

KALGOORLIE CONSOLIDATED GOLD MINES PTY LTD



FIMISTON SEEPAGE AND GROUNDWATER MANAGEMENT PLAN

JUNE 2020

TABLE OF CONTENTS

1.	INTRODUCTION.....	3
2.	BACKGROUND	4
3.	OBJECTIVES AND TARGETS	8
4.	SEEPAGE AND GROUNDWATER MANAGEMENT	9
4.1.	Seepage Recovery	9
4.2.	TSF Supernatant Pool Size.....	9
4.3.	Depth to Groundwater	10
4.4.	Pumping Capacity	10
4.4.1.	Construction and Decommissioning of Bores.....	11
5.	POST CLOSURE	12
6.	REVIEW.....	13
7.	REPORTING	14
7.1.	Quarterly Groundwater Monitoring Report.....	14
7.2.	Annual Audit	14
7.3.	Annual Environment Report	14
8.	STAKEHOLDER CONSULTATION	15
9.	GLOSSARY OF TERMS.....	16

1. INTRODUCTION

Kalgoorlie Consolidated Gold Mines Pty Ltd (KCGM) operates the Fimiston Open Pit, Mt Charlotte Underground Mine and the Fimiston and Gidji Processing Plants on behalf of joint venture owners; Northern Star Resources Ltd and Saracen Mineral Holdings Limited.

The Fimiston Operations and Mt Charlotte Underground Mine are located adjacent to the City of Kalgoorlie-Boulder approximately 600 km east of Perth, Western Australia, whilst the Gidji Processing Plant is located approximately 17 km north of Kalgoorlie-Boulder.

Gold ore from KCGM's mining operations is processed at the Fimiston Processing Plant, which is located on the eastern side of the Fimiston Open Pit. Tailings produced from the Fimiston Processing Plant are deposited into three operational TSFs; the Fimiston I, Fimiston II and Kaltails Tailings Storage Facilities (TSFs).

In accordance with conditions of Prescribed Premises Licence L6420/1988/14 (the Licence) issued to KCGM for the Fimiston Operations, KCGM has developed and implemented Seepage and Groundwater Management Plans for the Fimiston (FSGMP) and Kaltails (KSGMP) TSFs. These plans incorporate practices to manage and control groundwater levels around the TSFs, to prevent impact to vegetation as a consequence of rising groundwater levels, due to seepage from the TSFs. If groundwater is not appropriately managed it could rise into the root zone causing detrimental impacts to the surrounding vegetation as a result of water logging.

Based on the primary beneficial use of the groundwater in the area (for mining and mineral processing), potential impacts on groundwater usage are not considered to be significant.

The FSGMP is intended to be a live document which will evolve from the experience gained during operations, routine performance review and feedback from regulators and other stakeholders. This FSGMP represents KCGM's management strategy for the Fimiston I and Fimiston II TSFs incorporating requirements of the Licence. It also provides additional contextual information with regards to the target setting philosophy for the TSF.

2. BACKGROUND

In 2003 KCGM submitted a Notice of Intent (NOI) to the then Department of Industry and Resources (DoIR) to increase the maximum height of the Fimiston I TSF from 30 m to 40 m. The proposal was subsequently referred to the Environmental Protection Authority (EPA). The EPA decided not to subject the proposal to the formal environmental impact assessment process on the basis that its impacts were not considered to be significant enough to warrant a formal level of assessment and could be managed under Part V of the *Environmental Protection Act 1986*. Thirteen appeals were received in relation to this decision.

During the appeals process, an independent technical review of the proposal was commissioned by the then Minister for State Development. The aim of the review was to investigate the geotechnical and hydrogeological performance of the existing Fimiston I TSF and the proposal to progressively increase the height of the facility from 30 m to 40 m.

The independent technical review process commenced in August 2004 and was undertaken by Thompson & Brett Consulting Engineers Pty Ltd. A report titled "*Independent Review of a Proposal to Raise the Fimiston I Tailings Dam at Kalgoorlie*" (the Thompson & Brett Report), was finalised in October 2004. The Minister for State Development released the Thompson & Brett Report for public comment. During the public comment period a number of submissions were received by the Office of the Minister for State Development from members of the public.

On 12 January 2005, taking into account the findings of the Thompson & Brett Report, it was the Minister for the Environment's view that the proposal could be adequately managed without the need for a formal environmental assessment, provided that KCGM develop a long term Seepage and Groundwater Management Plan.

Accordingly, in September 2005, the first FSGMP (previously known as the '*Fimiston Operations – Seepage and Groundwater Management Plan*') was developed. It incorporated existing KCGM practices and recommendations from the Thompson & Brett Report to manage and control groundwater around the Fimiston I and Fimiston II TSFs, and established performance targets for the long-term management of TSF seepage.

Over the years, the FSGMP has evolved to reflect present-day management practices as well as requirements associated with the Licence. This has involved removal of some management actions as they were completed or results of monitoring deemed them no longer relevant. A summary of closed management actions are outlined in Table 3 below.

Table 1: Summary of Closed Management Actions

Item	Management Action(s)	Summary
Historic Groundwater Level	<p>Estimate the historic water levels</p> <p>Estimate a reasonable depth based on hydrogeological principles and practicality.</p> <p>Reach agreement on historical groundwater model.</p>	<p>The Thompson & Brett Report (2004) recommended that KCGM investigate and establish historic groundwater level distribution in the vicinity of the Fimiston I and Fimiston II TSFs.</p> <p>KCGM engaged Peter Clifton & Associated to undertake this investigation, which included a review historical data including depth to groundwater in bores prior to the commencement of the Fimiston Open Pit and TSFs, more recent data from outlying bores in the area that appear to be fluctuating little in water levels, and modelling the aquifer from drill core records.</p> <p>The investigation shows that groundwater has historically been close to the surface in the southern areas near the Hannans Lake. However, the depth to groundwater increased upstream of the lake catchment so that the area now under the Fimiston TSFs was 15 to 25 mBGL which is similar to the area in the pit.</p> <p>However, the precise historical groundwater level distribution is difficult to determine given that there is limited information pre-dating the current mining activities. Also due to the modified topography in the catchment, some historical drainage patterns no longer exist, thus the future natural groundwater level distribution will differ from the past.</p> <p>A report titled '<i>Estimation of Groundwater Level Distribution Prior to the Commencement of the Fimiston Tailings Disposal Operations by KCGM</i>' (May 2007), was approved by the then Department of Environment and Conservation (DEC) 9 April 2008.</p> <p>An overview of the investigation findings was also presented to the CRG in April 2008.</p> <p>Subsequently this management action was removed from the FSGMP.</p>
Semi-Continuous Monitoring of Groundwater Levels	<p>Confirm if the 2004/5 Licence sampling frequency is adequate.</p> <p>Establish five semi-continuous monitoring bore depth loggers.</p> <p>Evaluate data from semi - continuous monitoring bore depth loggers.</p> <p>Submit results to DEC via Quarterly Reports</p> <p>Analyse trends and consider moving semi -continuous monitoring bore depth loggers to different bores in Annual Review.</p>	<p>To confirm that the 2004/05 Licence frequency of monitoring was sufficient to identify possible cyclic effects related to such aspects as the region of tailings deposition or rainfall events, five monitoring bores were equipped with groundwater level sensors in 2006 with the logic for selection being:</p> <ul style="list-style-type: none"> • to identify the impact of the deposition cycle within 100 m of the TSF; and • to identify rainfall recharge rates near the floodway both between and upstream of the TSFs. <p>The level sensors were programmed with a 10 minute logging interval. Data downloaded from the level sensors were presented in the Quarterly Groundwater Reports.</p> <p>In August 2008 KCGM submitted a written request to the DEC to remove the requirement for semi-continuous monitoring of groundwater levels on the basis that data collected to date has shown little to no trends being observed due to tails deposition or rainfall which are not already being identified by the monthly SWL measurements.</p> <p>In a letter dated 4 February 2009, the DEC approved the discontinuation of the semi-continuous monitoring of the standing water levels included as part of the seepage and groundwater management plans. The DEC has found that the semicontinuous monitoring has not added to the understanding of groundwater standing water levels beyond that already provided by the monitoring regime outlined by licence conditions and further detailed in the Seepage and Groundwater Management Plan.</p> <p>Subsequently this management action was removed from the FSGMP.</p>

Item	Management Action(s)	Summary
Groundwater Quality Monitoring	<ul style="list-style-type: none"> Confirm if the 2004/5 Licence sampling frequency is adequate. 	<p>To confirm that the 2004/5 Licence sampling frequency was adequate (i.e. able to identify spikes during the discharge of tailings), KCGM implemented a modified monitoring schedule during the fourth quarter of 2005. The modified monitoring schedule required all monitor bores to be sampled quarterly for a suite of trace elements: (arsenic, copper, iron, mercury, and zinc) and a subset of twenty bores was sampled monthly (previously sampled quarterly) for pH, Electrical Conductivity (EC), cyanide (Total, WAD and Free).</p> <p>A review of the data surrounding the increased monitoring frequency and additional analytes is discussed in the 2006 Annual Review of Groundwater Data (Peter Clifton & Associates, 2007). Results of the trace element sampling indicated that the trace element concentrations do not correlate well with either the main indicator of TSF seepage in groundwater (TDS) or with cyanide concentrations and are therefore of no benefit to the groundwater quality monitoring programme.</p> <p>And with regards to the increased sampling frequency, no significant new trends were identified to indicate that the 2004/5 Licence frequency was inadequate. In fact, it was recommended that the frequency of sampling to be reduced from quarterly to six-monthly.</p> <p>Subsequently changes were made to the Licence issued 26 September 2008, whereby the requirement to analyse for trace elements in the monitoring bores was removed although the sampling frequency remained as monthly and the requirement to analyse for trace elements was added to the production bores.</p> <p>Changes were also made to the FSGMP, issued 26 September 2008, whereby the monitoring with regards to groundwater quality management referred to the Licence.</p>
	<ul style="list-style-type: none"> Annual Audit recommendation to remove groundwater quality monitoring from the FSGMP. 	<p>In the 2018 and 2019 Annual Audits of the FSGMP (Big Dog Hydrogeology), it was recommended that aspects pertaining to groundwater quality monitoring be removed from the FSGMP as groundwater quality is of limited importance to managing impacts to vegetation, the primary objective of the FSGMP.</p> <p>In response to this recommendation, KCGM removed the Groundwater Quality Management section from the April 2020 version of the FSGMP.</p> <p>Note: Groundwater quality monitoring continues to be undertaken in accordance with Licence requirements and reported to the DWER in the Quarterly Groundwater Reports.</p>
Investigate Cyanide Species	<ul style="list-style-type: none"> Define the species of cyanide that are present in the groundwater. Analyse a representative selection of monitoring bores for cyanide species. 	<p>The Thompson & Brett Report (2004) recommended that further analysis of cyanide be undertaken to define the species of cyanide that are present in the groundwater as existing low levels of cyanide made it difficult to determine contamination and movement of other seepage products.</p> <p>KCGM undertook cyanide speciation test work on 10 groundwater bores within the eastern borefield. These bores were chosen as they had a total cyanide concentration in the upper bound of the range of values throughout the borefield. This approach was taken to target groundwater which might have detectable concentrations of the cyanide species.</p> <p>The results were reported to the then Department of Environment (DoE) in December 2005 and indicated that while there was a range of cyanide species in the groundwater, the majority are in a stable form and do not pose a threat to the environment.</p> <p>It was reasoned that unless an unusual trend developed in the routine cyanide analysis (free, WAD and total), no further cyanide speciation work was warranted.</p> <p>Subsequently this management action was removed from the FSGMP.</p>

Item	Management Action(s)	Summary
Additional Monitoring Bores	<ul style="list-style-type: none"> • Increase monitoring coverage. • Install 15 monitoring bores. 	<p>The Thompson & Brett Report recommended the installation of monitoring bores to the north of the Fimiston I TSF. Accordingly, KCGM installed 16 monitoring bores around the Fimiston TSFs, eight of which were to the north of Fimiston I TSF in order to characterise the broad groundwater conditions beyond the 2004/5 DoE licence network of monitoring bores.</p> <p>The sampling of these monitoring bores was incorporated into the revised schedule for monitoring both groundwater level and quality in the Licence issued 29 September 2006.</p> <p>The Thompson & Brett Report also recommended the installation of monitoring bores to the south of the Fimiston I TSF within the footprint of the adjacent waste dump. KCGM considered this to be impractical and of limited benefit as the groundwater would be up to 70 m beneath the surface of the adjacent waste rock dump. Additionally, there are groundwater bores already installed to the south of this waste dump where natural ground levels occur.</p> <p>The current schedule of monitoring bores is stipulated in the Licence.</p>
Vegetation Monitoring	<ul style="list-style-type: none"> • Confirm that the SGMP is protecting the environmental value of the area. • Professionally photograph transects and photo points. • Review of scope of monitoring is adequate. 	<p>Vegetation monitoring in the vicinity of the Fimiston TSFs commenced in 2000 in accordance with Licence requirements, the results of which were reported to the DWER as part of the Annual Environmental Report.</p> <p>In December 2005 a review of the vegetation monitoring programme was undertaken and a number of recommended changes, including additional monitoring sites, were made to ensure the monitoring programme adequately represents vegetation surrounding the Fimiston TSFs. These changes were implemented in February 2007 following agreement with the DEC).</p> <p>The vegetation monitoring component of the FSGMP was removed in 2016 following removal of vegetation monitoring conditions from the Licence in November 2015. It was deemed that over 10 years of photographic monitoring had shown there was no affect to vegetation health and that the depth to groundwater limits imposed by the licence are sufficient to prevent groundwater levels rising into the root zone and causing detrimental impacts to the surrounding vegetation.</p>
Tree Root Study	<ul style="list-style-type: none"> • Depth of eucalypt tree roots study, specific to the Goldfields Area. 	<p>It was recommended by the DEC in their response to the 2006 Annual Audit of the FSGMP to consider a Tree Root Study of eucalypt species around the Fimiston TSFs.</p> <p>KCGM engaged Botanica Consulting to review the requirement for Tree Root Study. Results of this review were presented to the CRG and it was agreed that a Tree Root Study would not be necessary based on KCGM's current TSF monitoring programme and case study information.</p> <p>However, KCGM will undertake further tree root investigations if the opportunity arises, in order to gain a better understanding of tree root depths of eucalypts in the Goldfields region.</p>

3. OBJECTIVES AND TARGETS

The primary objective of the FSGMP is to prevent impact to vegetation as a consequence of rising groundwater levels due to seepage from the Fimiston I and Fimiston II TSFs.

The management targets for the FSGMP are outlined in Table 2.

Table 2: FSGMP Management Targets

Item	Management Measure	Target
Depth to Groundwater in Compliance Monitoring Bores ¹	Maintain groundwater levels through seepage recovery (i.e. operation of the Eastern Borefield).	>4 mBGL
TSF Supernatant Pool Size, under normal operation	Minimise the normal operating supernatant pool size on the Fimiston TSFs through decant recovery.	<15% of the total surface area of the paddock in which deposition is occurring

¹ NB: Please refer to the Licence for the current list of Compliance Monitoring Bores.

4. SEEPAGE AND GROUNDWATER MANAGEMENT

To actively manage seepage and groundwater, KCGM has implemented the following controls:

- Recovering seepage by means of production bores and seepage interception trenches.
- Minimising the normal operating supernatant pool area on the Fimiston TSFs.
- Monitoring groundwater levels in accordance with licence conditions.

4.1. Seepage Recovery

KCGM has established a network of seepage recovery bores and interception trenches around the perimeter of the Fimiston I and Fimiston II TSFs (refer to Figure 1 for map). The Eastern Borefield has been progressively established since 1993 with the majority of the production bores located within 100 m of the Fimiston TSFs.

In accordance with the *Rights in Water and Irrigation Act 1915*, KCGM has been issued a Licence to Take Water (GWL66252) for seepage recovery from the Eastern Borefield with an annual allowable groundwater abstraction volume of 4,000,000 kL. The annual abstraction allocation was increase from 700,000 kL in 2012.

The annual volume of groundwater produced from the Eastern Borefield has ranged from 17,627 kL in 1993 to 3,483,348 kL in 2012, which reflects the progressive expansion and optimisation of the Eastern Borefield. The long-term average volume of groundwater produced by the Eastern Borefield is approximately 2,700,000 kL per annum. This is equivalent to 67% of the licensed allocation and an average flow rate of 87 L/s. This flow rate is deemed to be sufficient to manage seepage and maintain groundwater levels below the target depths.

A contribution to the reduced total groundwater production since 2012 includes some production bores having groundwater depths approaching the pump setting, which reduces the pumping rate which can be achieved from those bores. In particular this has occurred in production bores near the Fimiston I TSF where tailings deposition was temporarily suspended from 2013 to 2018.

All groundwater produced from the Eastern Borefield is saline. The Fimiston Processing Plant operated by KCGM has capacity to receive the total flow from the Eastern Borefield for use in ore processing.

4.2. TSF Supernatant Pool Size

The extent of the supernatant pool controls the portion of the tailings pile which remains permanently saturated, and therefore retains hydraulic connection from the pool at the surface of the facility to the potential seepage zone at the base of the facility. Generally, the larger the pool size, the larger the rate of seepage. This is confirmed by numerical modelling of seepage from the Fimiston I TSF which identified that allowing a supernatant pool equivalent to 20% of the paddock resulted in significantly shallower groundwater elevations around the facility compared to maintaining a pool area of 10% of the paddock (Golder, 2015).

Therefore, to mitigate the seepage rate, the size of the supernatant pool needs to be kept to a minimum. A target of the KSGMP is to maintain the supernatant pool size, under normal operating conditions, below a maximum of 15% of the total surface area of the paddock in which deposition is occurring on the Fimiston TSFs. The total paddock surface area will be determined by survey upon the completion of each wall raise.

The size of the supernatant pool is monitored through a combination of daily visual inspections and fortnightly area surveys. To assist with maintaining the size of the supernatant pool below the 15% target, the rate of decant recovery is adjusted as required.

In the event that the size of the supernatant pool becomes greater than the target size (e.g. due to a high rainfall event), decant water from the TSFs will be used as a priority for mineral processing in preference to groundwater derived from remote saline water borefields (i.e. the Northern and Southern Borefields).

4.3. Depth to Groundwater

Protection of vegetation requires the depth to groundwater to be maintained so as not to impact on the soils from which plants source water (i.e. the root zone).

Studies referenced by the then Department of Agriculture and Food Western Australia determined that whilst native vegetation species may be relatively tolerant of high saline soils, many are poorly adapted to water logging.

A depth to groundwater target of 4 mBGL was self-set by KCGM in the 1990s with the aim of protecting vegetation in the area surrounding the Fimiston TSFs. However, there was no scientific data to support this target and there was uncertainty around the effectiveness of this target on long-term protection of vegetation. A tree root investigation undertaken by Botanica Consulting (2009) found that the majority of roots occur within the top 1 m of the soil profile.

Maintaining depth to groundwater >4 mBGL has been effective in protecting Eucalypt woodland vegetation in the vicinity of the Fimiston TSFs.

The depth to groundwater targets do not apply within the Operational Area of the Fimiston I and Fimiston II TSFs as it is recognised that groundwater level management is most difficult in the immediate proximity of the TSF with this area having the greatest potential to fluctuate. This fluctuation is due to operational changes in deposition of tailings within the facility and the size of the supernatant pool.

The Operational Area of the Fimiston I and Fimiston II TSFs includes the footprint of the facility plus a halo around the perimeter, in which infrastructure associated with the operation of the facility is located. The halo is a maximum of 100 m wide or within the premises boundary. In the case of the Fimiston TSFs, this operational area equates to about 20% of the TSF footprint and is considered part of the facility. The size of the Operational Area halo is subject to annual review to ensure that it remains appropriate.

In accordance with Condition 3.3.1 of the Licence, depth to groundwater limits are applied to Compliance Monitoring Bores. Generally, these are monitoring bores located outside of the TSF Operational Area, however it does not apply to all monitoring bores located outside of the TSF Operational Area. NB: Please refer to the Licence for the current list and map of Eastern Borefield Compliance Monitoring Bores.

4.4. Pumping Capacity

In accordance with Condition 3.3.2 of the Licence, KCGM is required to take relevant management action (i.e. increase pumping capacity) in the case of an event as stipulated in Table 3.3.2.

Groundwater levels and trends in the Eastern Borefield Compliance Monitoring Bores are reviewed during the preparation of the Fimiston TSF Quarterly Groundwater Monitoring Report. Depending on groundwater levels and trends, a decision will be made as to whether an increase in groundwater pumping capacity is required. For example, short-term shallowing of groundwater levels in response to significant rainfall events do not necessarily trigger the requirement to increase pumping capacity, as some areas naturally recover quickly without the need for increased pumping.

The event criteria and required management actions associated with the Eastern Borefield are summarised below in Table 3.

Table 3: Management Actions for Groundwater Level and Quality Targets

Event		Management Action
Eastern Borefield Compliance Monitoring Bores	Groundwater level <4 mBGL	Increase pumping capacity within 6 months
	Groundwater level >4 mBGL and <6 mBGL	Review the potential cause of the change in groundwater and increase pumping capacity within 9 months if cause is directly associated with seepage

An increase in pumping capacity can be achieved by:

- Maximising the use of near-by production bores;
- Upgrading existing infrastructure, such as pumps and pipelines; and/or
- Construction of new production bores and infrastructure.

The key steps/factors that determine the timeframe required for new bore installation are as follows:

- Expert consultation on water level trend – whether long/short term or event related (rainfall).
- Identification of bore locations.
- Licence application and approval to construct bores.
- Drilling contractor availability.

4.4.1. Construction and Decommissioning of Bores

New monitoring/production bores that are established within the Eastern Borefield will be constructed according to the requirements of the DWER and to relevant guidance contained in the following:

- National Minimum Bore Specification Committee - Minimum Construction Requirements for Water Bores in Australia (3rd edition, 2012).
- Department of Water (DoW), Water Quality Protection Guideline No 4 - Installation of Mine Site Groundwater Monitoring Bores.

If there is an inconsistency in construction standards, the requirements specified by the DWER will take precedence over those specified in the *Minimum Construction Requirements for Water Bores in Australia*.

The details of newly constructed production bores will be reported in accordance with the DWER requirements.

5. POST CLOSURE

Long-term management of ground and surface water systems affected by KCGM's mining operations has been identified as a key closure aspect within KCGM's Mine Closure Plan (MCP). It is envisioned that post closure criteria for groundwater levels surrounding the Fimiston TSFs will be aligned with the objective of this FSGMP, which is to prevent impact to vegetation as a consequence of rising groundwater levels due to seepage from the Fimiston TSFs.

The MCP has been developed and implemented in accordance with condition 11 of Ministerial Statement 782 and tenement conditions of associated Mining Leases. KCGM is required to review and resubmit the MCP every three years, and requires approval by both the Environmental Protection Authority (EPA) and the Department of Mines, Industry Regulation and Safety (DMIRS).

It is anticipated that once tailings deposition ceases at the Fimiston TSFs, seepage from the facility will continue at reducing rates, and continued operation of the Eastern Borefield will be required to manage groundwater levels post closure. Pumping will be terminated once groundwater elevations reach agreed targets. The duration and rate of pumping will be a function of the residual seepage rates from the Fimiston TSFs.

It should be noted that as a result of the permanent changes to the hydrological regime associated with the operation of the Fimiston TSFs, groundwater elevations are unlikely to return to the estimated pre-mining elevations in all locations. Therefore, post closure criteria for groundwater levels will be determined on a facility and location specific basis, and will be finalised and incorporated into future versions of the MCP.

6. REVIEW

Review of the FSGMP will be undertaken as per the following:

- On advice from the DWER;
- Following a significant change in process or operational aspect; or
- Following recommendations made in the annual audit.

7. REPORTING

7.1. Quarterly Groundwater Monitoring Report

In accordance with Condition 4.2.2 of the Licence, KCGM shall submit a Quarterly Groundwater Monitoring Report to the DWER within 46 calendar days after end of the reporting period.

Results of groundwater monitoring programme and commentary on performance against the FSGMP targets are provided within this report.

7.2. Annual Audit

In accordance with Condition 1.3.6 of the Licence, the FSGMP is required to be audited each year by a suitably qualified professional. The audit shall include but not be limited to:

- The licensee's progress towards existing targets and milestones;
- Whether the objectives in the FSGMP are being achieved and are still appropriate; and
- A statement of the independence of the auditor, including experiences and qualifications.

The reporting period for the annual audit is currently defined by KCGM to be 1 October to 30 September each year.

7.3. Annual Environment Report

In accordance with condition 4.2.1 of the Licence, KCGM shall include a copy of the Annual Audit Report of the FSGMP in the Annual Environment Report, which is submitted to the DWER by 31 March each year.

8. STAKEHOLDER CONSULTATION

Initially, in accordance with conditions of the Licence, as per the Minister for the Environment's appeal determination, the outcomes of the audit for the FSGMP were made available for public comment for a minimum period of 21 days. This condition was removed when the Licence was reissued on 26 September 2008.

The requirement to consult annually with the CRG on the FSGMP draft audit report was incorporated into the FSGMP in 2009. Since then the feedback received from the CRG has been supportive of KCGM's management practices however has not resulted in any material changes to the FSGMP.

Consequently, KCGM has determined that presentation of the audit report findings to the CRG is no longer required. However, a copy of the audit report will be provided to the CRG members if requested.

9. GLOSSARY OF TERMS

Beneficial Use: The current or future uses of an identified resource. Beneficial Use is also referred to as the Environmental Value of a resource. Beneficial use designations provide objectives for the management, use and protection of the resource.

Bore: A narrow, normally vertical hole drilled in soil or rock to monitor or withdraw groundwater from an aquifer.

Borefield: A group of bores to monitor or withdraw groundwater.

Compliance Monitoring Bore: Monitoring bores which are located outside the TSF Operational Area as listed in the Licence.

CRG: Community Reference Group

DWER: Department of Water and Environmental Regulation.

Eastern Borefield: This is the bore network that is constructed around the Fimiston I and Fimiston II TSFs and comprises all of the Production and Monitoring Bores and associated infrastructure.

FSGMP: Fimiston Seepage and Groundwater Management Plan.

Groundwater Level: The upper surface of groundwater, or the level below which an unconfined aquifer is permanently saturated with water, (also known as water-table, piezometric level).

Increased Pumping Capacity: Increased abstraction of groundwater from an area which may be achieved by additional bore installation, pump or pipeline upgrade.

KSGMP: Kaltails Seepage and Groundwater Management Plan.

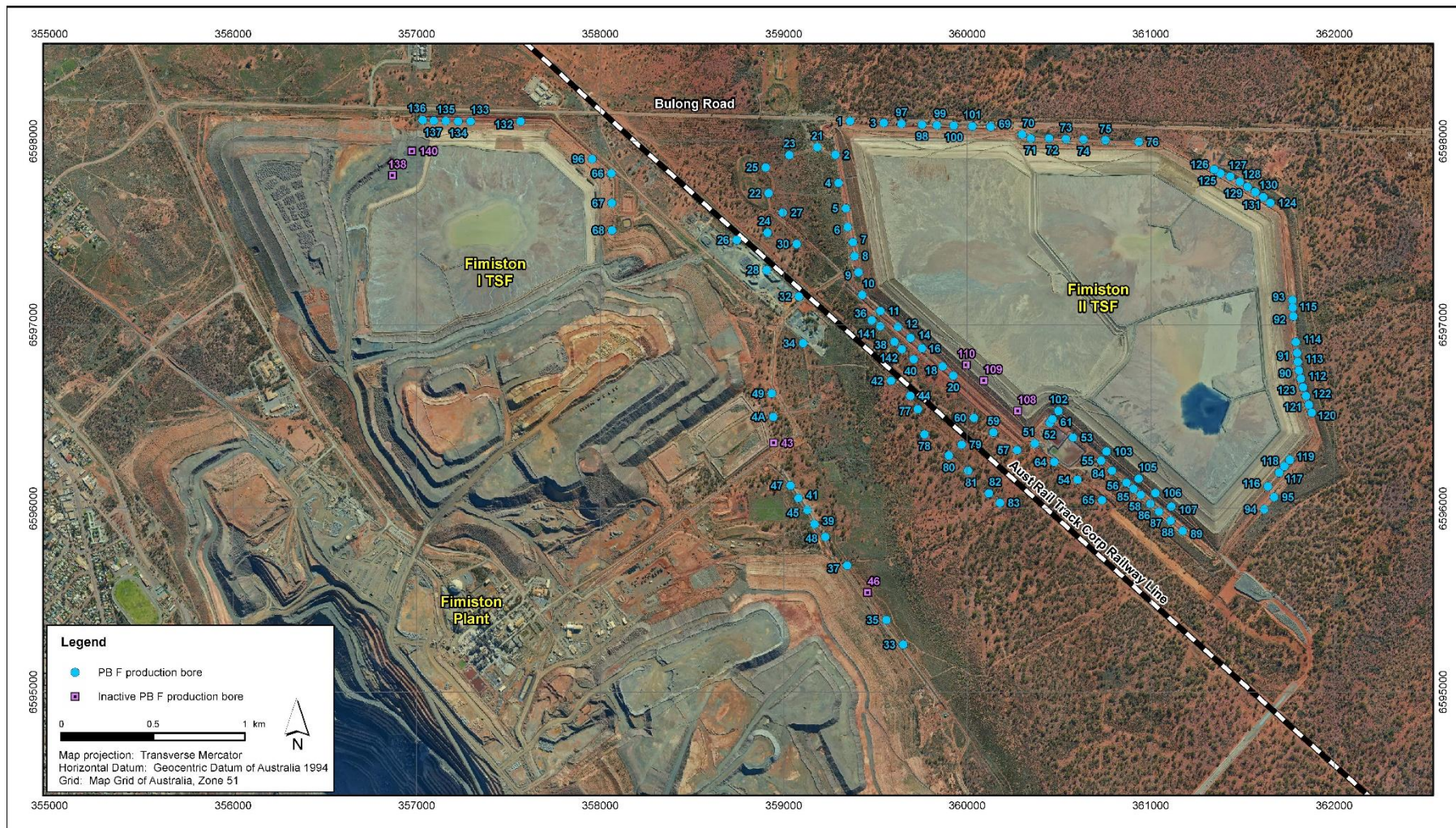
mBGL: Is the groundwater level or depth below ground level.


TSF Operational Area: The area of the Kaltails TSF that includes the immediate footprint of the facility plus a halo around the perimeter in which infrastructure associated with the operation of the facility is located. The halo is a maximum of 100m wide.

Seepage: Water infiltration into the soil beneath the TSF.

Supernatant Pool: This is the pool of water that forms on the surface of an active TSF paddock and comprises water that has bled to the surface from the tailings slurry as it settles. The water then flows to the low point on the TSF surface from where it is reclaimed for reuse in the Processing Plant.

Tailings Storage Facility (TSF): An engineered structure (holding area) that consists of embankments designed for storing tailings usually with a mechanism to recover water for re-use.



	Production bore locations		Figure 1
			Date: April 2020