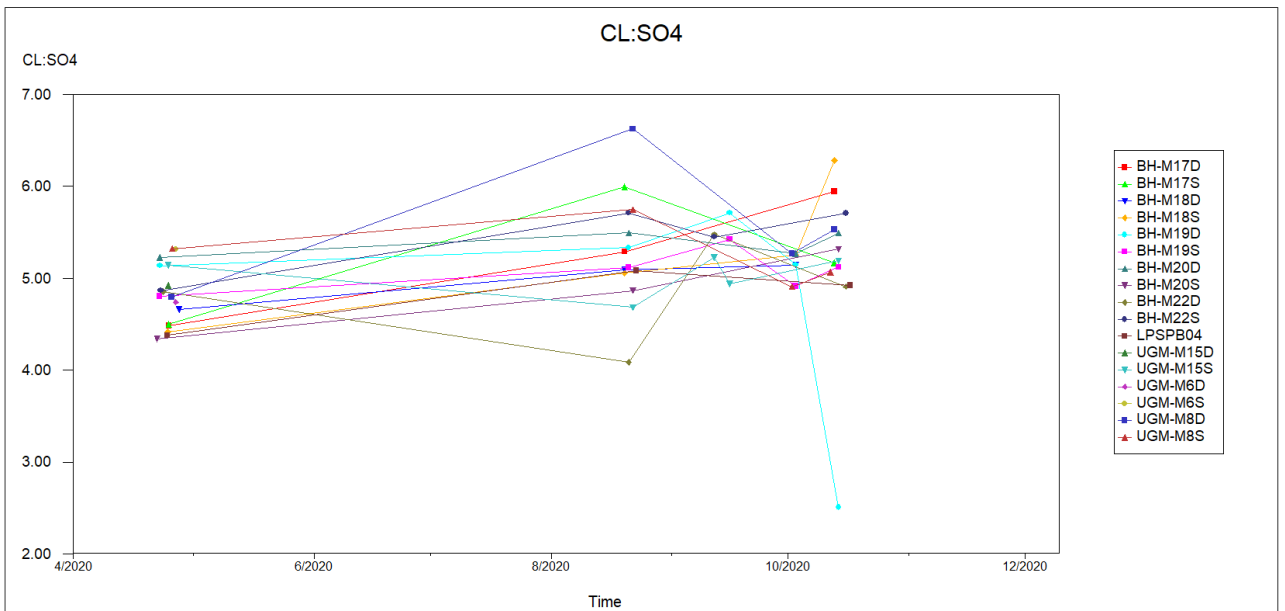
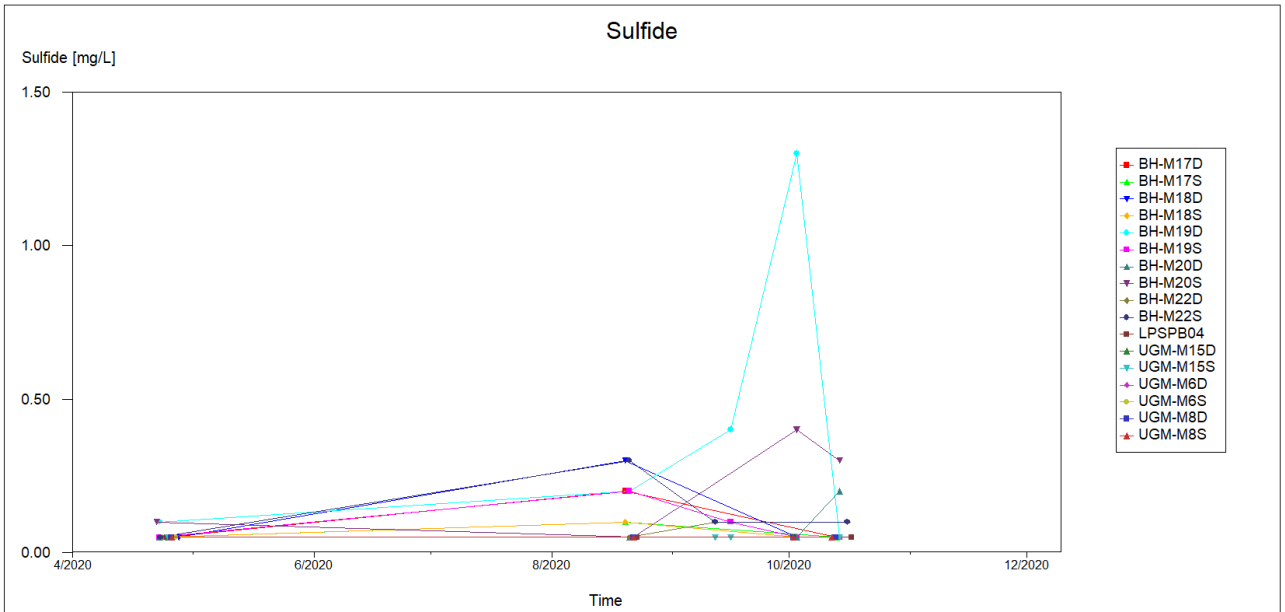


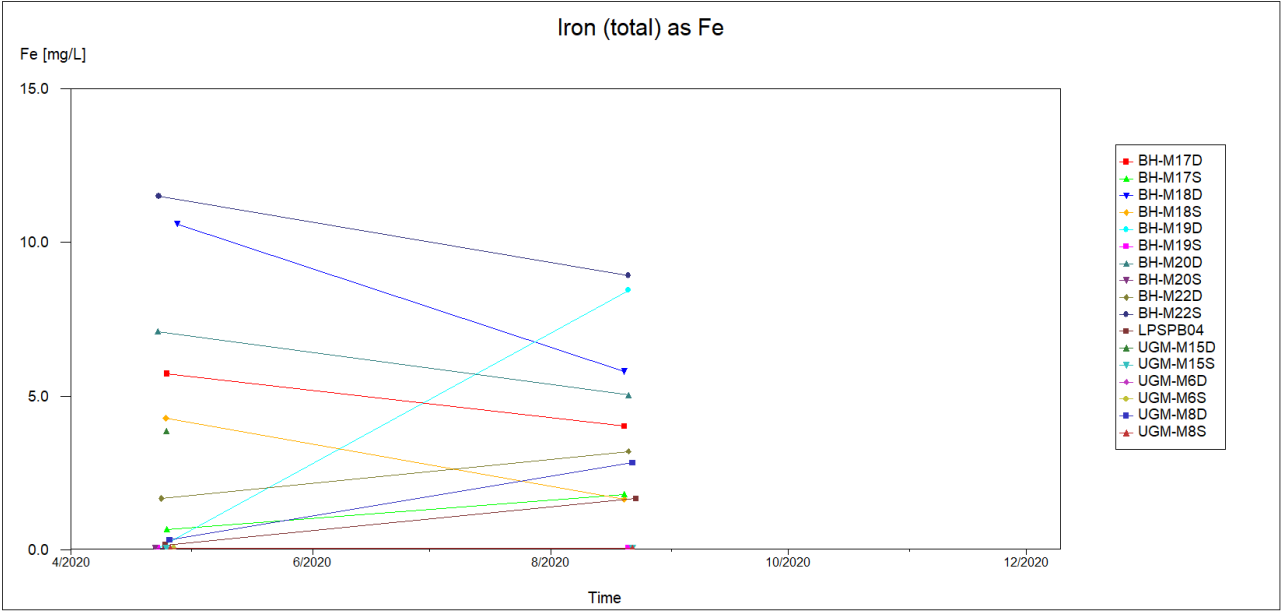
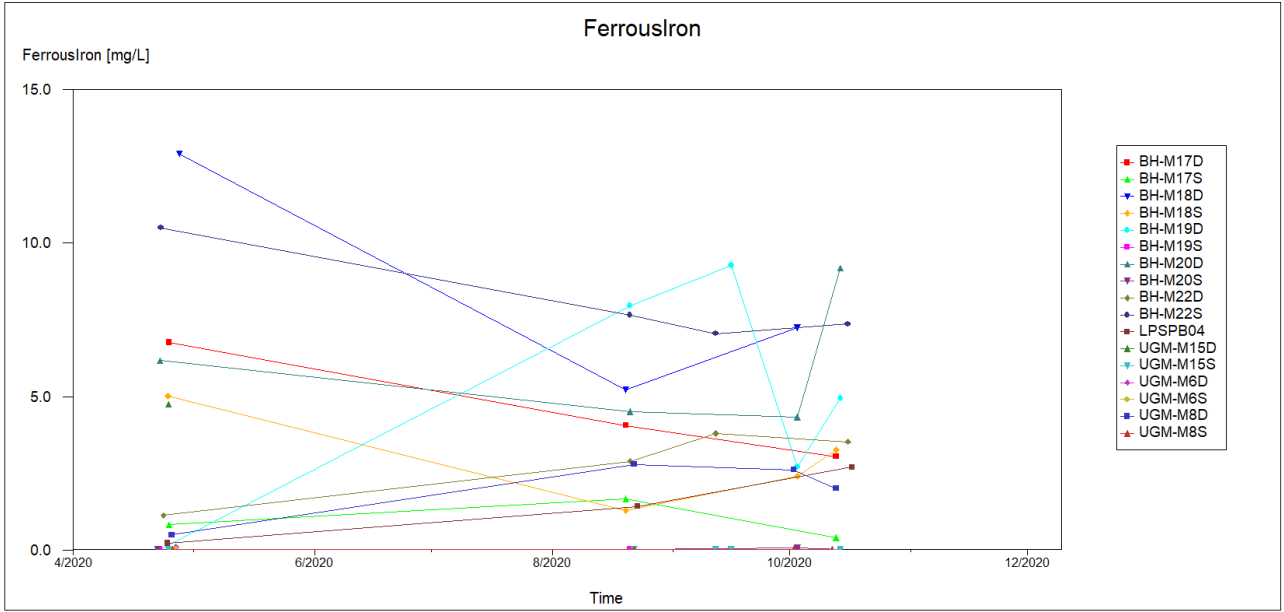


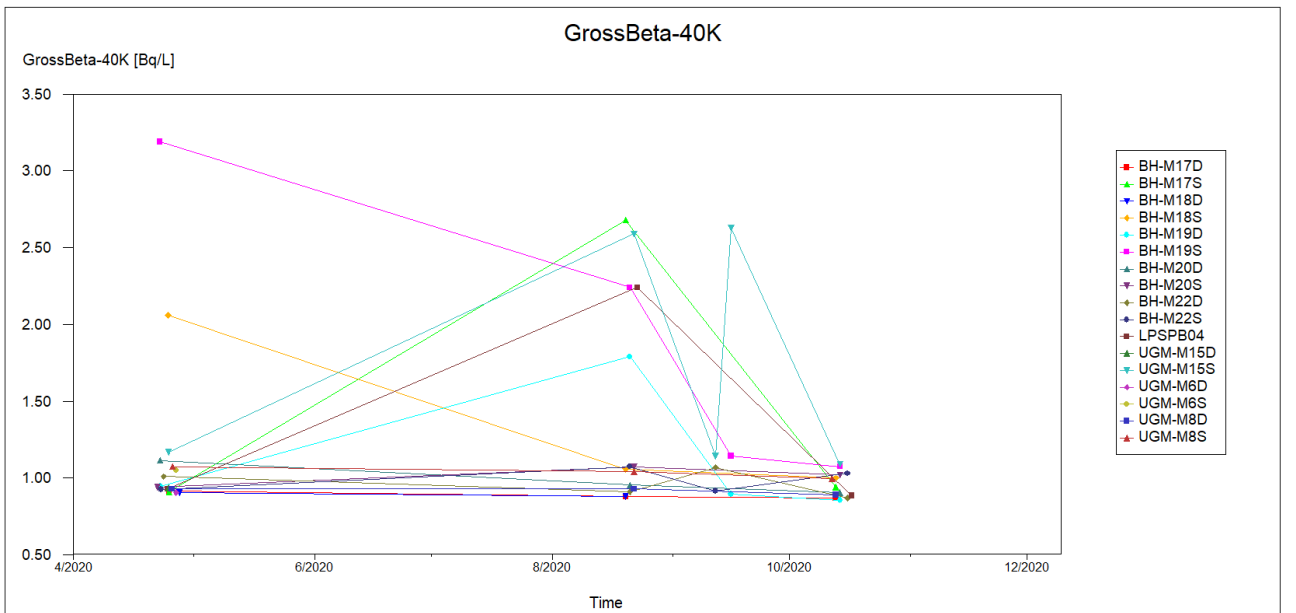
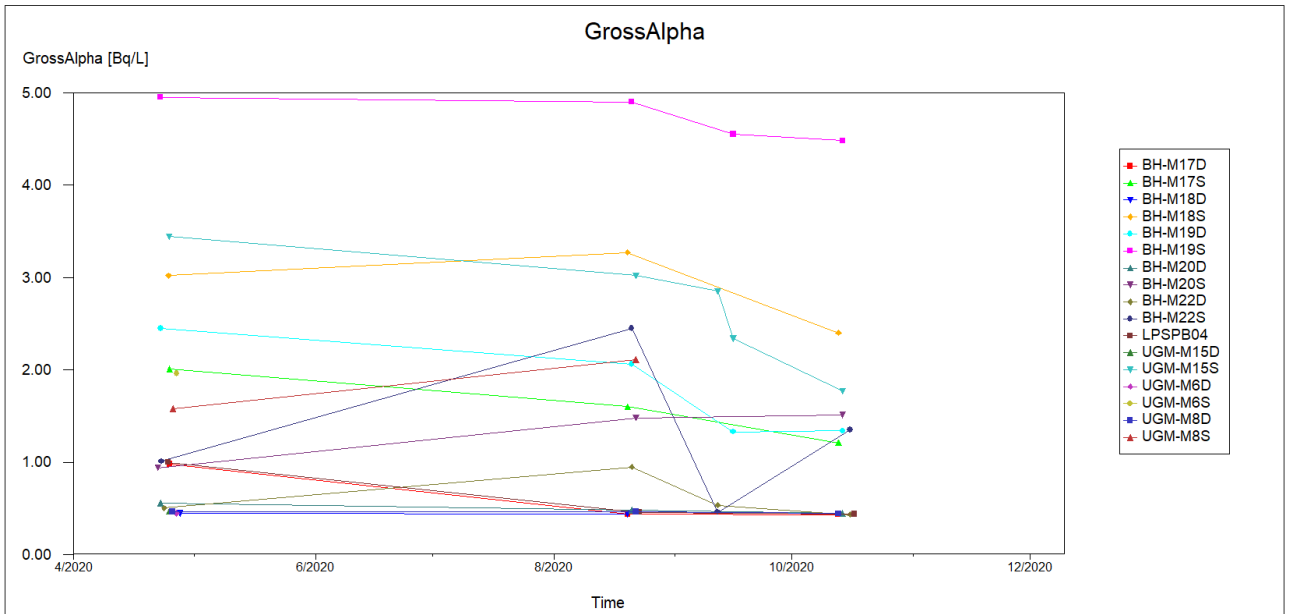
## A.2 Transition bores











### A.3 Background regional bores

