GROUNDWATER RESOURCE MANAGEMENT

REPORT

UPDATED GROUNDWATER MANAGEMENT PLAN

MT MORGANS TAILINGS STORAGE FACILITY

MOUNT MORGANS GOLD OPERATION

Prepared for:

[redacted]

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[redacted]

GLOSSARY OF TERMS

Aquifer	A saturated geological unit that is permeable enough to yield economic quantities of water.
Aquitard	A geological unit that is permeable enough to transmit water but not sufficient to yield economic quantities.
Aquiclude	A geological unit that is impermeable, *i.e.* cannot transmit water.
Confined Aquifer	An aquifer bounded above and below by an aquiclude, where the water level in the aquifer extends above the aquifer top and is represented by a pressure head, *i.e.* the aquifer is completely saturated.
Drawdown	The change in hydraulic head observed at a well in an aquifer, typically due to pumping.
Leaky Aquifer or Semi-Confined Aquifer	An aquifer with upper and/or lower boundaries as an aquitard, where the water level in the aquifer extends above the aquifer top and is represented by a pressure head. Pumping from the aquifer induces leakage from the neighbouring aquitard units.
Unconfined or Water table Aquifer	An aquifer that is bounded below by an aquiclude, but is not restricted on its upper boundary, which is represented by the water table.
Hydraulic Conductivity (K) **[Permeability]**	The volume of water that will flow in a unit time under a unit hydraulic gradient through a unit area. Analogous to the permeability with respect to fresh water (units commonly m/d or m/s).
Transmissivity (T)	The product of the hydraulic conductivity and the saturated aquifer thickness (units commonly $m^3/d/m$ or m^2/d)
Specific Storage (S_s)	The volume of water released from a unit volume of aquifer under a unit decline in hydraulic head, assuming confined aquifer conditions. Water is released because of compaction of the aquifer under effective stress and expansion of the water due to decreasing pressure (units commonly m^{-1}).
Storativity (S)	The volume of water released from a unit area of aquifer, i.e. the aquifer column, per unit decline in hydraulic head (dimensionless parameter).
Specific Yield (S_y)	The volume of water released from an unconfined aquifer per unit decline in the water table. The release of water is mostly from aquifer draining. Contributions from aquifer compaction are generally small. Analogous with effective porosity (dimensionless parameter).

Terms referenced from Kruseman GP and deRidder NA (1994) 2nd edition, Analysis and Evaluation of Pumping Test Data. ILRI Publication 47 The Netherlands

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1.0 INTRODUCTION

This report introduces the updated groundwater management plan for the Mt Morgans Tailings Storage Facility (TSF), as requested by [redacted] of Genesis Minerals Ltd. The prior groundwater management plan, established by Groundwater Resource Management (GRM, 2020; GRM, 2021), delineates the approach to groundwater management to prevent any adverse environmental impacts on nearby potential receptors. The updated plan incorporates water level trigger and threshold values in all existing monitoring bores and outlines a strategy for addressing adverse effects should threshold values be surpassed. Noteworthy water management modifications are detailed within this report.

The outlined strategy incorporates groundwater control structures, such as seepage interception drains, and sumps, to manage potential groundwater expressions on the surface in areas where natural groundwater levels are particularly shallow. Furthermore, the strategy includes the establishment of a recovery borefield to manage rising groundwater levels around the TSF.

As of now, seven sumps and associated drains have been strategically placed around the TSFs, with more detailed information provided later in this report. These sumps are equipped with pumps that transport seepage-affected groundwater to the TSF surface, where it is subsequently reused in the plant. Additionally, two seepage recovery bores were drilled and installed in 2022 (GRM, 2022), further contributing to the effective management of groundwater mounding at the facility.

The strategy also includes recommendations for further seepage interception infrastructure to manage seepage impacts with the resumption of operations.

1.1 Background

The Mount Morgans Gold Operation (Mt Morgans) is located in the north-eastern goldfields of Western Australia, approximately 27 km southwest of Laverton and 730 km northeast of Perth (see Figure 1). Mt Morgans is under the ownership of Mt Morgans WA Mining Pty Ltd, a wholly owned subsidiary of Dacian Gold Limited (Dacian), which, in turn, is owned by Genesis Minerals Ltd (Genesis).

The Mount Morgans TSF was operational from 2020 to 2023 while it was part of Dacian. Operations were suspended in April 2023, leading to the placement of mining operations, including the TSF, into care and maintenance. Genesis acquired Dacian, along with Mt Morgans, in November 2023, and the company is currently progressing towards resuming production in 2024.

The project encompasses the Westralia and Jupiter areas (refer to Figure 1). The Mt Morgans tailings storage facility (TSF) is situated at Jupiter, directly north of the Lake Carey playa system. The Mt Morgans TSF is designed as a hillside paddock facility, consisting of two cells, referred to as Cell 1 and Cell 2, which are to be constructed in stages using the upstream technique (see Figure 2). Both Cell 1 and Cell 2 are partially located within a playa, which is a northern extension of the main Lake Carey playa system. The TSF design incorporates flood protection measures to safeguard the TSF embankments against inundation during flooding events.

On the 27th of March 2018, Site Licence L9010/2016/1 was amended to include the Jupiter processing facility and TSF under Category 5 of the Environmental Protection Regulations (1987) - Schedule 1.

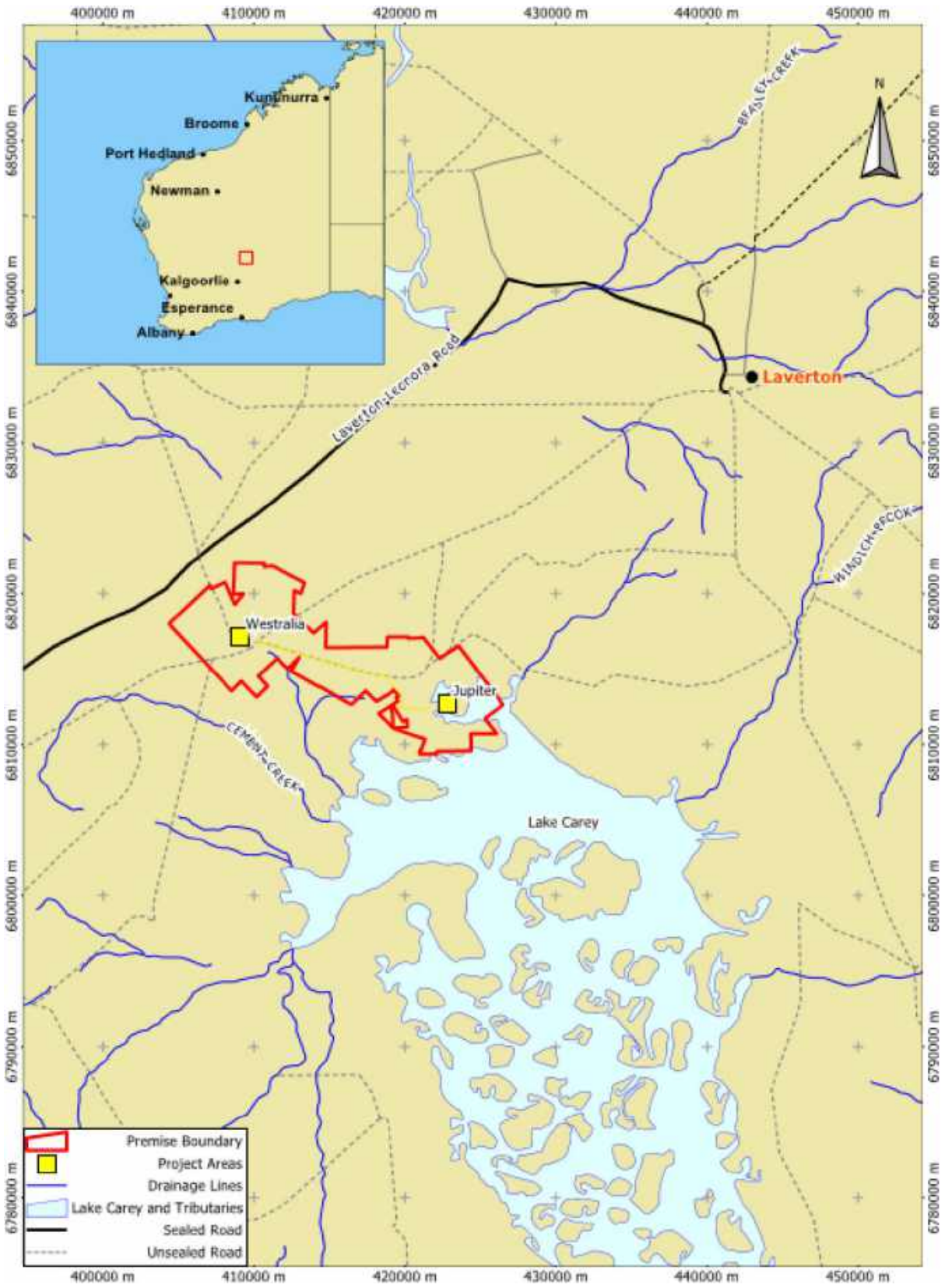


Figure 1: Project Location (MGA94 Zone 51)

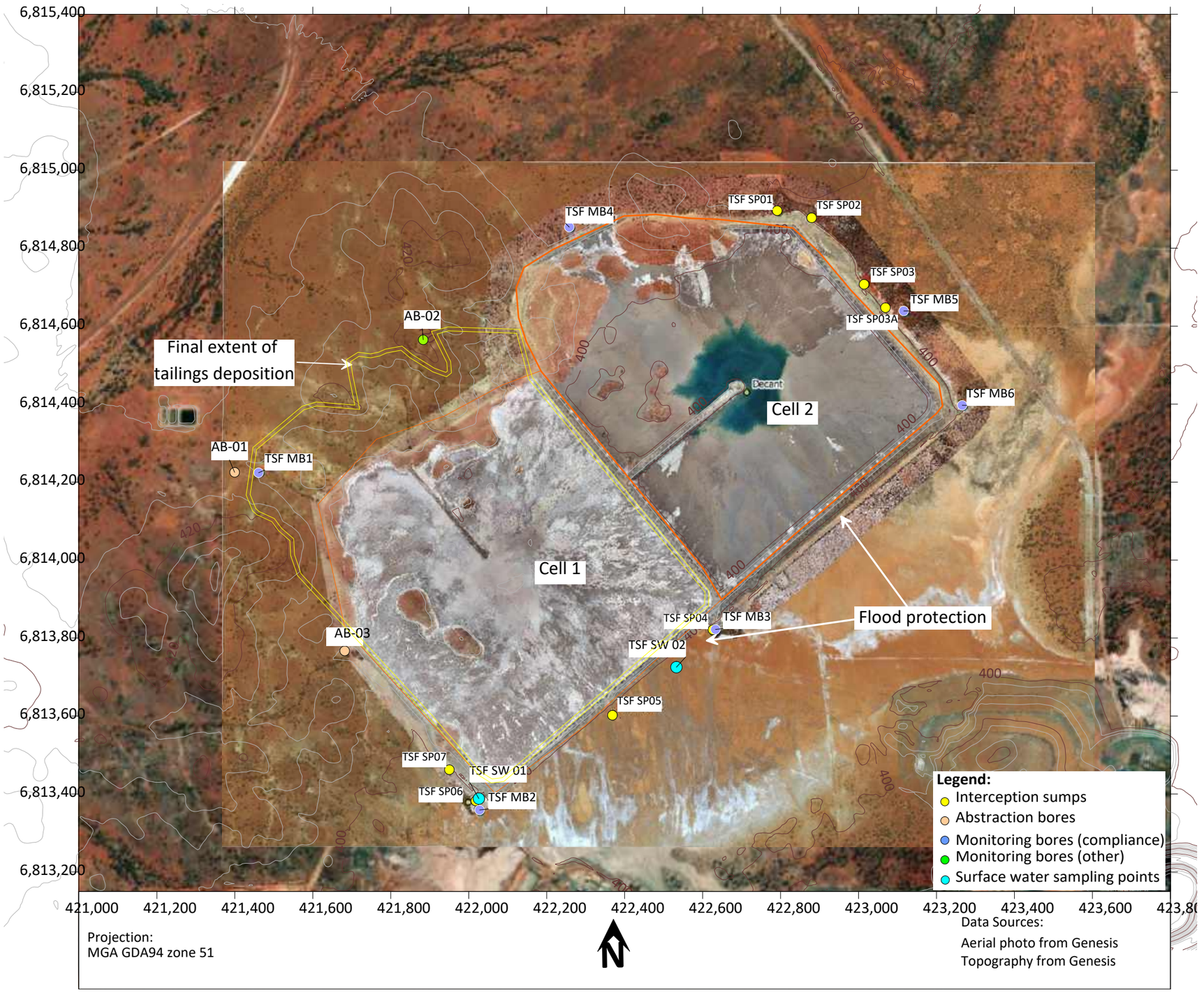


Figure 2: Mt Morgans TSF

Condition 3.5.2 of site licence L9010/2016/1 states:

"The licensee shall provide a groundwater management plan to include:

a) *A hydrogeological assessment to delineate aquifers and identify directions of groundwater flow;*
b) *Potential* sensitive *receptors including calcrete aquifers, salt lakes (playas) and any stock bores or potable water sources; and*
c) *Proposed* locations *of groundwater monitoring bores upstream and downstream of the tailings storage facility and located so as to monitor potential impacts to sensitive receptors."*

To comply with these license conditions, Mt Morgans formulated a tailings groundwater management plan for the Mt Morgans TSF, with Revision 1 of the management plan released on 30 August 2019 (Dacian, 2019). Six groundwater monitoring bores were subsequently installed around the TSF to monitor potential groundwater impacts (see Figure 2). Two versions of the groundwater management plan were developed:

- The original groundwater management plan, established in 2020 (GRM, 2020), outlines receptors around the TSF and details groundwater management to prevent adverse environmental impacts in accordance with license conditions.
- An updated version was released in 2021 (GRM, 2021) and incorporated implemented management systems, specifically sumps and pumps, to prevent adverse groundwater-related environmental impacts as required by license conditions.

This groundwater management plan represents a further update, introducing additional management systems, namely seepage recovery bores, and describing additional measures to prevent adverse groundwater-related environmental impacts.

1.2 Objective

The objective of the groundwater management plan for the Mt Morgans TSF is to assess potential groundwater impacts on receptors around the TSF, based on the latest groundwater and surface water monitoring data. The plan also outlines a strategy for managing groundwater to avoid potential adverse effects on receptors. This strategy includes trigger and threshold values and a procedural framework involving a series of actions initiated if trigger and threshold values are exceeded.

Note that "threshold" and "action" values are used interchangeably within the document.

1.3 Guidelines and Legal Obligations

Responsible health, safety, environmental and community management is a core company value and all individuals associated with Genesis have a responsibility to ensure that the impact on individuals and the environment is minimised. As part of everyone's duty of care, all risks are to be reviewed to minimise harm.

Pollution that may be caused by the discharge of contaminates into the surrounding environment within Western Australia is regulated via the Environmental Protection Act 1986 (EP Act).

Genesis also have site specific legal requirements regarding groundwater and surface water management as identified in regulatory approval documents such as Department of Mines, Industry Regulation and Safety (DMIRS), Mining Proposals commitments and tenement conditions, and DWER works approvals and site operating licence.

Legislative and site-specific requirements regarding construction and operations of the Mt Morgans TSF are detailed in Table 1.

Table 1: Site specific legal requirements at the Mt Morgans TSF

Legislation
Environmental Protection Act 1986 Environmental Protection Regulations 1987 Environmental Protection (Unauthorised Discharges) Regulations 2004
Standards and Guidelines
Code of Practice for Tailings Storage Facilities in Western Australia issued by the WA Department of Mines, Industry Regulation and Safety (DMIRS - formerly DMP) Australian National Committee on Large Dams (ANCOLD) May 2012 guidelines on tailings dams planning, design, construction and closure DMP August 2015 guide to the preparation of a design report for tailings storage facilities (TSFs)
DWER Environmental Licence
L9010/2016/1 3.4.1, 3.5.1, 3.5.2 and 3.5.3 • A hydrogeological assessment to delineate aquifers and identify directions of groundwater flow • Potential sensitive receptors including calcrete aquifers, salt lakes (playas) and any stock bores or potable water sources • Proposed locations of groundwater monitoring bores upstream and downstream of the tailings storage facility and located so as to monitor potential impacts to sensitive receptors.”
DWER Works Approval
W6008/2016/1
DMIRS Mining Proposals
Registration ID 60641 • The TSF will be constructed to a standard that ensures the long-term containment of tailings. • All hypersaline water and tailings pipelines will be bunded and/or double cased to ensure containment of spills. • Groundwater levels and quality in the vicinity of the production borefield, Jupiter open pits and TSF will be monitored in accordance with a DER Environmental Protection Licence and DoW abstraction licence. • Tailings supernatant water will be monitored regularly and will include analysis for pH, EC, alkalinity/acidity, major anions and cations and dissolved metals and appropriate cyanide species.
DMIRS Tenement Conditions
M39/236 • The lessee ensuring that all matter containing saline, alkaline, cyanide or other process chemical constituents being retained within holding facilities, such that there is no impairment of surface or underground waters. • Monitor bores being established and a full analysis of groundwater chemistry (pH, salinity, cyanide and metals) being undertaken prior to commencement of processing to establish baseline water quality.

2.0 TAILINGS STORAGE FACILITY AND SEEPAGE INTERCEPTION INFRASTRUCTURE

The TSF design was carried out by ATC Williams in 2018. The TSF description is based on the design study report of the TSF. Genesis provided information on the current seepage interception infrastructure situated around the perimeter of the TSFs.

2.1 TSF stages and design

The TSF is a hill side paddock facility, comprising two cells referred to as Cell 1 and Cell 2 (Figure 2). The TSF will be expanded through several stages of embankment raises to accommodate tailings from the process plant. The total capacity of the TSF is 25 Mt of tailings and the maximum height of the embankment is about 19.5 m. The storage capacity of Cells 1 and 2 for the various stages of development are listed in (Table 2)

Table 2: TSF Stages

TSF Cell	Construction Stage	Embankment Crest (m RL)	Storage Capacity (Mt)
Cell 1	Stage 1 (Starter)	408	2.8
	Stage 2	412	3.7
	Stage 3	415	3.5
	Stage 4	418	2.8
Cell 2	Stage 1 (Starter)	408	3.0
	Stage 2	412	3.7
	Stage 3	415	3.3
	Stage 4	418	2.6

The outer starter embankments were constructed by the placement of waste rock around the outer edge of the tailings impoundment to provide erosion resistance. The inner side of the embankments were constructed with low permeability material and lined with a bituminous geomembrane liner (excluding the internal embankment) to mitigate against potential long-term internal erosion of the low permeability zone.

The decant system comprises a decant tower at both Cell 1 and Cell 2 located near the centre of the cells which are accessed via causeways. The decant tower construction comprises stacked slotted reinforced concrete ring sections, founded on a reinforced concrete base (footing). Selected, screened rock material forms a filter surrounding the tower. As the tailings level rises in the cells, additional slotted concrete rings will be added to the towers, additional filter rock will be placed, and the access causeway will be raised.

Each decant tower installation is supplied with power and equipped for pumping water back to the plant. The maximum pumping rate is about 3,000 m^3/d.

An underdrainage system was installed on the natural surface at the upstream toe of each cell during the initial Stage 1 construction. The underdrainage system consists of:

- Finger drains: slotted subsoil drains with geotextile wrap extending 20 m from the upstream toe of the embankments towards the decant area.
- Toe drain: slotted subsoil drains with geotextile wrap. These drains run along the upstream toe of the embankments and collect water from the finger drains.
- A collection pipe that runs underneath the embankments and directs water from the toe drains to a collection sump.

2.2 Foundation conditions

Both Cell 1 and Cell 2 are partly situated within a playa which is a northern extension of the Lake Carey playa system (see Section 3 for more details about the geology). Geotechnical investigations indicated that the TSF is underlain by a thin superficial layer of sandy clay (playa clay) overlying high plasticity residual basaltic saprolite clay grading to extremely and highly weathered meta basalt. In the northern part of the TSF area, up to 1.4 m of superficial clayey sand overlies the weathered rock mass. On the flanks of the ridge forming the northern side of the facility, colluvial deposits of clayey sand and clayey gravel up to 1.6 m thick overly the rock mass.

Groundwater levels were shallow at approximately 0.5 m to 1.5 m below the playa surface. The groundwater is hypersaline with Total Dissolved Solid (TDS) concentrations of greater than 200,000 mg/L. (See section 4 for more details about the hydrogeology).

The geotechnical investigations undertaken during the feasibility study indicated that the underlying residual clays in the TSF basin have a very low permeability. Analysis of tube samples taken through the playa clay in September 2017 were consistent with this with an average permeability of 2.6×10^{-8} m/s.

Initially, the design considered proof rolling the surface of the TSF basin to reduce the permeability of the soils. However, ATC Williams concluded that proof rolling would not be practical due to the high saturation of the underlying soils and that proof rolling could rut the surface layers, thereby increasing the overall permeability. Consequently, no treatment was carried out of the TSF basin soils.

2.3 Seepage analysis

ATC Williams carried out seepage modelling using the SEEP/W software to estimate seepage losses from the TSF. The study (ATC Williams, 2018) concluded that:

- Significant lateral seepage through the constructed embankment is not anticipated, particularly with the incorporation of an upstream geomembrane.
- Lateral seepage rates beneath the perimeter embankment of the TSF are likely to be very low (less than 4 m^3/day), provided the facility is satisfactorily constructed.
- Vertical seepage rates from the operating cell are likely to be very low (less than 3 m^3/day) and would be predominantly controlled by the presence of the residual clay materials.

ATC Williams also stated that "*whilst the embankment foundation soils would be saturated under normal operating conditions, the anticipated rate of lateral seepage beneath the embankments is so low that normal daily evaporation should maintain dry surface conditions adjacent to the TSF perimeter and significant daylighting of seepage is not anticipated.*"

ATC Williams did not anticipate adverse environmental impacts on the groundwater as a result of seepage from the TSF.

The reasons for the inconsistency between the anticipated and observed seepage from the TSF is described in more detail below.

2.4 Seepage interception infrastructure

Seepage interception infrastructure, comprising sumps and abstraction bores have been progressively constructed around the TSF in accordance with the groundwater management plan. Seepage interception infrastructure were constructed in response to the monitoring data which showed a rising groundwater level trends, culminating in expressions of groundwater on the surface and exceedances of trigger levels during 2019 and 2020.

The seepage interception infrastructure currently comprises eight sumps installed along the northern side of Cell 2 and the southern corner and south-eastern side of Cell 1 as shown in Figure 2. The figure also shows two seepage abstraction bores, which were installed on the north-western perimeter of Cell 1 (GRM, 2022)

Table 3 provides a summary of the sumps and abstraction bores.

Table 3: Seepage interception sump locations

Sump	Easting*	Northing*	Notes
TSF SP01	422,791	6,814,896	Sump dry
TSF SP02	422,879	6,814,877	Pump runs continuously at 50 kL/hr
TSF SP03	423,014	6,814,707	Sump dry
TSF SP03A	423,069	6,814,647	Pump runs continuously
TSF SP04	422,626	6,813,821	Pump runs intermittently to remove surface water from playa lake surface
TSF SP05	422,368	6,813,601	Pump runs intermittently to remove surface water from playa lake surface
TSF SP06	422,018	6,813,382	Mobile pump used when required
TSF SP07	421,950	6,813,462	Pump runs intermittently
TSFAB01	421,399	6,814,225	Pumped at 2.0 L/s
TSFAB03	421,682	6,813,767	Pumped at 0.5 L/s

*MGA GDA94 Zone 51

Five of the sumps are currently provided with a surface pump to remove seepage affected groundwater that enter the sumps. Two pumps run more-or-less continuously, while 3 pumps are operated manually, and pumps are run intermittently mainly to remove water that might accumulate on the playa lake surface (TSF SP04 and TSF SP05). One sump is provided with a mobile pump and is pumped when required.

Figure 3 shows a typical sump installation. The sumps comprise concrete soak wells (1800mm diameter by 1800 mm height) which have been placed in an excavation, surrounded by crushed rock to facilitate water inflow into the sump.

Figure 3: TSF sump installation (TSF SP03)

At TSF SP04 and TSF SP05, shallow drainage trenches have been constructed to direct water towards the sumps (Figure 4).

The sumps are provided with electrical surface pumps – there are several types of surface pumps with capacities of about 50 kL/hr. Power is supplied by means of a generator. From the sumps, water is pumped onto the TSF surface.

The abstraction bores are supplied with submersible pumps which removes seepage at a rate of 2.0 and 0.5 L/s for TSFAB01 and TSFAB03 respectively. This seepage affected water is pumped back to the process plant for processing.

Another borehole was drilled as part of the seepage recovery drilling programme (TSFMB02), but since the bore had very low yields, the bore was completed as a monitoring bore.

Figure 4: TSF sump with shallow drainage channel.

3.0 SITE DESCRIPTION

3.1 Climate

The climate is semi-arid with hot dry summers and cool to mild winters. Average maximum temperatures vary between 36°C in January and 18°C in June. Average minimum temperatures vary between 22°C in January and 6°C in July. There is occasional frost in winter.

Average yearly rainfall at the Laverton Aero Bureau of Meteorology (BoM) (station no 012305, 1994-2021) is 286.5 mm/yr. Rainfall occurs mainly during the summer season (December to February) representing about 46% of the yearly rainfall (Table 4). Summer rainfall occurs intermittently as a result of thundershowers and tropical lows (including the remnants of tropical cyclones) that move through the region. Winter rainfall between March and August are caused by winter frontal systems moving through the area.

Average yearly rainfall at Laverton increased from about 250 mm in the early 1900s to 310 mm in the 2010s. The increase in yearly rainfall is mainly attributed to increasing summer rainfall and is associated with increasing frequency of tropical systems moving through the Goldfields region. The increase in summer rainfall in the Goldfields region is a widespread phenomenon and is likely attributed to the effects of Global Warming.

Average annual A-pan evaporation rates are about 2,643 mm, based on the BoM station at Kalgoorlie Airport (BoM station no 012038) (Table 4). The potential evaporation rates exceed rainfall by a factor of 9 and potential evaporation rates exceeds rainfall for all months of the year.

Table 4: Climate summary (BoM station 012305, Laverton and BoM station 012038, Kalgoorlie)

Month	Average Rainfall (mm)	Average Evaporation
January	47.6	387.5
February	55.2	305.1
March	39.3	266.6
April	18.3	174.0
May	14.0	111.6
June	15.2	78.0
July	15.2	86.8
August	9.8	117.8
September	6.8	174.0
October	13.7	260.4
November	19.1	309.0
December	28.4	372.0
Total	286.5	2,642.8

3.2 Topography, Vegetation and Hydrology

The topography in the area comprises low hills and ridges surrounded by flat alluvial floodplains. The floodplains drain to a flat salt-lake system (playa) which forms the northern extent of the of Lake Carey playa. The playa is interspersed with localised sand "islands" extend up to 3m above the playa elevation.

The surface elevation in the area ranges from approximately 399 m AHD in the playa to about 440 m AHD along the ridges and hills around the Jupiter mining area.

The land surface generally comprises rock outcrop and surficial gravelly deposits on the ridges with evaporites and clay occurring along the playa. There is sparse spinifex grass vegetation along the low-lying areas and occasional shrubs and trees up to about 3 m high along the ridges and hills. Trees are also present locally along natural drainage lines. The playa is barren of vegetation with occasional areas of bare rock exposure.

The northern boundary of the TSF site is formed by an east-west trending ridge with a crest elevation of 436 m RL. The ridge incorporates two saddles, one about at RL 405 m RL and approximately 120 m wide and the second at RL 413 m RL and approximately 200 m wide.

The site lies within the Lake Carey catchment and the playa forms the most dominant local hydrological feature. The Lake Carey shoreline is located about 2.5 km to the south of the Jupiter mining area (Figure 1) and is separated from the mining area by a ridgeline which is about 80 m high.

All the watercourses and drainage lines in the vicinity of the Jupiter mining area are ephemeral. However, flooding may occur during the summer months between January and March in response to high intensity rainfall events.

The 100-year ARI flood level is at approximately 400.5 m AHD, which is about 1.5 m above the playa surface.

3.3 Geology

The geological conditions at the TSF were based on Australian Geological Series (1:100,000, Sheet 3340, Laverton, Australian Geological Survey Organisation (AGSO)) and geological logs from the surrounding monitoring bores. Figure 5 shows the interpreted surface geology at the TSF.

The geological maps show that the south-eastern part of the TSF is situated on playa sediments comprising evaporites, sand and clay. The remaining TSF is situated on Archean meta-basalt units. There are two porphyry units underlying the north-western part of Cell 1. A north-south trending geological fault bisects Cell 2 and the eastern corner of Cell 1. There is also an Archean syenite unit directly west of TSF MB1. Monitoring bore TSF MB5 intersected quartz and gypsum sand dunes.

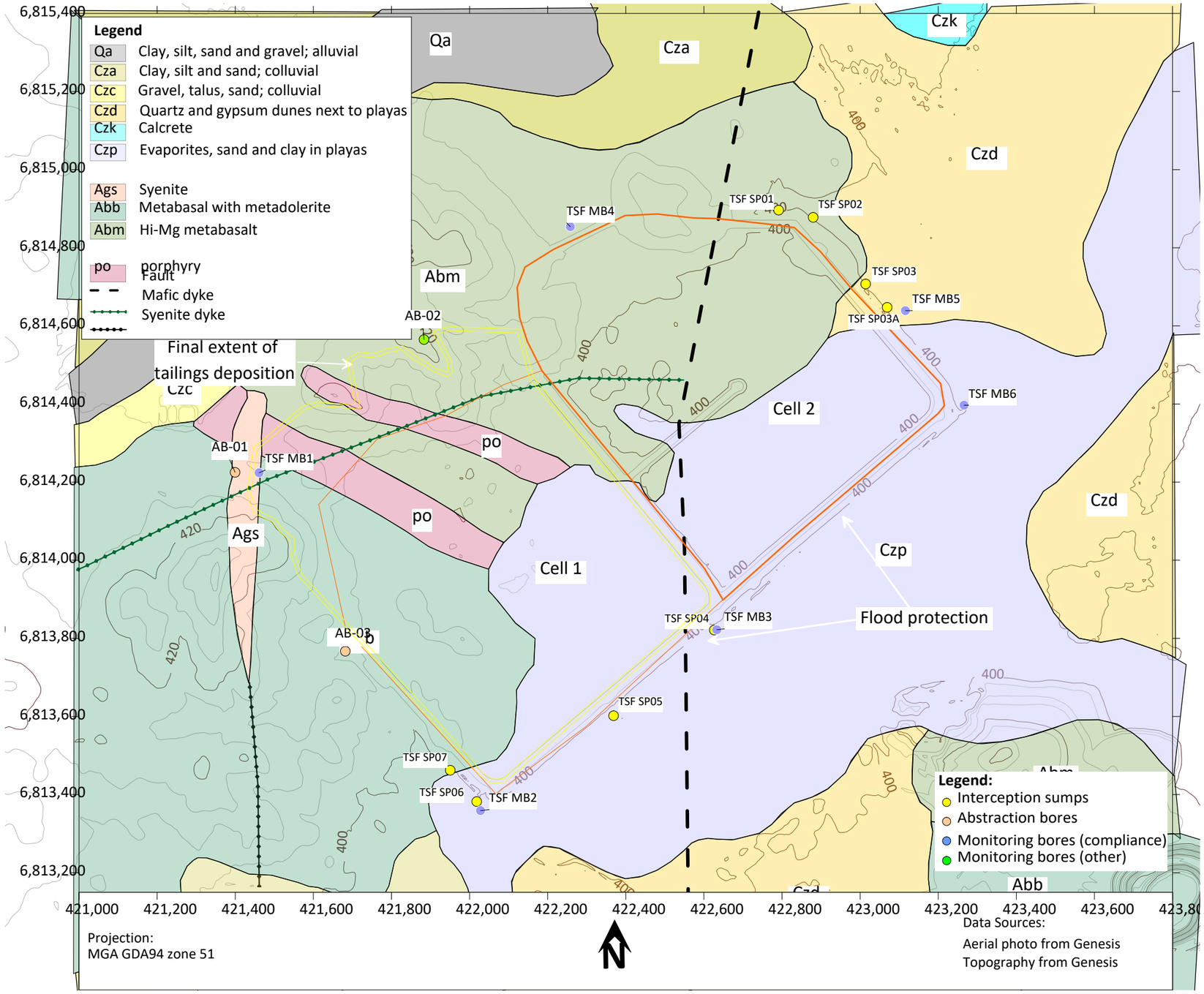


Figure 5: Surface geology at the Mt Morgans TSF

Calcrete units, which provide an important habitat for subterranean fauna (Section 6) and also form the target aquifer for the Mt Morgans Process Borefield. The edge of the calcrete aquifer is situated about 600 m north-east of the TSF. The location of the calcrete units shown in Figure 5 is based on the results from exploration drilling carried out by GRM as part of the Mt Morgans feasibility study, and subsequent expansion of the Process Borefield[1] and reinterpretation of available geological maps.

The borelogs for the TSF monitoring bores indicate that the weathering profile is between 3 m and 13 m deep, comprising pale brown soft clay saprolite and pale brown to brown hard clay saprock. The deepest weathering profile occurs at TSF MB1 while the shallowest weathering profile occurs at TSF MB3. The saprock is underlain by very weathered to slightly weathered brown – dark grey to blue basalt.

No borehole logs were available at TSF MB4 to TSF MB6 at the time of report preparation.

[1] The location of the calcrete unit presented in Figure 3 is different to the location presented in the previous water management plan, which was based on the 1:250,000 scale hydrogeological map.

4.0 MONITORING PROGRAMME

4.1 Groundwater Monitoring Boreholes

Before commissioning of Cell 1, Dacian installed three monitoring bores (TSF MB1 to TSF MB3) upstream and downstream of TSF Cell 1 and a further three monitoring bores around Cell 2 (TSF MB4 to TSF MB6).

Dacian installed another monitoring bore (TSF AB02) in 2022. This bore was intended to serve as a water abstraction bore but was converted to a monitoring bore due to low yields. GRM recommends that TSF AB02 should be included in the monitoring programme and more details are provided later in this report.

The groundwater monitoring bore details are presented in Table 5 and their locations are shown in Figure 2. The borehole logs for TSF MB1 to TSF MB3 and TSFAB02 are presented in Appendix A.

Table 5: Groundwater monitoring bore details

Name	Easting*	Northing*	Elevation (m RL TOC)	Collar length (m)	Slotted interval (m)
Compliance monitoring bores					
TSF MB1	421,461	6,814,224	411.10	0.52	3 to 20 m
TSF MB2	422,028	6,813,359	399.52	0.66	3 to 14 m
TSF MB3	422,633	6,813,822	399.89	1.22	2 to 6 m
TSF MB4	422,258	6,814,854	405.30	0.88	Not available
TSF MB5	423,116	6,814,639	400.79	0.76	Not available
TSF MB6	423,266	6,814,397	401.34	0.62	Not available
Monitoring bores (other/new)					
TSF AB02	421,883.3	6,814,565	421.018	0.94	6-24 m

*MGA GDA94 Zone 51

4.2 Groundwater levels

Groundwater level measurements are collected on a monthly basis and was collected since December 2017. Figure 6 shows the groundwater elevations at the six monitoring bores. Figure 7 shows the depth to groundwater below ground surface.

Background groundwater elevations (prior to tailings deposition) ranged between 398.1 to 398.9 m RL, except for TSF MB1 which shows a higher groundwater elevation at 401.3 m RL. The lowest groundwater elevations occur at the playa (TSF MB2 and TSF MB3). Background groundwater levels are very shallow at the playa with groundwater depths of less than 0.5 m from ground surface at TSF MB2 and TSF MB3.

Background depths to groundwater for the upgradient monitoring bores were deeper at 9.3 m and 5.5 m at TSF MB1 and TSF MB4 respectively while monitoring bores between the play lake and upgradient monitoring bore were about 2 m depth.

Since tailings deposition started, groundwater levels at TSF MB2 and TSF MB3 have increased to close to the ground surface with groundwater expressions occurring in places. However, since the TSF seepage interception system was installed, groundwater levels were lowered and is currently at 0.38 and 0.19 m below ground surface for TSF MB2 and TSF MB3 respectively.

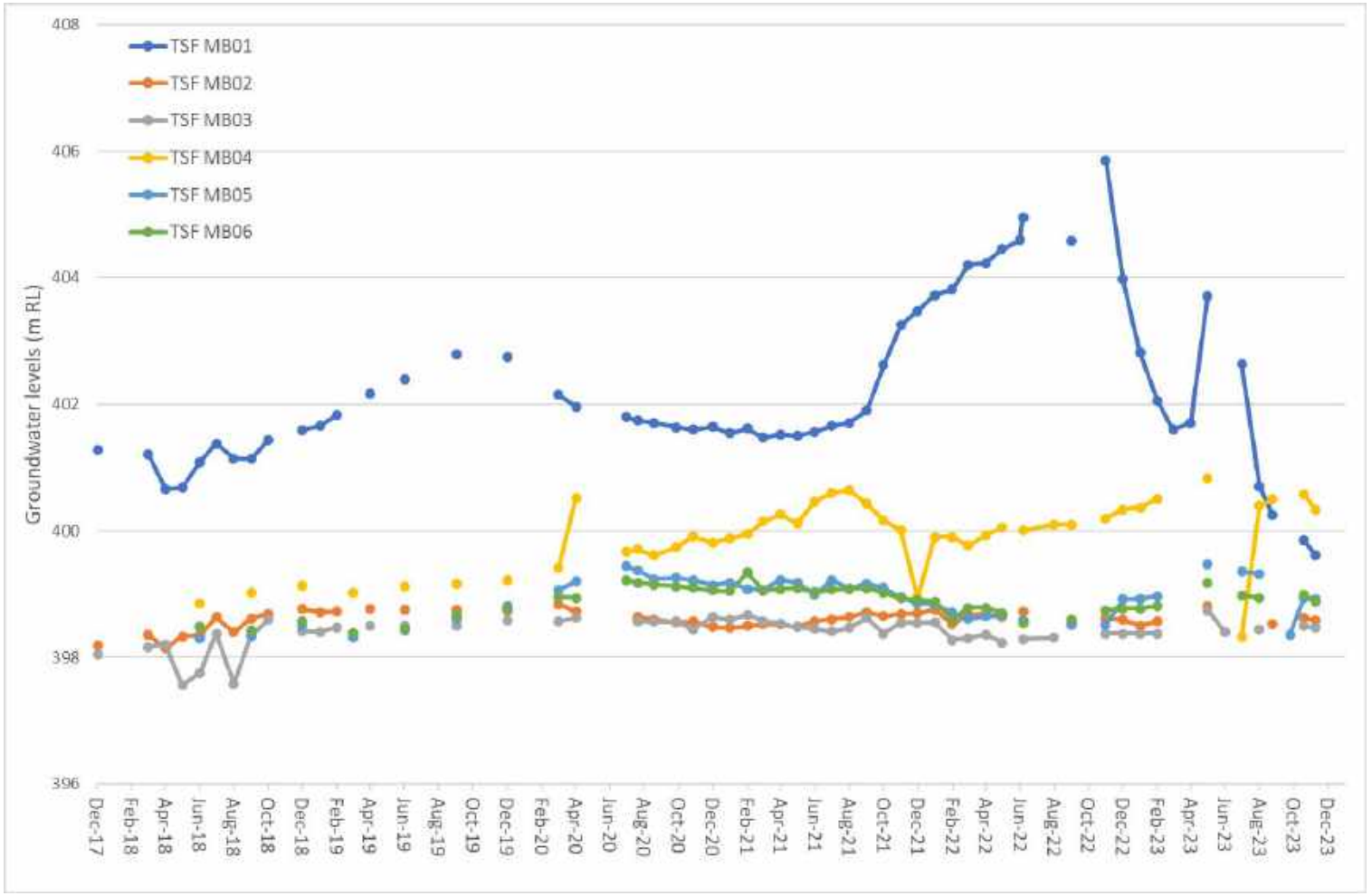


Figure 6: Measured groundwater elevations.

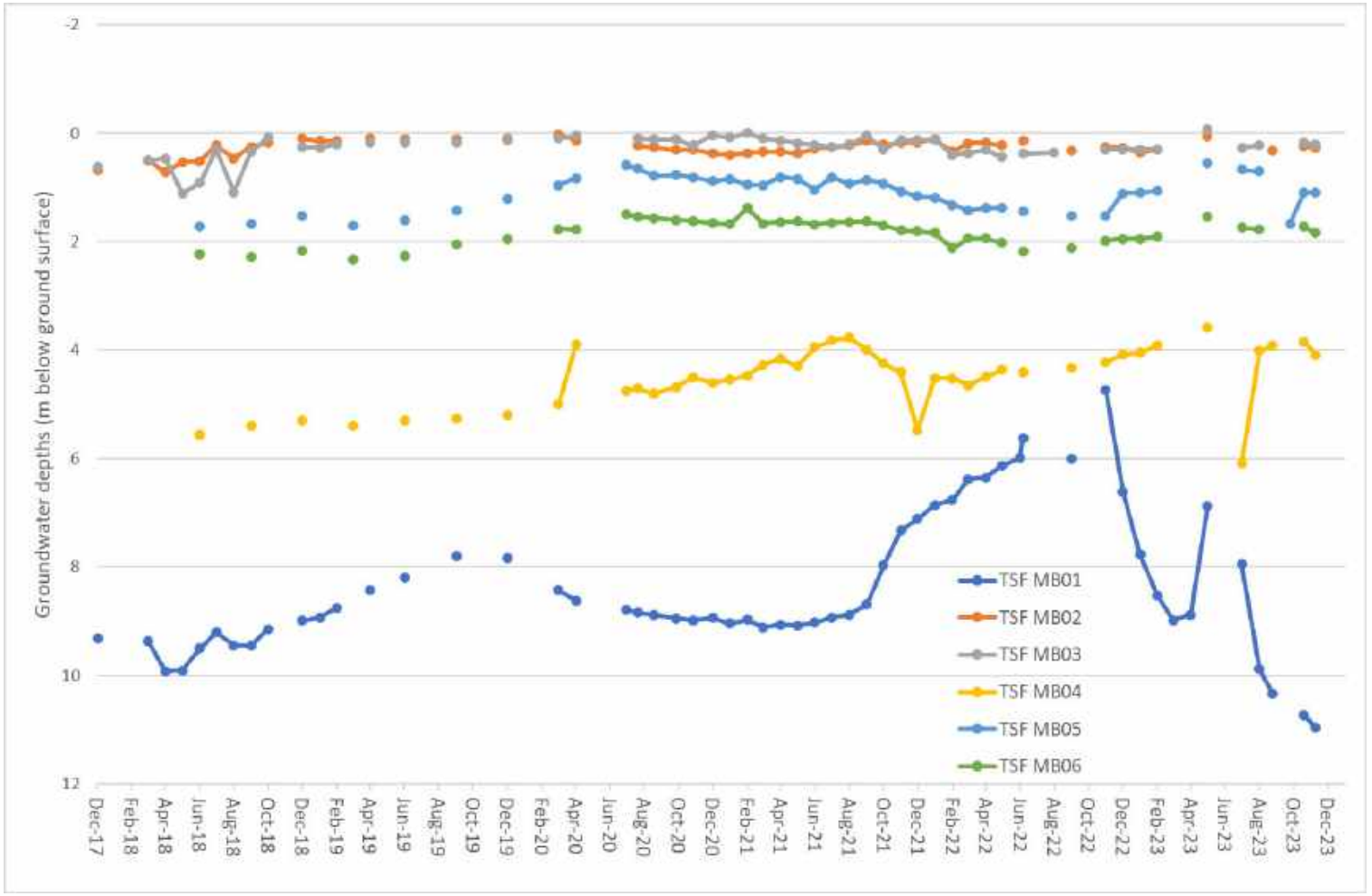


Figure 7: Measured groundwater depths

Groundwater levels at TSF MB1 increased by 1.5 m to 402.7 m RL in September and October 2019 and then decreased to 401.5m as tailings deposition shifted to Cell 2. Groundwater levels increased significantly again since October 2021 reaching 405.8 m AHD (4.7 m depth) in October 2022. The seepage abstraction bore, TSF AB01 was then commissioned resulting in a decrease in groundwater levels reaching 399.6 in December 2023.

Groundwater levels in TSF MB04 also increased with the commissioning of Cell 2 but then reached equilibrium with groundwater elevations between 400.6 and 399.8 m AHD, ignoring anomalous low values which probably measurement errors. It is possible that groundwater levels could increase again with the onset of tailings deposition in Cell 2.

Groundwater levels at TSF MB05 and TSF MB06 also increased since the commissioning of Cell 2, but then stabilised with the implementation of the seepage interception infrastructure. Groundwater levels are about 1.10 and 1.95 m below ground surface for TSF MB05 and TSF MB06 respectively.

Seepage infrastructure at the eastern embankment assisted with stabilising groundwater levels at TSF MB05, but additional infrastructure, such as abstraction bores, might be required to further decrease groundwater levels in that area and these are described in more detail later.

4.3 Groundwater quality

Water quality sampling and analysis is carried out on a quarterly basis for all monitoring bores. Groundwater samples are analysed for pH, Electrical conductivity (EC), TDS, sulphate, dissolved metals and weak acid dissociable (WAD) cyanide. Detailed groundwater and monitoring data are presented in Appendix B.

Background groundwater TDS concentrations varied significantly ranging from 5,800 mg/L at TSFMB01 to 180,000 mg/L at TSFMB03. This large range is attributed to groundwater density effects, described in more detail in Section 5, whereby hypersaline playa water infiltrates the ground (TSFMB02 and TSFMB03) with a fresh groundwater lens situated on top of the hypersaline water (TSFMB01). Other monitoring bores (TSFMB04, TSFMB05 and TSFMB 06) have saline to hypersaline water and are probably located within the mixing zone between the top freshwater lens and underlying hypersaline water.

The TDS concentrations at TSF MB1 increased from 5,800 mg/L to 82,000 mg/L during tailings deposition (July 2020), then recovered to 5,100 mg/L after which it increased again to 19,000 in August 2023. TSF MB04 shows a similar trend to TSF MB01. TDS concentrations increased from about 31,000 mg/L to 150,000 mg/L and then decreased to 42,780 mg/L in April 2023.

At TSF MB2 and TSF MB3, TDS concentrations increased to about 180,000 mg/L and remained hypersaline with TDS concentrations of 83,640 and 152,200 mg/L respectively measured in Apil 2023.

TDS concentrations at TSF MB5 increased from 41,000 and 130,000 mg/L during tailings deposition and then decreased to 58,000 mg/L in August 2023. The TDS concentrations at TSF MB6 are highly variable, decreasing from 47,000 mg/L to 3,600 mg/L and then increasing to between 59,000 mg/L and 67,000 mg/L after which it decreased again to 7,830 mg/L in September 2023.

Background pH for all monitoring bores were circumneutral at varying between 6.3 and 8.4. There was one anomalous value of 4.87 measured at TSFMB04 in June 2023. There was no significant change in pH in any of the monitoring bores during tailings deposition.

Very low concentrations of WAD cyanide were recorded at various times at TSFMB01 (2 samples), TSFMB02 (5 samples), TSFMB03 (1 sample), and TSFMB05 and TSF MB06 (7 samples). Low concentrations of WAD cyanide were also recorded at TSFMB04 since January 2021 (9 samples). WAD cyanide concentrations in groundwater ranged between 0.002 to 0.66 mg/L compared to WAD cyanide concentrations at the TSF decant of 12 to 36 mg/L.

The WAD cyanide concentrations at TSFMB02, TSFMB04 and TSFMB06 were recorded following the implementation of the seepage interception infrastructure. This is because the seepage interception infrastructure promotes the movement of seepage affected groundwater towards the sumps, which results in WAD cyanide being detected in the adjacent monitoring bores. Since this seepage affected groundwater is intercepted, it does not affect the groundwater conditions further away from the TSF as described in more details later.

The WAD cyanide concentrations at TSFMB04 are interpreted to have been caused by tailings deposition on Cell 2. Further seepage interception infrastructure in this area is described in more detail later.

4.4 Surface water quality

Inundation was observed at the southern corner of Cell 1 during the construction of Cell 1 (i.e. prior to tailings deposition). Dacian Gold collected surface water samples from the inundated area (TSF SW 01). After tailings deposition, inundation also occurred along the south-eastern side of the embankment and water samples were also collected from this area (TSF SW 02). The surface water sample points are shown in Figure 2.

After the implementation of the seepage interception infrastructure, no further inundation occurred, and surface water sampling ceased.

The TDS concentrations at TSF SW 01 are variable ranging between 120,000 and 300,000 mg/L with one measurement showing 83,000 mg/L (February 2019). The TDS concentrations at TSF SW 02 are more consistent at between 330,000 and 360,000 mg/L.

Surface water pH is neutral to slightly alkaline with a range of 7.5 to 8.0 at TSF SW 01 and 7.3 to 7.6 at TSF SW 02.

Low concentrations of WAD cyanide were recorded at TSF SW 01 ranging between 0.02 and 0.65 mg/L. TSF SW 02 also had low concentrations of WAD cyanide ranging between 0.03 to 0.69 mg/L. No WAD cyanide was recorded during the last monitoring event (December 2019). The WAD cyanide concentrations at the TSF decant range between 12 to 36 mg/L.

5.0 HYDROGEOLOGY

5.1 Hydrostratigraphic units

Two hydrostratigraphic units were identified in the area namely:

- Fractured bedrock aquifer associated with the meta-basalt units.
- Aquitard clay units associated with the saprolite, saprock and saturated playa deposits.

The fractured bedrock aquifer is associated with discontinuities within the meta-basalt units, which underlies the saprolite and clay deposits. The borehole logs indicate that the meta-basalt is "weathered to very weathered" indicating that the fractures might be filled with clay with a suspected low hydraulic conductivity.

The geological map (Figure 3) shows a north-south trending fault, bisecting the TSF. There is also an east-west trending syenite dyke, which is situated directly south of TSF MB1. The margins of the dyke, and the geological fault might be preferentially weathered, which explains the thicker saprolite layer at TSFMB1.

The fractured bedrock aquifer is considered a poor water resource because of the natural high groundwater salinity due to the proximity of the playa system.

Geotechnical investigations carried out as part of the TSF design indicated that the saturated playa deposits have a very low hydraulic conductivity of about $2.6x10^{-8}$ m/s (0.002 m/d). The geological logs also indicated that the saprolite comprises clay, hence the hydraulic conductivity of the saprolite is also likely to be low at about 0.01 m/d. The thickness of the aquitard varies between 13 m at TSF MB1 to 3 m at TSF MB3.

It is possible that minor aquifers may also occur within the saprolite and playa deposits, which could provide a preferential flow path for TSF seepage. The clay layers are thin at the south-eastern embankment of Cell 1 and it is possible that drying cracks within the clay zone or sandy zones (if present) could hydraulically connect the surface with the underlying fractured bedrock aquifer.

5.2 Groundwater flow directions

Prior to tailings deposition, groundwater flowed in a south-easterly direction towards the playa lake, which is a groundwater sink (Figure 8). Groundwater gradients are shallow with gradients of 1:1,250 between TSF MB4 and the playa lake. There is a distinctly higher groundwater gradient between TSF MB1 and the playa lake with a gradient of about 1:340. The higher gradient is probably related to higher preferential recharge along the small drainage channel in which the TSF MB1 is located which is described in more detail below.

The groundwater velocities in the clay aquitard are likely to be very low, possibly ranging between 0.2 to 1 cm per year, assuming a hydraulic conductivity of between 0.01 and 0.002 m/d and a porosity of 30%. The velocities in the fractured bedrock are probably higher, may be about 3 m per year, because of the higher hydraulic conductivity (nominally about 0.1 m/d) and lower porosity. The groundwater flow velocities between TSF MB1 and the playa lake could be about 3.5 higher due to the higher groundwater gradient.

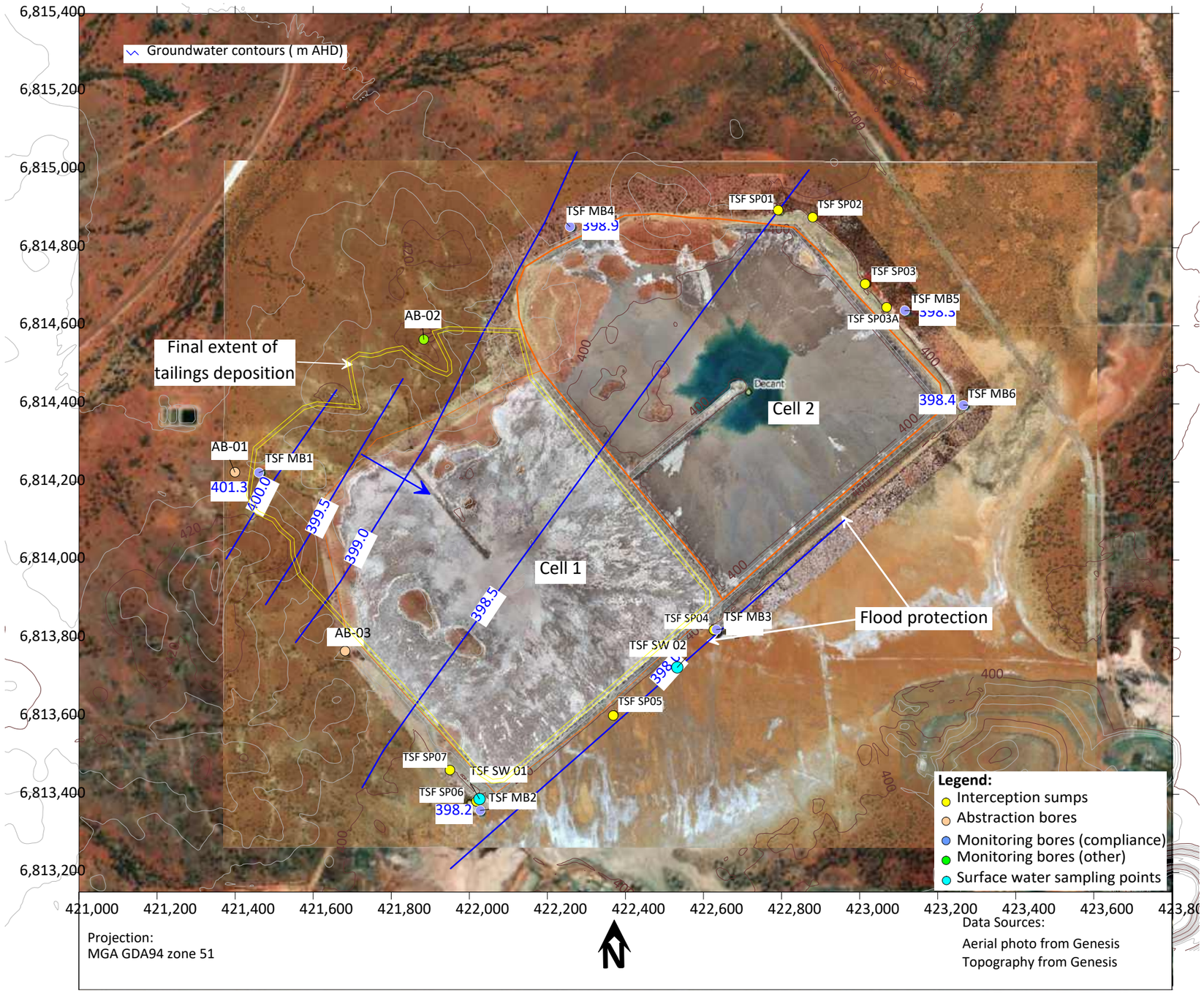


Figure 8: Groundwater flow directions

5.3 Groundwater density effects

Groundwater flow at the TSF is influenced by density dependent flow processes. The playa lake is a groundwater sink and groundwater at the playa lake is hypersaline due to evapoconcentration. Fresher groundwater from the surrounding catchments flow towards and discharges on the playa lake. The high-density hypersaline groundwater forms a distinct brackish water/hypersaline water interface with lower density brackish to saline groundwater occurring above the hypersaline groundwater.

Prior to the tailings deposition, the flow direction of the brackish to saline groundwater was in a south-westerly direction towards the playa (Figure 4). Higher density hypersaline water forms a stable wedge below the brackish to saline groundwater.

The density effects explain the lower TDS concentrations measured at both TSF MB2 and TSF MB3 during the first monitoring round in December 2017 which probably intersected a thin brackish water lens situated over the hypersaline groundwater. These saline lenses were not present during subsequent monitoring rounds, which identified hypersaline groundwater.

5.4 Groundwater quality

Groundwater samples taken from the six monitoring bores are likely comprise a mixture of the hypersaline and brackish to saline groundwater that occurs on top of the denser hypersaline groundwater. This explains the variability of TDS concentrations with TSF MB2 and TSF MB3 representing the hypersaline groundwater and TSF MB4 and TSF MB5 representing a mixture of hypersaline and brackish groundwater.

TSF MB1, situated about 1.1 km from the playa, has the best water quality with a TDS concentration of 1.6 g/L (prior to tailings deposition), which probably represents upgradient fresher rainfall recharge.

5.5 Groundwater response to tailings deposition

A schematic presentation of the conceptual groundwater model is shown in Figure 9. The groundwater response to tailings deposition is conceptualised as a series of development stages explained in more detail below:

Stage 0: Pre-tailings deposition

Prior to tailings deposition, groundwater levels were shallow with groundwater depths ranging between 0.5 and 1.5 m. The soils were partially saturated, hence there was limited available storage in the pores to accommodate seepage from the TSF. The available storage can be calculated as follows:

$$Available\ storage = Area\ underneath\ TSF\ \times depth\ to\ groundwater\ \times (1 - water\ content)$$

The area underneath the south-eastern part of the TSF is about 32 ha and the depth to groundwater is about 0.5 m. The volumetric water content was likely between 90% and 100% because of capillary forces drawing up groundwater into the clay. The available storage underneath the TSF was therefore about 8,000 m^3.

Satellite imagery shows that the southern corner of Cell 1 (TSF SW1 in Figure 2) was inundated prior to tailings deposition (Sentinel-2, January 2018), which indicates that the inundation zone in this area can be attributed to surface runoff which pooled within a depression adjacent to the TSF.

Stage 1: Initial tailings deposition

At the start of tailings deposition, the TSF pond was in direct contact with the natural ground surface, facilitating infiltration of the TSF pond water. The seepage rate was initially estimated to be about 4 m^3/d by ATC Williams (2018). However, it is likely that the actual infiltration rates were higher because of preferential flow paths and higher permeability zones through the clay layer. The monitoring data for bores TSF MB2 and TSF MB3 indicate that groundwater levels rose close to surface within the first 6 months of tailings deposition. A revised seepage rate of about 40 m^3/d has been estimated based on the available storage divided by time to fill the storage.

Stage 2: Groundwater mounding and daylight on surface

The tailings pond water seepage resulted in groundwater mounding underneath the TSF. This in turn resulted in localised lateral flows away from the TSF and daylighting of the mound causing localised inundation along the south-eastern embankment of the TSFs.

Groundwater also daylighted at the southern corner of the Cell 1 embankment, mixing with surface water that had pooled in the area. This explains the occurrence of WAD cyanide and high TDS concentrations at TSF SW1. The much lower TDS concentrations in February 2019 probably reflect some mixing with fresher surface water runoff.

The groundwater quality monitoring data indicate that seepage from the TSF did not penetrate deeply into the groundwater zone. This is consistent with the monitoring record which shows WAD cyanide was measured in groundwater monitoring bores on only a few occasions and the calculated dilution of seepage in the groundwater was between 1:1,000 to 1:5,000. It should also be noted that there are no other chemical signatures of TSF seepage reaching the groundwater.

Seepage from the TSF appears to have predominantly flowed along shallower pathways underneath the TSF embankment and daylighted on the surface, which explains the higher initial WAD cyanide concentrations at both surface water sampling locations. The back-calculated dilution of seepage was as high as 1:35 (August 2018 sampling round).

The high TDS concentrations observed in the surface water samples at TSF SW2 may have been caused by the dissolution of playa evaporites.

Stage 3: Up-gradient groundwater rise

The rising groundwater mound also caused increasing groundwater levels in the up-gradient monitoring bores, which caused natural groundwater to “back-up” against the higher groundwater levels under the TSF. However, some diluted TSF seepage did spread up-gradient, which resulted in very low WAD cyanide concentrations being detected at TSF MB01 on one occasion. Note that it is also possible that cross-contamination between monitoring bores during sampling could have caused the single WAD cyanide measurement at TSF MB1

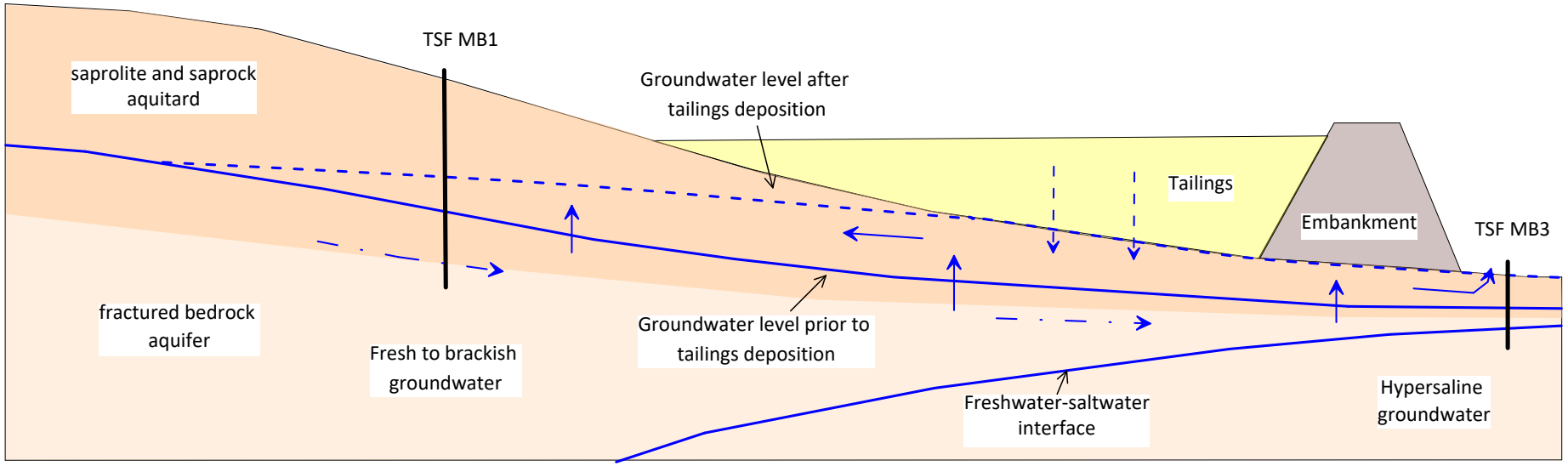


Figure 9: Conceptual groundwater model

TSF MB1 also shows an increasing trend in TDS concentrations. This is not thought to be a direct as consequence of tailings water seepage, but rather because of the general rise in the groundwater level. This would have resulted in a corresponding rise of the interface between the brackish and hypersaline groundwater systems and mixing of the two natural water types.

Stage 4: Decreasing seepage rates

The continued tailings deposition into Cell 1, has moved the pond on top of the lower permeability tailings material. This has reduced the hydraulic connection between the pond and underlying groundwater system reducing seepage rates. The decreasing seepage rates are evident in the decreasing groundwater levels at TSF MB01.

Stage 5: Interception of seepage affected groundwater.

The seepage interception infrastructure was installed to intercept seepage affected groundwater from the TSF. The seepage infrastructure, comprising sumps, are lowering groundwater levels around the TSF and intercepts mainly groundwater with a small component of TDF seepage.

The lowering of groundwater levels increased the hydraulic gradient between the TSF and the seepage interception infrastructure, thereby increasing the seepage rates from the TSF. This increased seepage rates are evident from the more frequent WAD cyanide concentrations recorded in TSF MB02. However, since this seepage affected groundwater is intercepted, TSF seepage does not affect groundwater further away from the TSF.

6.0 POTENTIAL RECEPTORS

Potential receptors were identified using previous environmental studies and which are presented in the DWER Licence (DWER, 2017). Five potential receptors were identified that could be affected by seepage the Mt Morgans TSF, namely.

1. Lake Carey.
2. Calcrete aquifer.
3. Mt Margaret Community.
4. Potable water supply (Process Borefield).
5. Vegetation surrounding the TSF.

6.1 Lake Carey

The Mt Morgans TSF is situated on a tributary playa lake system, north of Lake Carey. The lakeshore is approximately 2.5 km to the south of the Mt Morgans TSF and is separated by a banded ironstone formation (BIF) ridge, approximately 80 m high. Lake Carey may fill during occasional intense rainfall events during which the ephemeral drainages adjacent to the TSF could flood, draining in a southeast direction towards Lake Carey.

Lake Carey has significant ecological value, particularly following major flood events when it can become a highly productive ecosystem (Outback Ecology et al, 2013). The receiving environment is designated as a 'Specified Ecosystem' according to DWER's Guidance Statement: Environmental Siting due to the presence of a Priority 1 invertebrate species, *Branchinella simplex* (MWH 2015). A Priority 1 plant species, *Tecticornia mellaria*, has also been recorded in the lake's riparian zone.

The lake is also habitat to migratory shorebirds protected under international conventions which may be present when Lake Carey is inundated. Two of the migratory shorebirds were recorded in the project area during the fauna survey namely the Common Greenshank and the Red-necked Stint. Lake Carey is considered a specified ecosystem because it is habitat for listed migratory shorebirds.

6.2 Calcrete Aquifer

The Mt Morgans calcrete aquifer is an extensive, massive, well-developed Cainozoic calcrete unit that developed in a very shallow valley up-gradient of Lake Carey. The Laverton hydrogeological series map indicates that the calcrete outcrop is about 19 km in length, covering an area of about 58 km^2 (Water and Rivers Commission, 1999), but a current hydrogeological study indicates that the calcrete aquifer is smaller in area (GRM, in preparation). The edge of the calcrete aquifer is situated about 600 m north-east of the TSF (Figure 3).

The calcrete aquifer at Mt Morgans is listed as a Priority Ecological Community (PEC) by the Department of Parks and Wildlife (DPaW). The aquifer is listed as *"Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mount Weld Station"* and unique assemblages of invertebrates have been identified in the groundwater calcrete.

6.3 Mt Margaret Community

The Mt Margaret aboriginal community is situated about 1.1 km west-northwest of the TSF with a population of about 90 people. The small community is run by the Aboriginal Movement for Outback Survival. There is a low ridge separating the community from the TSF.

Drinking water is sourced from two bores located approximately 4 km north-east of the central living area. Water is pumped to the community where it is treated using reverse osmosis and chlorination and is sampled monthly by the Regional Service Provider to ensure adequate quality (Western Australian Planning Commission, 2012).

6.4 Process Water Supply: Jupiter Operations

The water supply for processing activities and potable water at the Jupiter Operations is sourced from a series of production bores located within the calcrete aquifer with an abstraction of up to 3.5 GL per annum under groundwater licence GWL 183915(1).

The nearest production bore is about 5km away from the TSF

6.5 Surrounding vegetation

The vegetation surrounding the TSF comprises sparse spinifex grass vegetation along the low-lying areas and occasional shrubs and trees up to about 3 m high along the ridges and hills. Trees are also present locally along natural drainage lines. The playa is barren of vegetation.

Due to the shallow depth of the groundwater near the TSF, groundwater mounding has the potential to impact vegetation health in the area due to rising groundwater reaching the vegetation root zone and potential waterlogging. The most immediate impacts are likely to be associated with the high total dissolved solids (TDS) concentrations of the natural groundwater. The potential impacts are described in more detail below.

7.0 IMPACT ASSESSMENT

7.1 Playa Lake

The potential impacts on the playa lake occurs during large rainfall periods when the area around the embankments are inundated during flooding (Figure 8). Groundwater expressions at surface, which occurs due to mounding underneath the TSF, could contain diluted seepage from the TSF. This diluted seepage could mix with the floodwater and flow towards Lake Carey. Potential impacts are related to chemicals of concern such as cyanide and metals that might mix with the floodwater.

Table 5 presents the average water quality of the supernatant tailings water, background groundwater and groundwater expressions at surface. Table 5 also presents the ratio of the concentrations at the groundwater expressions to background groundwater quality.

Table 6: Chemicals of concern in the groundwater expressions at surface (mg/L)

Chemical of concern	Supernatant	Background groundwater	Groundwater expression at surface	GW expression/ background GW ratio
Cadmium	0.0014	0.002	0.011	5.5
Chrome	<0.005	0.011	0.243	22
Cobalt	0.455	0.009	0.993	110
Copper	13	0.011	0.259	23
Lead	<0.005	<0.005	0.0065	>1.3
Nickel	1.255	0.015	0.053	3.5
Selenium	0.0825	0.079	0.137	1.7
Zink	0.5625	0.029	0.0869	3.0
WAD Cyanide	24	0	0.244	Not determined

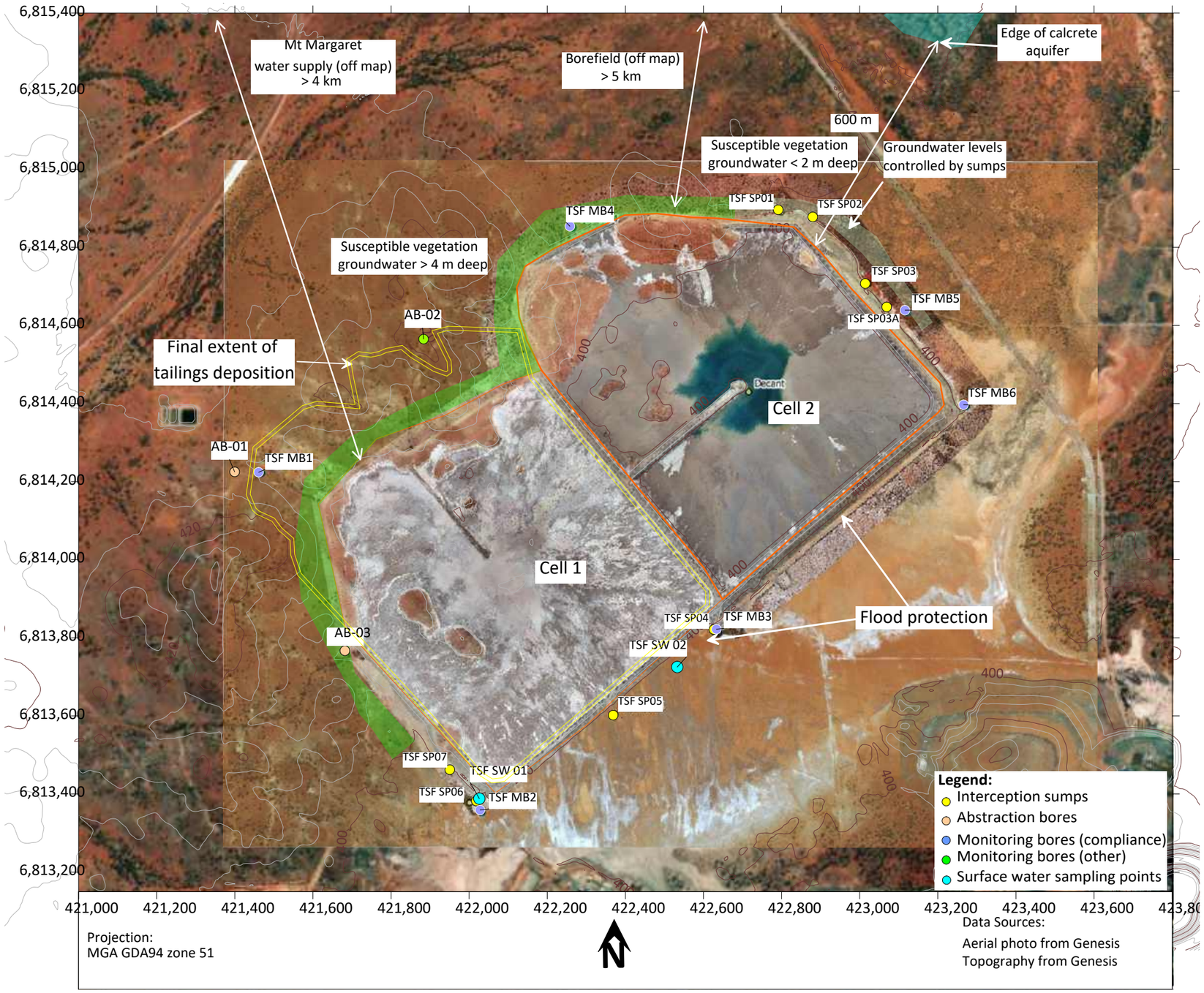


Figure 10: Potential impacts on receptors

The rate at which groundwater discharge occurs along the TSF embankments is small. The rate varies between about 110 ML/year for Scenario 1 (functioning underdrainage) and 250 ML/year for Scenario 2 (non-functioning underdrain). The volumes of water draining to Lake Carey during flood conditions have not been calculated but could be several orders of magnitude higher than the groundwater discharge rates.

GRM therefore concludes that the potential impact of groundwater expressions on surface on the playa lake is very small because of the dilution affects.

Nevertheless, GRM recommends that surface expressions be collected and pumped back to the TSF or used in the process plant. This is described in more detail in Section 8.

7.2 Calcrete Aquifer

The edge of the calcrete aquifer is situated about 600 m from Cell 2 in a north easterly direction (Figure 8). There were concerns that the calcrete aquifer might be impacted if the mound underneath the TSF extends towards the calcrete aquifer, resulting in diluted seepage reaching the calcrete aquifer.

However, the hydrogeological assessment indicates that it is impossible for the TSF mound to extend to the calcrete aquifer. The ground surface elevation along the northern corner of Cell 2 is between 399 and 400 m RL (Figure 8), hence any rise of groundwater levels would be limited to this elevation. The groundwater level the calcrete aquifer is around 400 m RL.

GRM therefore concludes that the potential impact of groundwater mounding on the calcrete aquifer is negligible.

7.3 Mt Margaret Community

Drinking water for the Mt Margaret Community is sourced from two bores located approximately 4 km north-east of the central living area. The SEEP/W model shows that the maximum extent of groundwater mounding towards the north could be about 1 km for the case where the underdrainage is not operational, and less if the underdrainage is operational.

GRM therefore concludes that the potential impact of groundwater mounding on the Mt Margaret water supply is negligible.

7.4 Potable Water Supply: Jupiter Operations

Potable water for the Jupiter Operations is sourced from the Mt Morgans borefield, which is approximately 5 km from the TSF.

GRM therefore concludes that the potential impact of groundwater mounding on the operation's water supply is negligible.

7.5 Sensitive Vegetation

The playa lake is barren with no vegetation occurring along the south-eastern embankment of the TSF (Figure 8). Sparse vegetation occurs on the north-eastern embankment of Cell 2 and along the north-western and south-western parts of the TSF (Figure 8).

Groundwater levels are generally shallow along the north-eastern embankment of Cell 2, less than 2 m below ground surface, as observed from TSF MB5 and TSF MB6. In contrast, groundwater levels are deeper than 4 m along the along the north-western and south-western parts of the TSF, as observed by TSF MB01 and TSF MB04.

The health of the vegetation could potentially be affected if groundwater mounding resulting in inundation of the vegetation root zone. Vegetation health could be impacted because of the high TDS concentrations of groundwater and potentially, the upwards migration of salts into the soil zone due to capillary action.

The SEEP/W modelling shows that, if the underdrainage is operational, the phreatic surface within the tailings will remain low preventing significant increases in groundwater levels along the north-western area of the TSF. However, groundwater levels could still increase along the north-eastern embankment of Cell 2, affecting vegetation health.

The SEEP/W modelling shows that, if the underdrainage is *not* operational, the phreatic surface within the tailings could increase causing a significant increase in groundwater levels around the TSF. Groundwater along the north-western area of the TSF could rise to within 1 m of surface. Groundwater levels could also increase along the north-eastern embankment of Cell 2 and affect vegetation health.

The risk to vegetation health along the northeastern embankment of Cell 2 is considered high and groundwater levels will need to be controlled to minimize potential vegetation impacts.

The risk to vegetation health along the northwestern part of the TSF is considered low, but risks could be high if issues with the underdrainage cause an increase in groundwater levels.

Rising groundwater levels around the TSF can be controlled by means of a recovery borefield which is explained more detail in Section 8.

8.0 GROUNDWATER MANAGEMENT PLAN

The groundwater management plan aims to address issues identified during the impact assessment, namely:

- Potential impacts on the playa lake caused by the mixing of groundwater expressions with floodwater.
- Potential impacts on vegetation caused by rising groundwater levels into the vegetation root zone.

The risks to the Mt Margaret water supply, Jupiter Operations potable water supply and the calcrete aquifer are considered negligible, and no further actions are recommended apart from ongoing groundwater monitoring as outlined below.

Trigger values are defined to provide early warning of potential groundwater mounding which could affect the vegetation or the playa lake. Threshold values are the threshold values which, when reached, could have impacts on the playa lake or vegetation. In areas where trigger values have already been reached and seepage interception systems are in place, only threshold values are defined.

The proposed layout of the groundwater management infrastructure is shown in Figure 9.

8.1 Trigger Values

GRM defined the following trigger and threshold values to minimise impacts on the playa lake and vegetation, based on measured groundwater levels.

- Impacts on the playa lake – trigger values of 0.5 m below ground level (m bgl) and threshold value of 0.0 m bgl are recommended to allow groundwater to be intercepted before mounding daylights at surface. In areas where interception is already occurring, only threshold values are defined.
- Vegetation impacts in shallow groundwater areas – a trigger value of 1.5 m bgl and a threshold value of 1.0 are recommended to minimize the risk of inundation or soil salinization. In areas where interception is already occurring, only threshold values are defined.
- Vegetation impacts in deeper groundwater level areas – a trigger value of 4.0 m bgl and an threshold value of 2.0 m bgl are recommended to minimize the risk of inundation or soil salinization. In areas where interception is already occurring, only threshold values are defined.

The activities associated with breaches of the trigger and threshold values are summarized below.

- When trigger values are reached, Genesis should proceed with the construction of additional seepage interception sumps and installation recovery bores as outlined below.
- When threshold values are about to be reached, Genesis should proceed with the implementation of the groundwater management plan as outlined below.

This approach allows for a staged implementation of the groundwater management plan, allowing adequate time to observe groundwater level trends while also allowing time to implement installation of infrastructure as required.

Since the 2020 groundwater management plan was adopted, Dacian have installed the following seepage interception infrastructure to manage rising groundwater levels around the TSF in accordance with the groundwater management plan.

- Seven interception sumps were installed to manage the daylighting of seepage affected groundwater at TSFMB02, TSFMB03 and TSFMB05.
- These interception sumps are interlinked with shallow interception trenches.
- Two abstraction bores (AB01 and AB02) were installed to control groundwater mounding at TSFMB01.

Interception sumps have already been installed to control rising groundwater levels at TSF MB02 and TSF MB03. Since the interception sumps were installed, groundwater levels sustained below the threshold value of 0.0.

Interception sumps have also already been installed to control rising groundwater levels at TSFMB05 and TSFMB06. Since the interception sumps were installed, groundwater levels have been lowered but groundwater levels at TSFMB05 is still above the threshold value. Groundwater levels at TSFMB06 reached the trigger level at various occasions and it is likely that groundwater levels will rise again following the commencement of tailings deposition.

Groundwater levels at TSF MB01 increased but was lowered significantly after the installation of the AB01 groundwater abstraction bore. Groundwater levels at TSFMB04 also increased and has reached the trigger values.

Additional seepage infrastructure is recommended at TSFMB04, TSFMB05 and TSFM06 to control rising groundwater from the proposed tailings deposition at Cell 2. These are described in more detail later in the report.

The trigger and threshold values for each of the TSF monitoring bores are provided in Figure 11 to Figure 16 and are summarised in Table 7.

Table 7: Groundwater monitoring bore details

Name	Background GW (m bgl)	Dec 2023 SWL (m bgl)	Trigger Value (m bgl)	Threshold Value (m bgl)	Required action
TSF MB1	9.3	10.97	None	2.0	Interception bores already installed
TSF MB2	0.6	0.38	None	0.0	Interception sumps already installed
TSF MB3	0.5	0.19	None	0.0	Interception sumps already installed
TSF MB4	5.3	4.30	4.0	2.0	Interception bores required as trigger level was reached
TSF MB5	1.6	0.85	None	1.0	Interception sumps already installed. Interception bores required
TSF MB6	2.2	1.63	1.5	1.0	Interception sumps already installed. Interception bores required

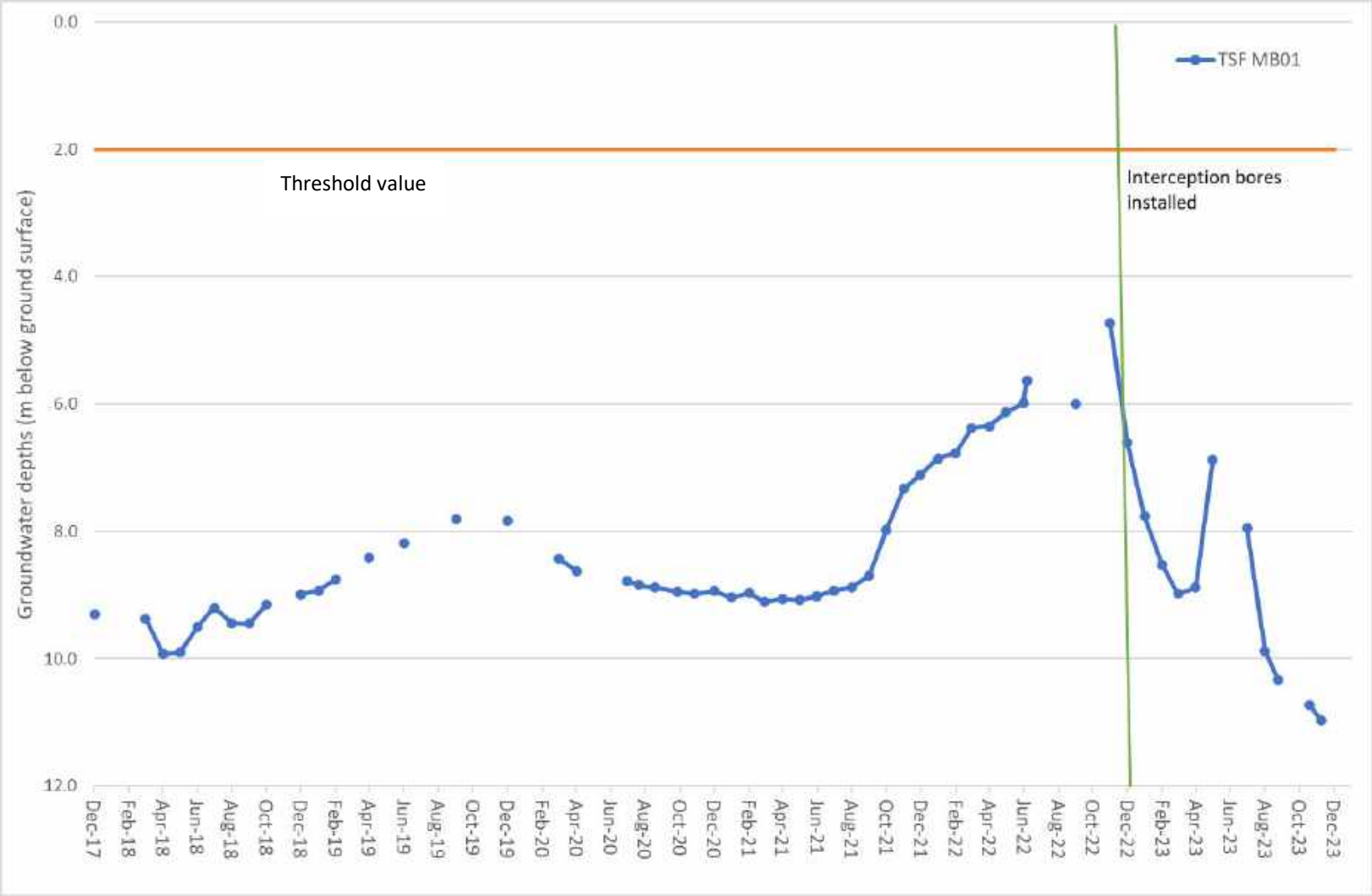


Figure 11: Threshold values: TSFMB01

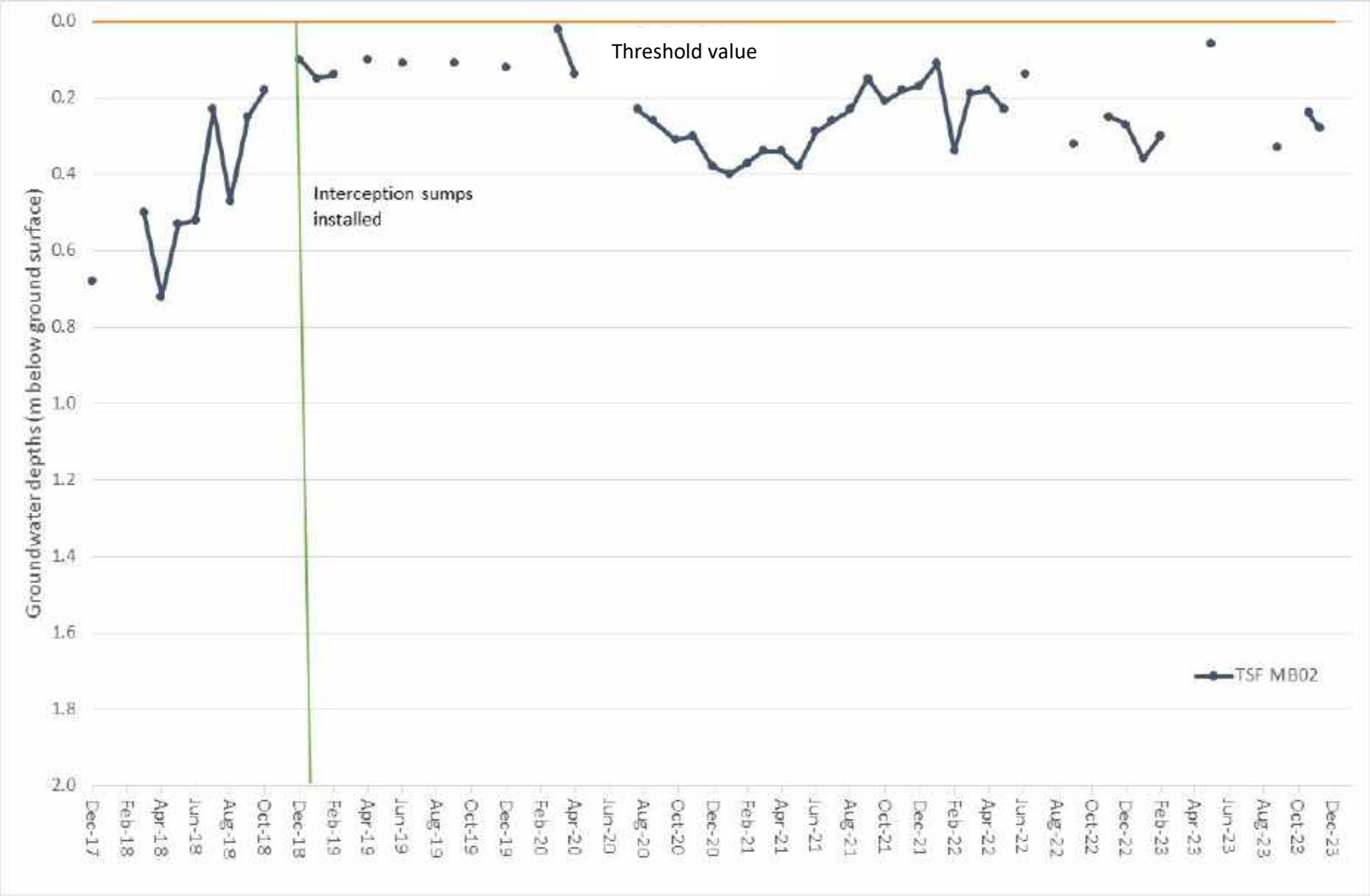


Figure 12: Threshold values: TSFMB02

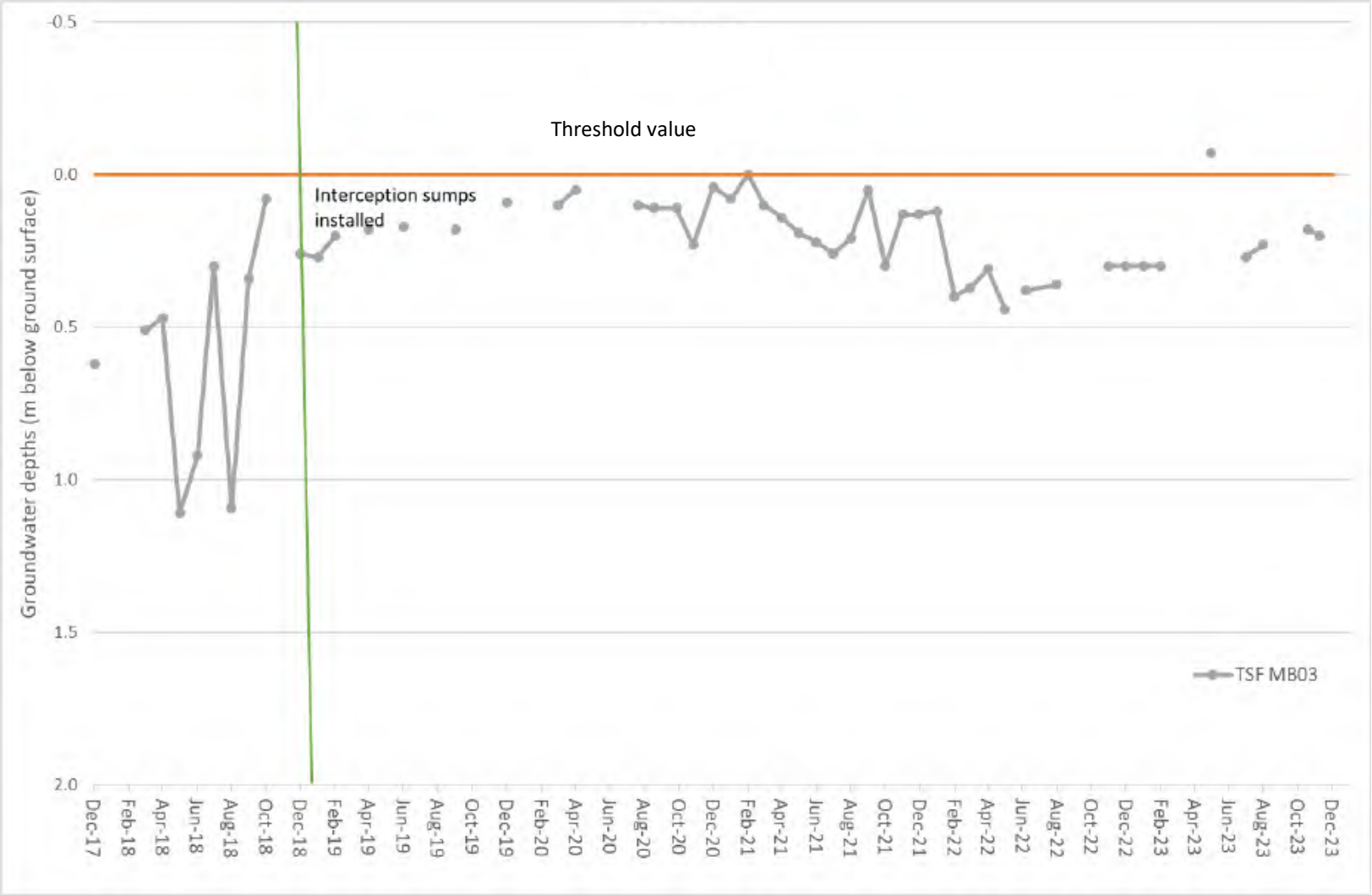


Figure 13: Threshold values: TSFMB03

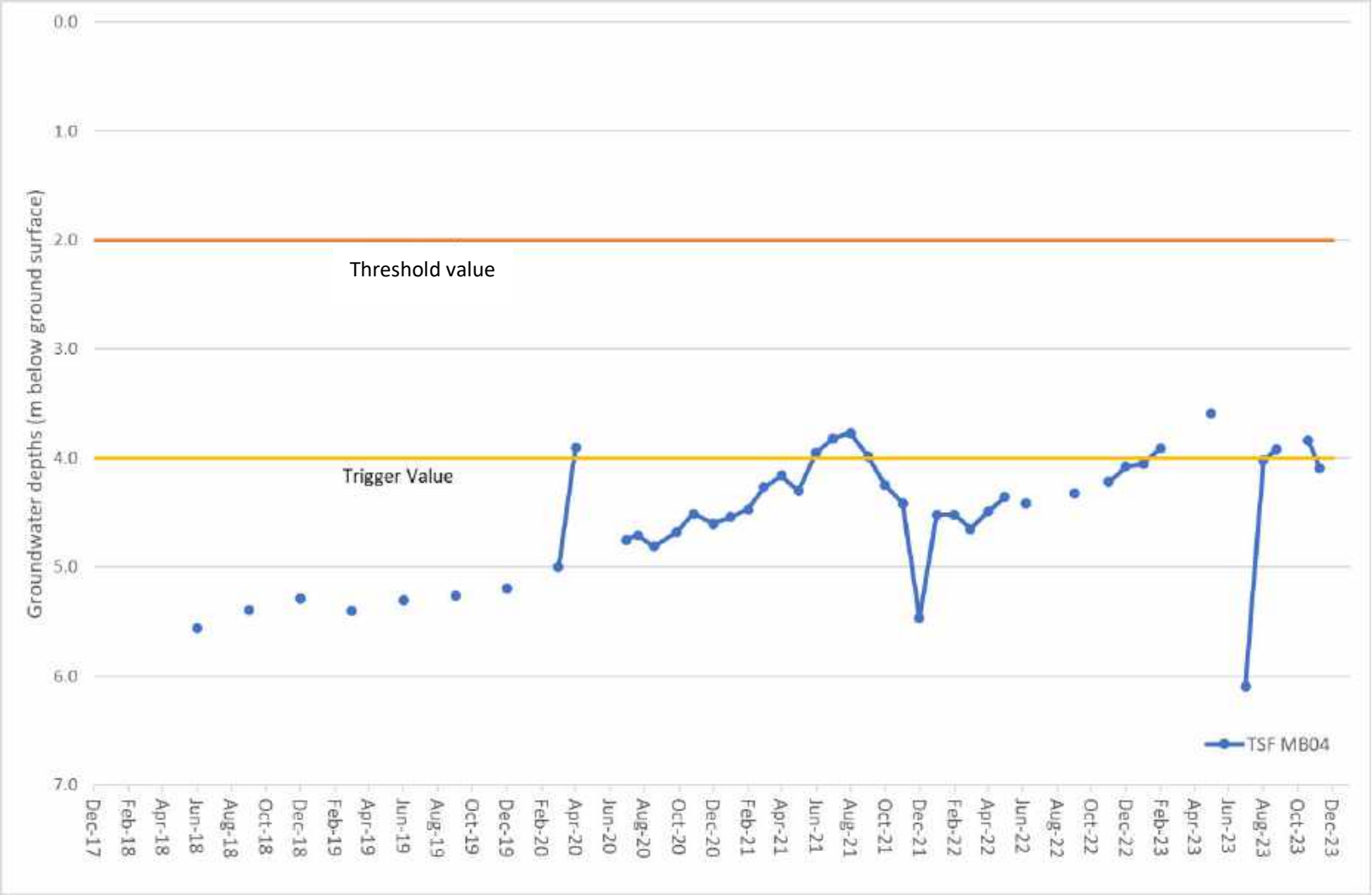


Figure 14: Trigger and threshold values: TSFMB04

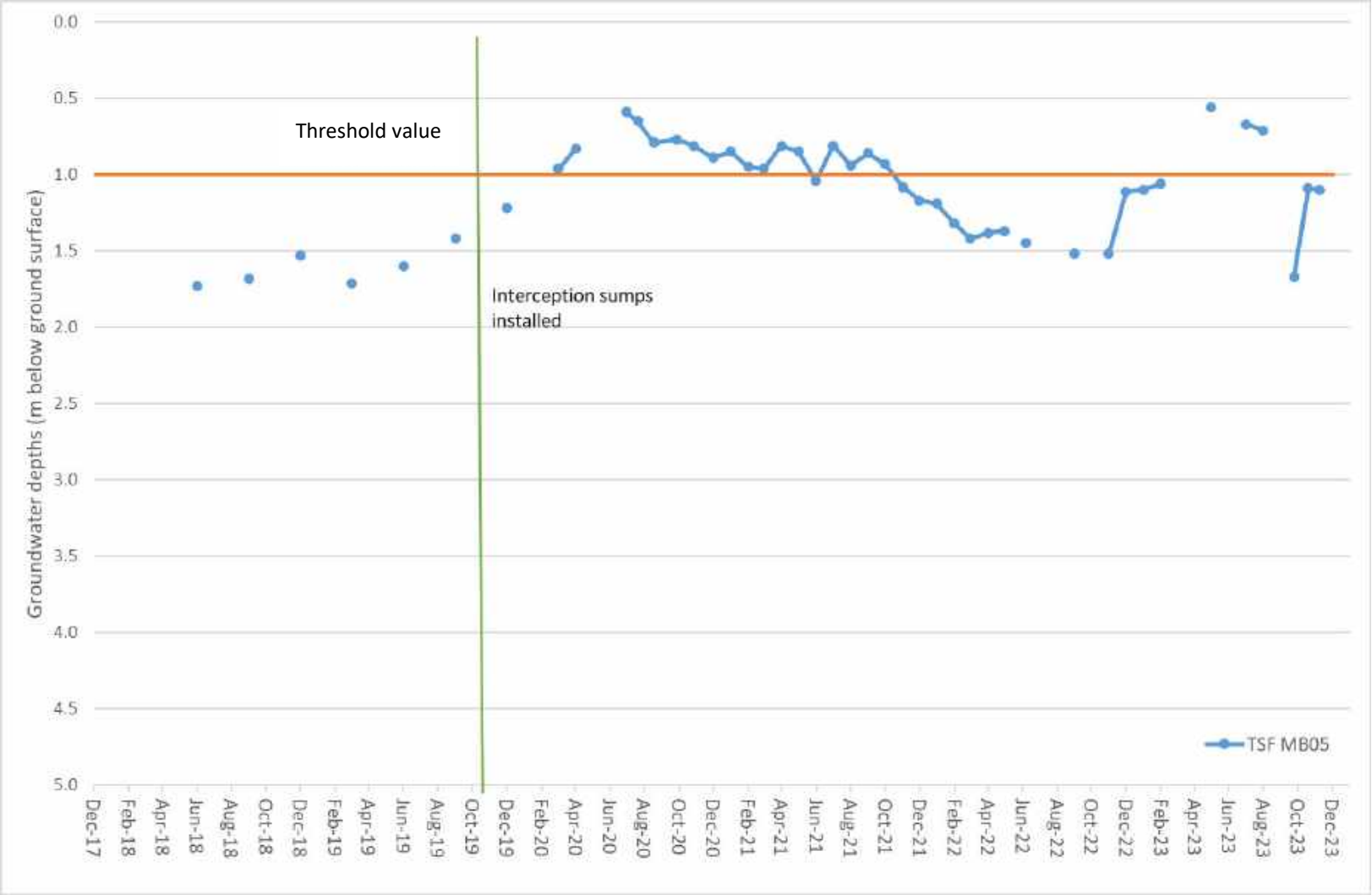


Figure 15: Threshold values: TSFMB05

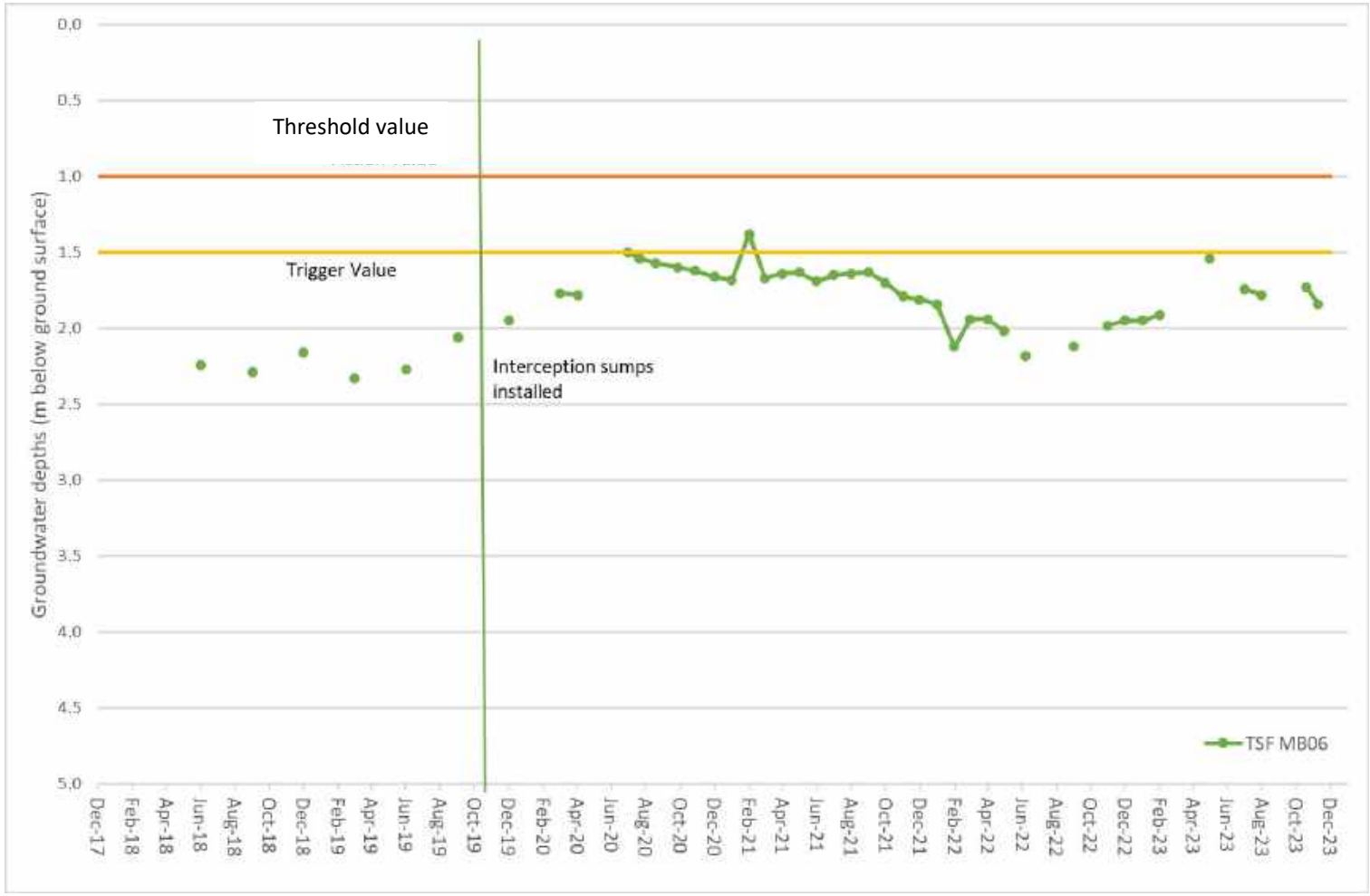


Figure 16: Trigger and threshold values: TSFMB06

8.2 Infrastructure requirements

8.2.1 Seepage interception sumps and trenches

Since the monitoring bores showed that groundwater levels are maintained below the threshold value, no further interception sumps are required to manage rising groundwater levels at TSFMB02 and TSFMB03 and also to the northwest of TSFMB05 at interception sumps TSFSP01, TSFSP02, TSFSP03 and TSFSP03A.

Seepage interception sumps should continue to be operated as per groundwater management plan and that groundwater levels should be continued to be monitored. Genesis should also carry out weekly inspections along the perimeter of the facility to identify potential surface seepage, which will require additional drainage infrastructure.

If there are an increasing groundwater level trend at TSFMB02 and TSFMB03 and groundwater is daylighting at surface, additional seepage interception infrastructure will be required comprising:

- Seepage interception trenches directing seepage affected groundwater to the existing seepage interception sumps or
- Additional seepage interception sumps, with approximate locations shown in Figure 17.

8.2.2 Seepage recovery Borefield

The groundwater levels at TSF MB05 remains higher than the threshold value, which suggest that further seepage interception measures are required along the north-eastern side of the Cell 2 embankment. Additional seepage interceptions sumps are unlikely to be effective to lower groundwater levels to below the threshold value because if the shallow depth of the sumps. Furthermore, there are increasing water levels at TSFMB04, and trigger levels are also expected to be reached at TSFMB06 once tailings deposition resumes in Cell 2.

The seepage interception bores comprise seven interception bores along the northern and eastern perimeter of the TSF and are summarised in Table 8.

The proposed recovery borefield, if required, comprises could be expanded to six recovery bores, each equipped with a submersible pump with headworks, gensets and pipelines to pump intercepted groundwater to the TSF surface or to the process plant. The locations of the interception bores are shown in Figure 17

- The preparation pad should comprise waste rock backfill so that the pad elevation is above the flood level of 399.5 m RL, subject to the outcome of the flood modelling results.
- The recovery bores should be 20 m deep and equipped with 6-inch (152 mm) Class 9 uPVC screen. The bottom 6 m should comprise slotted casing with 1 mm wide slots and the top 3 m should be blank casing.
- The annulus of the production bores should be filled with 3.2-0.4 mm graded gravel pack and a concrete plinth (500mmx500mm and 300mm deep) should be installed at surface.
- Each of the bores should be equipped with a submersible pump with a pumping capacity of 1.5 kL/hr. Actual abstraction rates are about 0.5 kL/hr but a higher pumping capacity is recommended in case higher permeability zones are intersected.

- The bores should be equipped with headworks, a genset and fuel storage. The headworks should include a non-return valve pressure meter, flow meter and sampling point for water quality analysis. The bores should also include water level sensor to with an automatic shutoff when groundwater levels are deeper than 394.5 m RL.
- Pipelines should report to the TSF or the process plant.

Table 8: Proposed drilling locations

Name	Easting	Northing	Depth	Expected conditions
TSFAB04	421,847	6,813,550	20 m	Low lying area with shallow groundwater. Targeting saprock zone with metabasalt. Yield likely to be low. Groundwater likely to be hypersaline
TSFAB05	421,674	6,814,459	20 m	Targeting fractured rock on boundary with porphyry and metabasalt. Yield likely to be low. Groundwater likely to be saline.
TSFAB06	422,217	6,814,842	20 m	Targeting saprock zone with metabasalt. Yield likely to be low. Groundwater likely to be hypersaline.
TSFAB07	422,647	6,814,929	20 m	Targeting geological fault within metabasalt. Yield likely to be low. Groundwater likely to be hypersaline.
TSFAB08	422,998	6,814,827	20 m	Low lying area with shallow groundwater. Targeting saprock zone with metabasalt. Yield likely to be low. Groundwater likely to be hypersaline
TSFAB09	423,068	6,814,739	20 m	Low lying area with shallow groundwater. Targeting sand dunes and saprock zone with metabasalt. Yield likely to be low. Groundwater likely to be hypersaline
TSFAB10	423,283	6,814,469	20 m	Low lying area with shallow groundwater. Targeting sand dunes, high permeability feautures in evaporites and saprock zone with metabasalt. Yield likely to be low. Groundwater likely to be hypersaline

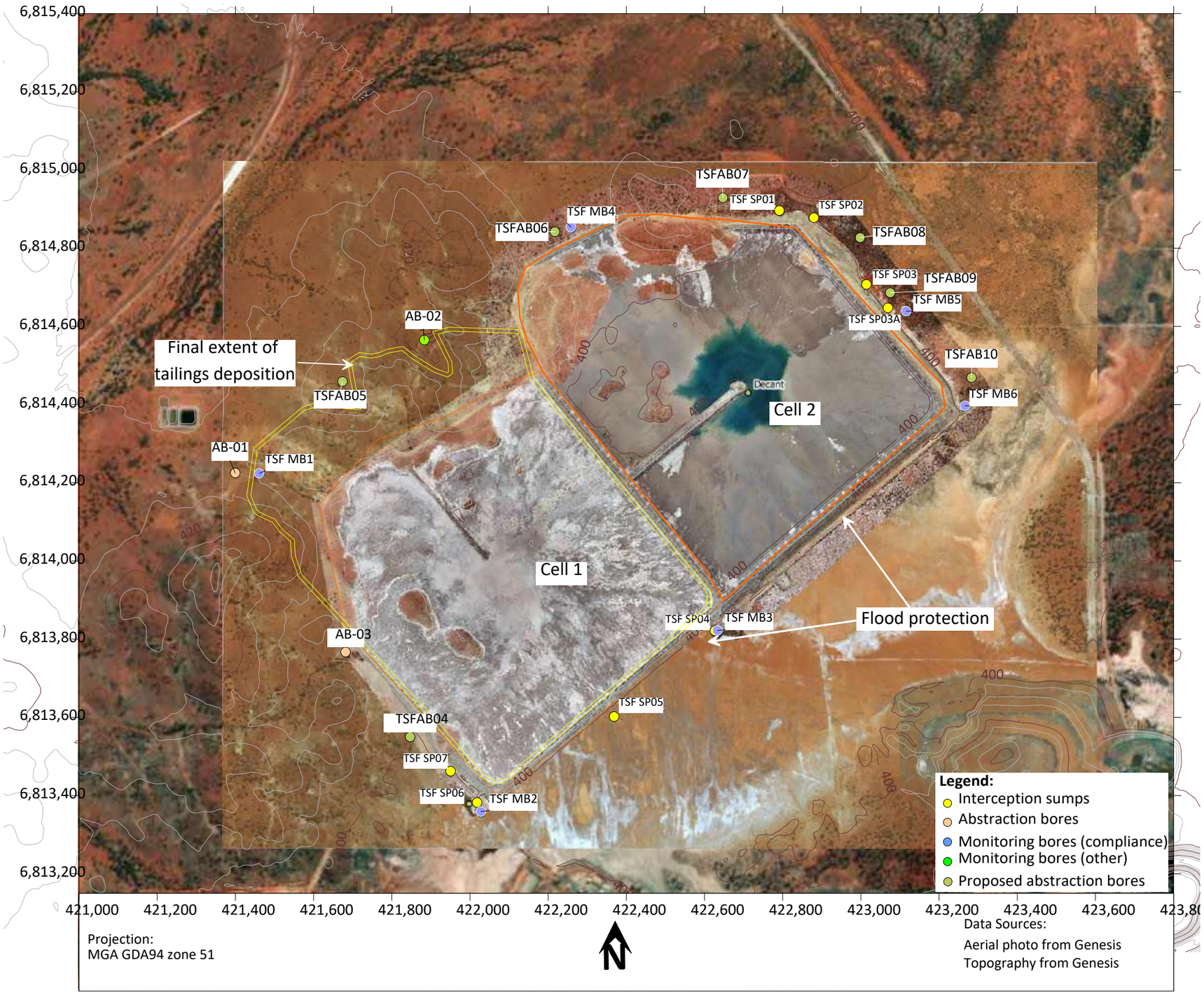


Figure 17: Existing and proposed monitoring and seepage recovery infrastructure

8.3 Groundwater and Surface Water Monitoring

The following changes to the monitoring programme are proposed:

- Seepage recovery abstraction rates should be recorded monthly at all abstraction bores and all seepage interception sumps. Abstraction rates should also be recorded at all new infrastructure where and if installed.
- Flowmeter descriptions (type and model) should be included in annual environmental reports.
- Water levels should be recorded at TSFAB02.
- Weekly inspections should be undertaken to identify standing surface water along the perimeter of the TSF. Water quality samples should be taken to identify the source of this surface water.

The groundwater monitoring programme is summarised in Table 9, Table 10 and Table 11.

Table 9: Seepage recovery bores

Seepage recovery points (abstraction bores)	TSFAB01, TSFAB03, TSFAB04*, TSFAB05*, TSFAB06*, TSFAB07*, TSFAB08*, TSFAB09*, TSFAB10*.
Seepage recovery points (interception sumps)	TSFSP01, TSFSP02, TSFSP03, TSFSP03a, TSFSP05, TSFSP06, TSFSP07
Monitoring requirements	Groundwater abstraction
Frequency	Monthly

*When/if installed

Table 10: Monitoring Bores

Groundwater monitoring Points	TSFMB1, TSFMB2, TSFMB3, TSFMB4, TSFMB5, TSFMB6. TSFAB02
Monitoring requirements	Groundwater levels, field EC and pH.
Frequency	Monthly
Monitoring requirements	Groundwater quality (All except TSFAB02)
Chemical parameters	TDS, WAD Cyanide, Arsenic, Antimony, Cadmium, Cobalt, Copper, Iron, lead, Manganese, Mercury, Nickel, Selenium, Sulphate, Zinc, Thallium
Frequency: Water quality	Quarterly

Table 11: Surface water

Monitoring locations	All standing surface water points identified along perimeter of TSF and decant.
Monitoring requirements	Location, extent, field EC and pH.
Monitoring requirements	Water quality
Chemical parameters	TDS, WAD Cyanide, Arsenic, Antimony, Cadmium, Cobalt, Copper, Iron, lead, Manganese, Mercury, Nickel, Selenium, Sulphate, Zinc, Thallium
Frequency: Inspections	Weekly
Frequency: Water quality	First appearance of expression then quarterly

8.4 Background groundwater quality

The baseline groundwater quality is outlined in Table 12.

Table 12: Background groundwater quality

Parameter	Sampled March 2018			Sampled June 2018		
	TSF MB01	TSF MB02	TSF MB03	TSF MB04	TSF MB05	TSF MB06
pH	7.6	7.1	7.7	7.4	7.5	7.8
EC (µS/cm)	3,200	150,000	75,000	37,000	54,000	57,000
TDS mg/L	1,800	150,000	58,000	25,000	41,000	44,000
WAD Cyanide mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Arsenic mg/L	<0.001	<0.005	<0.002	0.007	0.003	<0.002
Antimony mg/L	<0.001	<0.005	<0.002	<0.001	<0.002	<0.002
Cadmium mg/L	<0.0001	0.0053	0.0003	0.0001	0.0003	0.0002
Chromium mg/L	<0.001	<0.005	<0.002	0.001	0.004	<0.002
Cobalt mg/L	<0.001	0.016	0.003	0.001	0.005	0.005
Copper mg/L	0.001	0.017	0.014	0.002	0.003	<0.002
Iron mg/L	<0.01	<0.05	<0.02	0.4	1.9	0.07
Lead mg/L	<0.001	<0.005	<0.002	<0.001	<0.002	<0.002
Mercury mg/L	N/A	N/A	N/A	<0.00005	<0.00005	<0.00005
Manganese mg/L	N/A	N/A	N/A	0.17	0.63	0.79
Nickel mg/L	<0.001	0.013	0.006	0.003	0.01	0.007
Selenium mg/L	<0.001	0.037	0.021	0.018	0.021	0.026
Sulfate mg/L	N/A	N/A	N/A	2,300	5,300	7,100
Zinc mg/L	0.001	0.067	0.062	0.015	0.018	0.017
Thallium mg/L	<0.001	<0.005	<0.002	<0.001	<0.002	<0.002

8.5 Responsibilities

The responsibilities for the implementation of the groundwater management plan are outline in Table 13.

Table 13: Responsibilities

Position	Responsibility
All Personnel including Contractors	Ensure requirements of the groundwater management plan are adhered to. Report spills or seepage to the Environmental Advisor.
Environmental Advisor/Supervisor	Ensure all employees and contractors are aware of their obligations in relation to the groundwater management plan. Undertake monitoring as required in L9010/2016/1. Manage groundwater quality data. Review the groundwater management plan as required.
General Manager	Ensure the requirements of the groundwater management plan are adhered to. Ensure the clearing operator/s managing the facility is adequately trained. Ensure inspections are carried out in accordance with licence and TSF operating strategy requirements.

8.6 Reporting:

8.6.1 Incident Reporting – Breach of licence condition

Any exceedences of trigger values as set out in this document will be reported under Section 72 of the Environmental Protection Act 1986.

A breach against set licence conditions will require an N1 form to be submitted to DWER, with section A required within 24 hours.

8.6.2 Annual Environmental Report (AER)

The Environmental Supervisor is responsible for ensuring that the AER against conditions of the Mt Morgans Site Operating Licence contain the following information:

- Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken
- Monitoring of point source emissions to groundwater
- Monitoring of point source emissions to land
- Process monitoring
- Ambient environmental quality monitoring
- Monitoring of airborne dust
- Monitoring of inputs and outputs
- Complaints summary

The DWER annual environmental reporting period will be from the 11th of Feb to 10th of Feb each year with the report to be submitted online by the 10th April each year.

8.7 Review and Improvement of Environmental Performance

8.7.1 Conditions Review

An annual review of all conditions and commitments of this management plan will be completed. The review will:

- Include a comprehensive review of the monitoring results and complaints records of MMGO operations over the previous calendar year, which includes a comparison of these results against the:
    - Relevant statutory requirements, limits or performance measures/criteria.
    - Monitoring results of previous years.
    - Relevant predictions in the approvals.
- Identify any non-compliance over the last year, and describe what actions were (or are being taken to ensure compliance.
- Identify any trends in the monitoring data.
- Describe what measures will be implemented over the next year to improve environmental performance

8.7.2 Tailings Groundwater Management Plan Review

The Environmental Advisor shall review the Tailings Groundwater Management Plan at least biennially (every two years) to ensure its continuing appropriateness, adequacy and effectiveness. Department Managers shall actively participate in the review where required. The review shall:

- Determine the level of implementation of the plan.
- Determine compliance with requirements of the plan.
- Collect feedback from employees and contractors about use of the plan.
- Identify changes to conditions (legal requirements, Project operations, key stakeholder expectations).
- Identify changes to existing environmental or process information and technology.
- Analyse environmental incidents and hazard reports.
- Analyse any environmental or community complaints received.
- Identify improvements to the plan.

SIGNATURES

Groundwater Resource Management Pty Ltd

Doc Ref: J2402R01.docx

REFERENCES

ATC Williams (2018). Tailings Storage Facility, Design Report. Report to GR Engineering Services Limited on behalf of Mt Morgans WA Mining Pty Ltd. April 2018, 112393.03 R01 Rev 0

BoM (2016). Australia Rainfall and Runoff. Design Rainfall Data System http://www.bom.gov.au/water/designRainfalls/revised-ifd/

DWER (2017). Licence: Mt Morgans WA Mining Pty Ltd. L9010/2016/1

GRM, 2020. Groundwater Management Plan: Mt Morgans Tailings Storage Facility. Report prepared for Mount Morgans WA Mining Pty Ltd. 13 April 2020.

GRM, 2021. Updated Groundwater Management Plan: Mt Morgans Tailings Storage Facility. Report prepared for Mount Morgans WA Mining Pty Ltd. 19 July 2021.

GRM, 2022. Borehole Completion Report: Mt Morgans Tailings Storage Facility Abstraction Bores. Report to Mt Morgans WA Mining Pty Ltd. 6 December 2022.

GRM, 2023. Second drilling programme at the Mt Morgans Tailings Storage Facility. Technical Memorandum to Tomothy Clarke, 9 January 2023.

Mt Morgans WA Mining Pty Ltd (2019). Tailings Groundwater Management Plan for Mt Morgans Gold Project. Document ID MTN-PLN-408 Rev1, 30 August 2019.

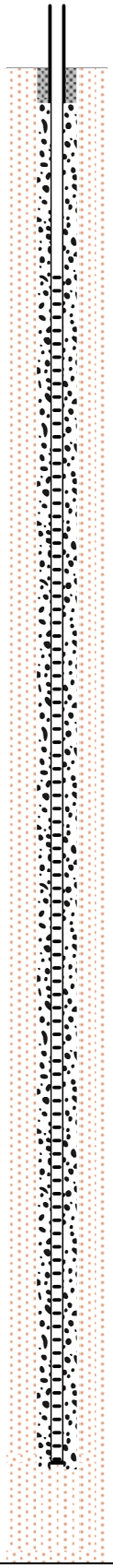
Appendix A:
Borehole logs

GROUNDWATER RESOURCE MANAGEMENT

PO Box 2310 Kardinya WA 6163
23 Parry Street
Fremantle WA 6160
Ph: +61 8 9433 2222 Fx: +61 8 9433 2322
Email: water@g-r-m.com.au

ID: **TSF01**			JOB NUMBER: J1911
CLIENT: Mt Morgans Mining			PROJECT: Mt Morgans Gold Project
COMMENCED: 6/1/2018	EASTING: 422260		INCLINATION: 90 degrees
COMPLETED: 6/1/2018	NORTHING: 6814860		AZIMUTH: NA degrees
DRILLED BY: WellDrill	ELEVATION: No Data		SWL (date): mbtoc ( )
LOGGED BY: [redacted]	GRID SYSTEM: MGA Zn 51J		

Depth (m bgl)	Graphic + Stratigraphy	Lithological Description	Field Notes	Bore Construction
0		SAPROLITE; pale brown, soft, clay		+0.9-1m 100mm diameter protective cover 0-0.5m cement annular seal +0.9-3m 50mm ND uPVC plain casing
5		SAPROCK; pale brown, hard, clay		3-20m 50mm ND uPVC slotted casing 0.5-20m gravel pack (-3.2 +6.4mm) 0-20m 6" diameter air-rotary drill-hole
10				
15		SAPROCK; brown, clay, hard, damp		
		BASALT: blue-brown, very weathered; damp	18m dry	
20			20m: Flow <0.1L/s	50mm ND end cap



GROUNDWATER RESOURCE MANAGEMENT

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23 Parry Street
Fremantle WA 6160
Ph: +61 8 9433 2222 Fx: +61 8 9433 2322
Email: water@g-r-m.com.au

ID: **TSF02**		JOB NUMBER: J1911
CLIENT: Mt Morgans Mining		PROJECT: Mt Morgans Gold Project
COMMENCED: 6/2/2018	EASTING: 423105	INCLINATION: 90 degrees
COMPLETED: 6/2/2018	NORTHING: 6814639	AZIMUTH: NA degrees
DRILLED BY: WellDrill	ELEVATION: No Data	SWL (date): mbtoc ( )
LOGGED BY: [redacted]	GRID SYSTEM: MGA Zn 51J	

Depth (m bgl)	Graphic + Stratigraphy	Lithological Description	Field Notes	Bore Construction
0		CLAY; pale brown, silty clay		+0.9-1m 100mm diameter protective cover 0-0.5m cement annular seal +0.9-3m 50mm ND uPVC plain casing
5		SAPROCK: brown, silicified-quartz, hard, damp	4m dry	3-14m 50mm ND uPVC slotted casing
10		SAPROCK: pale brown, soft, clay	6m Flow 0.7L/s, EC 113mS/cm, pH 7.3, temp 22.6C	0.5-14m gravel pack (-3.2 +6.4mm) 0-14m 6" diameter air-rotary drill-hole
15		BASALT: red-brown-blue, very weathered	14m 5L/s	50mm ND end cap
20				

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23 Parry Street
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Email: water@g-r-m.com.au

ID: **TSF03**			JOB NUMBER: J1911
CLIENT: Mt Morgans Mining			PROJECT: Mt Morgans Gold Project
COMMENCED: 6/12/2018	EASTING: 423264		INCLINATION: 90 degrees
COMPLETED: 6/12/2018	NORTHING: 6814397		AZIMUTH: NA degrees
DRILLED BY: WellDrill	ELEVATION: No Data		SWL (date): 2.93 mbtoc (6/13/2018)
LOGGED BY: [redacted]	GRID SYSTEM: MGA Zn 51J		

Depth (m bgl)	Graphic + Stratigraphy	Lithological Description	Field Notes	Bore Construction
0		CLAY: grey, soft, lake clay		+0.9-1m 100mm diameter protective cover
		CLAY: brown, moderately hard, clay		0-0.5m cement annular seal
		SAPROCK: brown, very weathered, basalt		+0.9-2m 50mm ND uPVC plain casing
5		BASALT: brown-dark grey, slightly weathered, minor fracture	6m Flow 0.1 L/s	2-6m 50mm ND uPVC slotted casing 0.5-6m gravel pack (-3.2 +6.4mm) 0-6m 6" diameter air-rotary drill-hole 50mm ND end cap
10				
15				
20				

GROUNDWATER RESOURCE MANAGEMENT

PO Box 442 Bayswater WA 6933
15 Harborne Street
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TSF AB01

ID: TSF AB01

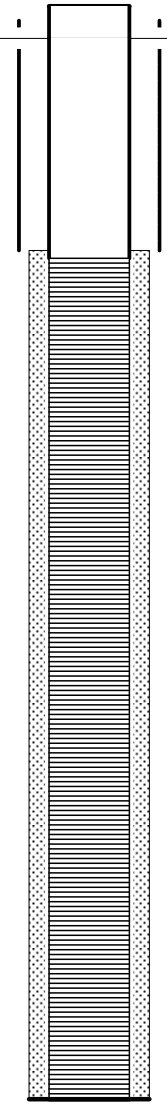
JOB NUMBER: J2219

CLIENT: Mt Morgans WA Mining

PROJECT: Mt Morgans TSF bores

COMMENCED:	44799	EASTING:	421,399.5	INCLINATION:	90 degrees
COMPLETED:	44801	NORTHING:	6,814,225	AZIMUTH:	0 degrees
DRILLED BY:	Pentium	ELEVATION:	413.114	SWL (date):	8.09 mbtoc ("1/09/22")
LOGGED BY:	[redacted]	GRID SYSTEM:	MGA GDA94 Z50		

Depth (m bgl)	Graphic + Stratigraphy	Lithological Description	Field Notes	Bore Construction
0				
5		SAPROCK: Pink		
10		SAPROCK: Pale Grey	Dry	
15				
20			Cut Water	
25		QUARTZ:	24m: Flow 1.25L/s, EC 14.38 mS/cm, pH 7.81, temp 23.9°C	
30		BASALT: Green - brown, weathered, soft,some laminar structure	30m: Flow 2L/s, EC 13.39 mS/cm, pH 7.76, temp 24.6°C	
35				
40				



0-3m: Annular cement grout seal

+0.4-5.6m: 323.9mm ND, 4.8mm W/T mild steel surface casing

+0.95-6.22m: 200mm ND CL18 uPVC blank casing with cap

5.6-30.5m: 7½" ND pilot hole

6.22-30.22m: 200mm ND CL18uPVC machine slotted casing (1mm slots)

3- 30.5m: +3.2-6.4mm graded gravel pack

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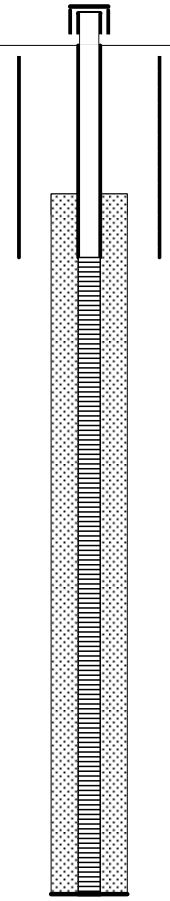
Email: water@g-r-m.com.au

ID: **TSF AB02**		JOB NUMBER: J2219	
CLIENT: Mt Morgans WA Mining		PROJECT: Mt Morgans TSF bores	
COMMENCED: 44802	EASTING: 421,883.3	INCLINATION: 90 degrees	
COMPLETED: 44805	NORTHING: 6,814,565	AZIMUTH: 0 degrees	
DRILLED BY: Pentium	ELEVATION: 421.868	SWL (date): 14.81 mbtoc ("1/09/22")	
LOGGED BY: [redacted]	GRID SYSTEM: MGA GDA94 Z50		

Depth (m bgl)	Graphic + Stratigraphy	Lithological Description	Field Notes	Bore Construction
0		BASALT: Grey-brown, weathered	Dry	3.6-4.2m: Annular bentonite grout seal +0.4-4m: 323.9mm ND, 4.8mm W/T mild steel surface casing +0.85-0m: 155mm ND,Steel monument with lockable lid +0.85-6.15m: 50mm ND CL12 uPVC blank casing with cap 4-24.5m: 7½" ND pilot hole 6.15-24.15m: 50mm ND CL12uPVC machine slotted casing (1mm slots) 24.15m: 50mm ND uPVC end cap 4.2- 24.5m: +3.2-6.4mm graded gravel pack
5				
10		BASALT: Grey, fine grained, minor fractures with Fe staining, very hard		
15				
20		BASALT: grey very hard		
25			Trace of water	
30				
35				
40				



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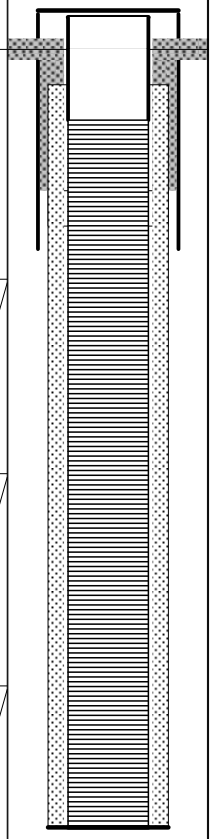
PO Box 442 Bayswater WA 6933
15 Harborne Street
Wembley WA 6014
Ph: +61 8 9433 2222 Fx: +61 8 9433 2322
Email: water@g-r-m.com.au

TSF AB03

ID: TSF AB03		JOB NUMBER: J2219	
CLIENT: Mt Morgans WA Mining		PROJECT: Mt Morgans TSF bores	
COMMENCED: 44797	EASTING: 421,681.8	INCLINATION: 90 degrees	
COMPLETED: 44799	NORTHING: 6,813,767	AZIMUTH: 0 degrees	
DRILLED BY: Pentium	ELEVATION: 406.143	SWL (date): 1.46 mbtoc ("1/09/22")	
LOGGED BY: [redacted]	GRID SYSTEM: MGA GDA94 Z50		

Depth (m bgl)	Graphic + Stratigraphy	Lithological Description	Field Notes	Bore Construction
0		ALLUVIUM: Brown - Grey	Dry	0-3m: Annular cement grout seal +0.4-5.6m: 323.9mm ND, 4.8mm W/T mild steel surface casing
5		BASALT: Light Grey, weathered	6.5m: Flow 0.1L/s, EC mS/cm, pH 7.52, temp 18.6°C	
10		BASALT: Light Grey, minor fractures, Fe staining BASALT: Light Grey, minor quartz	12m: Flow 0.54L/s, EC mS/cm, pH 7.07, temp 21°C	+0.94-2.03m: 200mm ND CL18 uPVC blank casing with cap 5.6-24m: 7½" ND pilot hole
15		BASALT: Blue - grey, hard, fresh	18m: Flow 0.84L/s, EC mS/cm, pH 7.27, temp 22.4°C	2.03-20.03m: 200mm ND CL18uPVC machine slotted casing (1mm slots) 3- 20.5m: +3.2-6.4mm graded gravel pack
20				20.03m: 200mm ND uPVC end cap
25			24m: Flow 0.7L/s, EC mS/cm, pH 7.09, temp 22.5°C	
30				
35				
40				



Appendix B:
Monitoring data

DACIAN GOLD

							<------Field Samples			Laboratory ----->																	
Month	SWL mBTOC	SWL (mbgl)	Ground level RL	Groundwater RL	WTL	ATL	pH	EC (µS/cm)	TDS (mg/L)	Temp	pH	TDS (mg/L)	As	Sb	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mn	Ni	Se	Zn	Tl	Sulphate	WAD Cyanide
Dec-17	9.83	9.31	0	401.274	404.584	406.584														<1			2	<1	<5	<1		<0.004
Mar-18	9.89	9.37	0	401.214	404.584	406.584														<0.001			<0.001	<0.001	0.001	<0.001		<0.004
Apr-18	10.44	9.92	0	400.664	404.584	406.584														0.001	<0.00005	0.22	0.006	<0.001	0.015	0.008	200	<0.004
May-18	10.42	9.9	0	400.684	404.584	406.584														<0.001	<0.00005	0.3	0.002	<0.001	0.004	<0.001	110	<0.004
Jun-18	10.02	9.5	0	401.084	404.584	406.584														<0.001	<0.00005	0.38	0.01	<0.001	0.006	<0.001	160	<0.004
Jul-18	9.72	9.2	0	401.384	404.584	406.584														<0.001	<0.00005	0.17	0.013	<0.001	0.022	<0.001	160	<0.004
Aug-18	9.96	9.44	0	401.144	404.584	406.584														<0.001	<0.00005	0.092	0.002	<0.001	0.001	0.001	250	0.005
Sep-18	9.97	9.45	0	401.134	404.584	406.584														<0.001	<0.00005	0.086	<0.001	<0.001	0.002	<0.001	270	<0.004
Oct-18	9.67	9.15	0	401.434	404.584	406.584														<0.00005	0.087	<0.001	<0.001	<0.001	0.001	<0.001	400	<0.004
Dec-18	9.51	8.99	0	401.594	404.584	406.584														<0.001	<0.00005	0.078	0.002	<0.001	0.002	<0.001	430	<0.004
Jan-19	9.45	8.93	0	401.654	404.584	406.584														<0.001	<0.00005	0.017	0.002	<0.001	0.002	<0.001	360	<0.004
Feb-19	9.27	8.75	0	401.834	404.584	406.584														<0.001	<0.00005	0.073	<0.001	<0.001	0.007	<0.001	430	<0.004
Apr-19	8.94	8.42	0	402.164	404.584	406.584														<0.001	<0.00005	0.063	<0.001	<0.001	<0.001	<0.001	450	<0.004
Jun-19	8.71	8.19	0	402.394	404.584	406.584														<0.001	<0.00005	0.045	<0.001	<0.001	<0.001	<0.001	420	<0.004
Sep-19	8.32	7.8	0	402.784	404.584	406.584														<0.001	<0.00005	0.045	<0.001	<0.001	0.002	<0.001	430	<0.004
Dec-19	8.36	7.84	0	402.744	404.584	406.584														<0.001	<0.00005	0.058	<0.001	<0.001	0.036	<0.001	450	<0.004
Mar-20	8.95	8.43	0	402.154	404.584	406.584	7.5	9600	5800				0.002	<0.001	<0.0001	<0.001	<0.001	<0.001	0.03	<0.001	<0.00005	0.1	<0.001	0.011	0.003	<0.001	600	<0.004
Apr-20	9.14	8.62	0	401.964	404.584	406.584																						
Jun-20	9.3	8.78	0	401.804	404.584	406.584																						
Jul-20	9.36	8.84	0	401.744	404.584	406.584	6.8	100000	82000				<0.005	<0.005	<0.0005	<0.005	<0.005	<0.005	0.08	<0.005	<0.00005	0.3	<0.005	<0.005	<0.005	<0.005	7600	<0.004
Aug-20	9.4	8.88	0	401.704	404.584	406.584																						
Sep-20	9.47	8.95	0	401.634	404.584	406.584																						
Oct-20	9.5	8.98	0	401.604	404.584	406.584	7.9	9000	5100				<0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	4.4	<0.001	<0.00005	0.44	<0.001	0.002	0.001	<0.001	480	0.024
Nov-20	9.46	8.94	0	401.644	404.584	406.584																						
Dec-20	9.56	9.04	0	401.544	404.584	406.584																						
Jan-21	9.49	8.97	0	401.614	404.584	406.584	7.34	10300	5100				0.001	<0.001	<0.0001	<0.001	<0.001	<0.001	1.2	<0.001	<0.00005	0.19	<0.001	0.012	0.012	<0.001	520	<0.004
Feb-21	9.63	9.11	0	401.474	404.584	406.584																						
Mar-21	9.58	9.06	0	401.524	404.584	406.584																						
Apr-21	9.6	9.08	0	401.504	404.584	406.584																						
May-21	9.54	9.02	0	401.564	404.584	406.584																						
Jun-21	9.45	8.93	0	401.654	404.584	406.584	8.07	7460	5000				0.004	<0.001	<0.0001	0.029	0.007	0.016	18	<0.001	<0.00005	0.3	0.016	0.006	0.023	<0.001	380	<0.004
Jul-21	9.4	8.88	0	401.704	404.584	406.584																						
Aug-21	9.21	8.69	0	401.894	404.584	406.584	7.55	7670	4900				0.003	<0.001	<0.0001	0.002	<0.001	0.005	0.61	<0.001	<0.00005	0.065	<0.001	0.008	0.024	<0.001	490	<0.004
Sep-21	8.49	7.97	0	402.614	404.584	406.584	7.81	7820	4400				0.003	<0.001	<0.0001	0.009	0.002	0.009	3.5	<0.001	<0.00005	0.11	0.005	0.007	0.021	<0.001	390	<0.004
Oct-21	7.85	7.33	0	403.254	404.584	406.584																						
Nov-21	7.63	7.11	0	403.474	404.584	406.584																						
Dec-21	7.38	6.86	0	403.724	404.584	406.584	8.2	7300	4300				<0.001	<0.001	<0.0001	0.006	0.004	0.008	1.9	<0.001	<0.00005	0.23	0.004	0.002	0.037	<0.001	400	<0.004
Jan-22	7.29	6.77	0	403.814	404.584	406.584																						
Feb-22	6.9	6.38	0	404.204	404.584	406.584																						
Mar-22	6.87	6.35	0	404.234	404.584	406.584																						
Apr-22	6.65	6.13	0	404.454	404.584	406.584	7.36	14700	9000			9000	0.004	<0.001	<0.0001	0.054	0.015	0.029	30	<0.001	<0.00005	0.58	0.03	0.018	0.052	<0.001	750	<0.004
May-22	6.51	5.99	0	404.594	404.584	406.584																						
Jun-22	6.15	5.63	0	404.954	404.584	406.584						9300	<0.001		<0.0001	0.004	0.002	0.004	1.5	<0.001	<0.00005	0.58	0.004	0.007	0.014	<0.001		
Jul-22		-0.52	0		404.584	406.584																						
Aug-22	6.52	6	0	404.584	404.584	406.584																						
Sep-22		-0.52			404.584	406.584																						
Oct-22	5.25	4.73	0	405.854	404.584	406.584	7.09	14900	9536	26.3																		
Nov-22	7.13	6.61	0	403.974	404.584	406.584																						
Dec-22	8.29	7.77	0	402.814	404.584	406.584	7.5	17000	10880	25.5		13000	<1.0		<0.10	1.8	5.0	2.1	<10	<1.0	<0.050	1300	10	5.0	44	<1.0	770	<0.0040
Jan-23	9.05	8.53	0	402.054	404.584	406.584	7.49	15300	9792	27.9																		
Feb-23	9.5	8.98	0	401.604	404.584	406.584			0																			
Mar-23	9.4	8.88	0	401.704	404.584	406.584			0																			
Apr-23	7.39	6.87	0	403.714	404.584	406.584	6.49	20400	13056	20.3																		
May-23		-0.52			404.584	406.584			0																			
Jun-23	8.47	7.95	0	402.634	404.584	406.584	7.54	33400	21376	11.4	7.5	17000	<1.0	1.4	0.23	<1.0	47	<1.0	76	<1.0	<0.050	1400	1.6	3.9	7.2	<1.0	1200	<0.0040
Jul-23	10.4	9.88	0	400.704	404.584	406.584	7.6	28100	17984	23.2			<1		<0.10	6.6	45	2.8	4600	<1.0	<0.050	1300	4.6	6.2	25		1500	<0.0040
Aug-23	10.86	10.34	0	400.244	404.584	406.584	7.57	30200	19328	25.6			<0.005		<0.0005	<0.005	0.51	<0.005		<0.005	<0.0001	1460	<0.005	<0.05	25		1440	<0.0041
Sep-23		-0.52			404.584	406.584																						
Oct-23	11.25	10.73		399.854	404.584	406.584																						
Nov-23	11.49	10.97		399.614	404.584	406.584																						
Dec-23					404.584	406.584																						

Monitoring Bore	Easting	Northing	Casing Height	Casing RL	Trigger	Trigger RL
TMB01	421,435	6,814,247	0.52	411.104		
WTL					6	404.584
ATL					4	406.584

DACIAN GOLD

TMB02 Quality Summary

Month	SWL mBTOC	SWL (mbgl)	Ground Level RL	Groundwater RL	WTL	ATL	Field Samples pH	EC (µS/cm)	TDS (mg/L)	Temp	Metals in mg/L As	Sb	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mn	Ni	Se	Zn	Tl	Sulphate	WAD Cyanide
Dec-17	1.34	0.68		398.184	398.36	398.86	7.9	14000	8200		<5	<5	<0.5	<5	<5	8	<25	<5			<5	<5	<25	<5		<0.004
Mar-18	1.16	0.5		398.364	398.36	398.86	7.1	150000	150000		<0.005	<0.005	0.0053	<0.005	0.016	0.017	<0.05	<0.005			0.013	0.037	0.067	<0.005		<0.004
Apr-18	1.38	0.72		398.144	398.36	398.86	6.9	160000	170000		<0.005	<0.005	0.0058	<0.005	0.017	0.025	0.23	<0.005	0.00012	1.5	0.016	0.048	0.044	<0.005	12000	0.006
May-18	1.19	0.53		398.334	398.36	398.86	7	130000	170000		<0.005	<0.005	0.0058	0.035	0.006	0.01	<0.05	<0.005	0.00007	0.59	0.008	0.045	0.025	<0.005	12000	<0.004
Jun-18	1.18	0.52		398.344	398.36	398.86	7	170000	170000		<0.005	<0.005	0.0062	0.018	0.015	0.015	1.1	<0.005	0.0001	1.5	0.016	0.047	0.041	<0.005	12000	<0.004
Jul-18	0.89	0.23		398.634	398.36	398.86	7	170000	170000		<0.01	<0.01	0.0067	0.022	0.02	0.022	4.3	<0.01	<0.00005	2.5	0.02	0.041	0.037	<0.01	12000	<0.004
Aug-18	1.13	0.47		398.394	398.36	398.86	7.1	160000	170000		<0.005	<0.005	0.0068	<0.005	0.017	0.011	<0.05	<0.005	<0.00005	2.4	0.011	0.042	0.013	<0.005	11000	0.02
Sep-18	0.91	0.25		398.614	398.36	398.86	7	180000	170000		<0.005	<0.005	0.0068	<0.005	0.017	0.016	<0.05	<0.005	<0.00005	2	0.01	0.043	0.03	<0.005	12000	<0.004
Oct-18	0.84	0.18		398.684	398.36	398.86	7.1	180000	170000		<0.005	0.006	0.005	0.015	0.022	<0.05	<0.005	<0.00005	2	0.012	0.046	<0.005	0.027	<0.005	12000	<0.004
Dec-18	0.76	0.1		398.764	398.36	398.86	7.2	160000	170000		<0.005	<0.005	0.0052	0.013	0.016	0.009	<0.05	<0.005	<0.00005	1.8	0.01	0.047	0.034	<0.005	13000	<0.004
Jan-19	0.81	0.15		398.714	398.36	398.86	7.2	170000	180000		<0.005	0.005	0.0058	0.011	0.012	0.013	<0.05	<0.005	<0.00005	1.6	0.009	0.045	0.048	<0.005	11000	<0.004
Feb-19	0.8	0.14		398.724	398.36	398.86	7.5	180000	180000		<0.005	<0.005	0.0061	0.007	<0.005	<0.005	<0.05	<0.005	0.00012	<0.025	<0.005	0.045	0.028	<0.005	12000	<0.004
Apr-19	0.76	0.1		398.764	398.36	398.86	7.2	170000	160000		<0.005	<0.005	0.0057	0.01	<0.005	<0.005	<0.05	<0.005	<0.00005	<0.025	0.006	0.048	0.44	<0.005	13000	<0.004
Jun-19	0.77	0.11		398.754	398.36	398.86	6.9	170000	180000		<0.005	<0.005	0.0054	0.01	0.014	0.016	<0.05	<0.005	0.00006	0.73	0.006	0.048	0.018	<0.005	13000	<0.004
Sep-19	0.77	0.11		398.754	398.36	398.86	6.9	180000	180000		<0.005	<0.005	0.0054	0.01	0.02	0.025	<0.05	<0.005	<0.00005	0.55	<0.005	0.05	0.024	<0.005	13000	<0.004
Dec-19	0.78	0.12		398.744	398.36	398.86	6.9	180000	180000		<0.005	<0.005	0.005	0.01	0.019	0.021	<0.05	<0.005	<0.00005	0.49	0.005	0.05	0.018	<0.005	13000	<0.004
Mar-20	0.68	0.02		398.844	398.36	398.86	6.9	170000	830000		<0.005	<0.005	0.0054	0.013	0.029	0.008	<0.05	<0.005	0.00011	0.33	0.005	0.051	0.086	<0.005	13000	<0.004
Apr-20	0.8	0.14		398.724	398.36	398.86																				
Jul-20	0.89	0.23		398.634	398.36	398.86	6.7	180000	170000		<0.005	<0.005	0.0056	0.032	0.11	<0.005	<0.05	<0.005	0.00018	0.27	<0.005	0.05	0.015	<0.005	13000	0.013
Aug-20	0.92	0.26		398.604	398.36	398.86																				
Sep-20	0.97	0.31		398.554	398.36	398.86																				
Oct-20	0.96	0.3		398.564	398.36	398.86	6.9	180000	180000		<0.005	<0.005	0.0064	0.041	0.19	0.01	<0.05	<0.005	0.00006	0.15	0.006	0.046	0.034	<0.005	13000	0.074
Nov-20	1.04	0.38		398.484	398.36	398.86																				
Dec-20	1.06	0.4		398.464	398.36	398.86																				
Jan-21	1.03	0.37		398.494	398.36	398.86	6.54	193800	170000		<0.005	<0.005	0.0071	0.038	0.28	0.01	<0.05	<0.005	0.00009	0.072	<0.005	0.052	0.045	<0.005	14000	0.004
Feb-21	1	0.34	0	398.524	398.36	398.86																				
Mar-21	1	0.34	0	398.524	398.36	398.86																				
Apr-21	1.04	0.38	0	398.484	398.36	398.86																				
May-21	0.95	0.29	0	398.574	398.36	398.86																				
Jun-21	0.92	0.26	0	398.604	398.36	398.86	6.57	142700	190000		<0.005	<0.005	0.0079	0.099	0.39	0.035	27	<0.005	0.00006	0.27	0.025	0.051	0.046	<0.005	13000	<0.004
Jul-21	0.89	0.23	0	398.634	398.36	398.86																				
Aug-21	0.81	0.15	0	398.714	398.36	398.86	6.91	148600	190000		<0.01	<0.01	0.006	0.062	0.31	0.025	5.8	<0.01	<0.00005	0.16	0.015	0.054	0.052	<0.01	15000	<0.004
Sep-21	0.87	0.21	0	398.654	398.36	398.86	6.67	137600	190000		0.006	<0.005	0.0064	0.11	0.28	0.04	28	<0.005	<0.00005	0.26	0.035	0.05	0.058	<0.005	12000	0.006
Oct-21	0.84	0.18	0	398.684	398.36	398.86																				
Nov-21	0.83	0.17	0	398.694	398.36	398.86																				
Dec-21	0.77	0.11	0	398.754	398.36	398.86	7	180000	200000		<0.005	<0.005	0.0064	0.042	0.21	0.01	1.9	<0.005	0.00007	0.11	0.007	0.049	0.023	<0.005	13000	0.018
Jan-22	1	0.34	0	398.524	398.36	398.86																				
Feb-22	0.85	0.19	0	398.674	398.36	398.86																				
Mar-22	0.84	0.18	0	398.684	398.36	398.86																				
Apr-22	0.89	0.23	0	398.634	398.36	398.86	6.51	166500	99900		<0.01	<0.01	0.0081	0.15	0.2	0.076	38	<0.01	<0.00005	0.39	0.045	0.056	0.12	<0.01	15000	<0.004
May-22					398.36	398.86																				
Jun-22	0.8	0.14	0	398.724	398.36	398.86																				
Jul-22					398.36	398.86																				
Aug-22	0.98	0.32	0	398.544	398.36	398.86																				
Sep-22					398.36	398.86																				
Oct-22	0.91	0.25	0	398.614	398.36	398.86	6.5	62200	37320	25.2																
Nov-22	0.93	0.27	0	398.594	398.36	398.86																				
Dec-22	1.02	0.36	0	398.504	398.36	398.86	6.66	154100	92460	27.5																
Jan-23	0.96	0.30	0	398.564	398.36	398.86	6.35	146600	87960	28.9																
Feb-23					398.36	398.86																				
Mar-23					398.36	398.86																				
Apr-23	0.72	0.06	0	398.804	398.36	398.86	6.43	139400	83640	23.1																
May-23					398.36	398.86																				
Jun-23	1.03				398.36	398.86	7.11	362.1			<5.0	<5.0	5.4	35	97	<5.0	<50	<5.0	<0.050	79	7.0	47	40	<5.0	14000	<0.0040
Jul-23	0.98				398.36	398.86	6.99	169900		17.7	<10		6.0	38	120	<10	670	<10	<0.050	140	<10	52	71		17000	<0.0040
Aug-23	0.99	0.33	0	398.534	398.36	398.86	6.86	184500		21.3	<0.020		2.5	36	133	<0.020		<0.020	<0.0005	118	<0.020	<0.2	<0.1		14400	<0.0040
Sep-23					398.36	398.86	7.31	106.4		22.3																
Oct-23	0.9	0.24		398.624	398.36	398.86																				
Nov-23	0.94	0.28		398.584	398.36	398.86																				
Dec-23					398.36	398.86																				

Monitoring Bore	Easting	Northing	Casing Height	Casing RL	Ground RL
TMB02	422,027	6,813,361	0.66	399.524	398.864

DACIAN GOLD

TMB03 Quality Summary

Month	SWL mBTOC	SWL (mbgl)	Ground Level RL	Groundwater RL	WTL	ATL	Field Samples pH	EC (µS/cm)	TDS (mg/L)	Temp	Metals in mg/L As	Sb	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mn	Ni	Se	Zn	Tl	Sulphate	WAD Cyanide
Dec-17	1.84	0.62		398.054	398.174	398.674	8	4200	2400		<1	<1	<0.1	<1	<1	3	<5	<1			3	1	8	<1		<0.004
Mar-18	1.73	0.51		398.164	398.174	398.674	7.7	75000	58000		<0.002	<0.002	0.0003	<0.002	0.003	0.014	<0.02	<0.002			0.006	0.021	0.062	<0.002		<0.004
Apr-18	1.69	0.47		398.204	398.174	398.674	7.4	130000	150000		<0.005	<0.005	0.0011	0.006	0.011	0.015	0.38	<0.005	<0.00005	1.4	0.011	0.059	0.06	<0.005	15000	0.004
May-18	2.33	1.11		397.564	398.174	398.674	7	140000	180000		<0.005	<0.005	0.0012	0.008	<0.005	0.008	<0.05	<0.005	0.00006	0.58	0.009	0.067	0.022	<0.005	18000	<0.004
Jun-18	2.14	0.92		397.754	398.174	398.674	6.9	180000	190000		<0.005	<0.005	0.0016	0.008	0.006	0.005	0.06	<0.005	0.00009	0.96	0.01	0.081	0.019	<0.005	18000	<0.004
Jul-18	1.52	0.3		398.374	398.174	398.674	7	180000	190000		<0.01	<0.01	0.0018	<0.01	<0.01	<0.01	0.1	<0.01	<0.00005	0.39	0.013	0.077	0.021	<0.01	17000	<0.004
Aug-18	2.31	1.09		397.584	398.174	398.674	7.1	170000	190000		<0.005	<0.005	0.0012	<0.005	<0.005	<0.005	<0.05	<0.005	<0.00005	0.17	0.014	0.084	0.044	<0.005	18000	0.009
Sep-18	1.56	0.34		398.334	398.174	398.674	7	180000	190000		<0.005	<0.005	0.0014	<0.005	<0.005	<0.005	<0.05	<0.005	<0.00005	0.081	0.009	0.085	0.02	<0.005	17000	<0.004
Oct-18	1.3	0.08		398.594	398.174	398.674	7	190000	190000		<0.005	0.0013	0.009	<0.005	<0.005	<0.05	<0.005	0.00007	0.039	0.011	0.078	<0.005	0.022	<0.005	18000	<0.004
Dec-18	1.48	0.26		398.414	398.174	398.674	7	170000	190000		<0.005	<0.005	0.0011	<0.005	<0.005	0.014	<0.05	<0.005	<0.00005	<0.025	0.008	0.084	0.022	<0.005	20000	<0.004
Jan-19	1.49	0.27		398.404	398.174	398.674	6.9	180000	190000		<0.005	<0.005	0.0016	0.015	<0.005	<0.005	<0.05	<0.005	<0.00005	<0.025	<0.005	0.078	0.022	<0.005	17000	<0.004
Feb-19	1.42	0.2		398.474	398.174	398.674	6.9	180000	190000		<0.005	<0.005	0.0012	0.014	<0.005	<0.005	<0.05	<0.005	0.0001	<0.025	0.006	0.083	0.075	<0.005	18000	<0.004
Apr-19	1.4	0.18		398.494	398.174	398.674	6.9	170000	180000		<0.005	<0.005	0.0015	0.01	<0.005	<0.005	<0.05	<0.005	<0.00005	0.056	0.007	0.082	0.012	<0.005	19000	<0.004
Jun-19	1.39	0.17		398.504	398.174	398.674	7	180000	180000		<0.005	<0.005	0.0011	0.011	<0.005	<0.005	<0.05	<0.005	0.00006	0.093	0.007	0.08	0.012	<0.005	19000	<0.004
Sep-19	1.4	0.18		398.494	398.174	398.674	7	180000	190000		<0.005	<0.005	0.0013	0.012	<0.005	<0.005	<0.05	<0.005	0.00007	0.091	0.005	0.083	0.027	<0.005	18000	<0.004
Dec-19	1.31	0.09		398.584	398.174	398.674	7	180000	180000		<0.005	<0.005	0.0012	0.014	<0.005	<0.005	<0.05	<0.005	0.00005	<0.025	<0.005	0.08	0.022	<0.005	18000	<0.004
Mar-20	1.32	0.1		398.574	398.174	398.674	7.1	180000	880000		<0.005	<0.005	0.0013	0.014	<0.005	<0.005	<0.05	<0.005	0.00005	0.033	0.006	0.081	0.022	<0.005	18000	<0.004
Apr-20	1.27	0.05		398.624	398.174	398.674																				
Jul-20	1.32	0.1		398.574	398.174	398.674	7	180000	180000		<0.005	<0.005	0.0014	0.007	0.012	0.007	<0.05	<0.005	0.00005	1.1	0.012	0.076	0.016	<0.005	18000	<0.004
Aug-20	1.33	0.11		398.564	398.174	398.674																				
Sep-20	1.33	0.11		398.564	398.174	398.674																				
Oct-20	1.45	0.23		398.444	398.174	398.674	6.9	180000	180000		<0.005	<0.005	0.001	0.014	0.01	<0.005	0.07	<0.005	0.00009	0.07	<0.005	0.076	0.022	<0.005	18000	<0.004
Nov-20	1.26	0.04		398.634	398.174	398.674																				
Dec-20	1.3	0.08		398.594	398.174	398.674																				
Jan-21	1.22	0		398.674	398.174	398.674	6.54	194800	180000		<0.005	<0.005	0.0011	0.016	<0.005	<0.005	<0.05	<0.005	0.00006	<0.025	<0.005	0.084	0.039	<0.005	19000	<0.004
Feb-21	1.32	0.1	0	398.574	398.174	398.674																				
Mar-21	1.36	0.14	0	398.534	398.174	398.674																				
Apr-21	1.41	0.19	0	398.484	398.174	398.674																				
May-21	1.44	0.22	0	398.454	398.174	398.674																				
Jun-21	1.48	0.26	0	398.414	398.174	398.674	6.7	138100	150000		<0.005	<0.005	0.0014	0.03	0.01	0.02	5.5	<0.005	0.00009	0.38	0.014	0.088	0.042	<0.005	17000	<0.004
Jul-21	1.43	0.21	0	398.464	398.174	398.674																				
Aug-21	1.27	0.05	0	398.624	398.174	398.674	6.83	149100	190000		<0.01	<0.01	0.0012	0.03	0.011	0.021	6.1	<0.01	0.00005	0.32	0.019	0.081	0.054	<0.01	20000	<0.004
Sep-21	1.52	0.3	0	398.374	398.174	398.674	6.74	137900	180000		<0.005	0.011	0.0014	0.045	0.019	0.042	9.7	<0.005	<0.00005	0.57	0.025	0.078	0.061	<0.005	15000	<0.004
Oct-21	1.35	0.13	0	398.544	398.174	398.674																				
Nov-21	1.35	0.13	0	398.544	398.174	398.674																				
Dec-21	1.34	0.12	0	398.554	398.174	398.674	6.9	180000	180000		<0.005	<0.005	0.0012	0.024	0.01	0.015	1.5	<0.005	0.00007	0.24	0.007	0.073	0.028	<0.005	17000	<0.004
Jan-22	1.62	0.4	0	398.274	398.174	398.674																				
Feb-22	1.59	0.37	0	398.304	398.174	398.674																				
Mar-22	1.53	0.31	0	398.364	398.174	398.674																				
Apr-22	1.66	0.44	0	398.234	398.174	398.674	6.6	171400	102840		<0.01	<0.01	0.0021	0.055	0.033	0.054	12	<0.01	<0.00005	0.85	0.032	0.084	0.1	<0.01	19000	<0.004
May-22					398.174	398.674																				
Jun-22	1.6	0.38	0	398.294	398.174	398.674																				
Jul-22	1.58	0.36	0	398.314	398.174	398.674																				
Aug-22					398.174	398.674																				
Sep-22					398.174	398.674																				
Oct-22	1.52	0.3	0	398.374	398.174	398.674	6.64	138400	83040	24.2																
Nov-22	1.52	0.3	0	398.374	398.174	398.674			0																	
Dec-22	1.52	0.3	0	398.374	398.174	398.674	6.58	154700	92820	28																
Jan-23	1.52	0.3	0	398.374	398.174	398.674	6.41	143400	86040	30.7																
Feb-23					398.174	398.674																				
Mar-23					398.174	398.674																				
Apr-23	1.15	-0.07	0	398.744	398.174	398.674	6.33	152200	152200	19.5																
May-23				398.404	398.174	398.674																				
Jun-23	1.49	0.27			398.174	398.674					<5.0	6.3	1.3	14	64	<5.0	<50	<5.0	<0.050	13	<5.0	70	20	<5.0	19000	0.0081
Jul-23	1.45	0.23		398.444	398.174	398.674	6.85	170600		17.9	<10		1.8	20	81	<10	1800	<10	<0.05	57	<10	73	62		23000	<0.004
Aug-23					398.174	398.674	7.05	183200		21.3	<0.02		<0.0020	<0.02	114	<0.02		<0.02	<0.0005	157	<0.020	<0.20	<0.100		19400	<0.004
Sep-23					398.174	398.674	7.48	178200		22																
Oct-23	1.4	0.18		398.494	398.174	398.674																				
Nov-23	1.42	0.2		398.474	398.174	398.674																				
Dec-23					398.174	398.674																				

Monitoring Bore	Easting	Northing	Casing Height	Casing RL
TMB03	422,633	6,813,823	1.22	399.894

DACIAN GOLD

TMB04 Quality Summary

Month	SWL mBTOC	SWL (mbgl)	Ground Level RL	SWL Groundwater RL	WTL	ATL	Field Samples pH	EC (µS/cm)	TDS (mg/L)	Temp	Metals in mg/L As	Sb	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mn	Ni	Se	Zn	Tl	Sulphate	WAD Cyanide
Jun-18	6.44	5.56		398.858	400.42	402.42	7.4	37000	25000		0.007	<0.001	0.0001	0.001	0.001	0.002	0.4	<0.001	<0.00005	0.17	0.003	0.018	0.015	<0.001	2300	<0.004
Sep-18	6.27	5.39		399.028	400.42	402.42	7.1	45000	31000		0.003	<0.002	0.0003	<0.002	<0.002	<0.002	<0.02	<0.002	<0.00005	0.21	0.002	0.019	0.007	<0.002	2600	<0.004
Dec-18	6.17	5.29		399.128	400.42	402.42	7.3	41000	30000		0.002	<0.001	0.0003	0.001	0.001	<0.001	<0.01	<0.001	<0.00005	0.2	0.002	0.02	0.007	<0.001	2700	<0.004
Mar-19	6.28	5.4		399.018	400.42	402.42	7.3	34000	24000		0.01	<0.001	0.0001	<0.001	<0.001	<0.001	<0.01	<0.001	<0.00005	0.015	<0.001	0.015	0.003	<0.001	2100	<0.004
Jun-19	6.18	5.3		399.118	400.42	402.42	7.3	38000	26000		0.004	<0.001	0.0002	<0.001	<0.001	<0.001	<0.01	<0.001	<0.00005	0.094	0.001	0.016	0.003	<0.001	2500	<0.004
Sep-19	6.14	5.26		399.158	400.42	402.42	7.2	42000	29000		0.004	<0.001	0.0002	<0.001	<0.001	<0.001	<0.01	<0.001	<0.00005	0.12	0.003	0.017	0.006	<0.001	2600	<0.004
Dec-19	6.08	5.2		399.218	400.42	402.42	7.1	58000	41000		0.002	<0.002	0.0007	<0.002	<0.002	<0.002	<0.02	<0.002	<0.00005	0.058	<0.002	0.024	0.009	<0.002	4500	<0.004
Mar-20	5.88	5		399.418	400.42	402.42	7.3	52000	40000		0.007	<0.002	0.0003	<0.002	<0.002	<0.002	<0.02	<0.002	<0.00005	0.063	<0.002	0.021	0.007	<0.002	3700	<0.004
Apr-20	4.78	3.9		400.518	400.42	402.42																				
Jun-20	5.63	4.75		399.668	400.42	402.42																				
Jul-20	5.59	4.71		399.708	400.42	402.42	8.4	9100	5100		0.004	<0.001	0.0017	<0.001	0.013	0.001	0.14	<0.001	0.00007	0.095	0.002	0.03	0.006	<0.001	480	<0.004
Aug-20	5.69	4.81		399.608	400.42	402.42																				
Sep-20	5.56	4.68		399.738	400.42	402.42																				
Oct-20	5.39	4.51		399.908	400.42	402.42	6.9	95000	76000		0.006	<0.002	0.0018	<0.002	0.059	<0.002	0.62	<0.002	0.00019	0.11	0.002	0.029	0.006	<0.002	7900	0.006
Nov-20	5.48	4.6		399.818	400.42	402.42																				
Dec-20	5.42	4.54		399.878	400.42	402.42																				
Jan-21	5.35	4.47		399.948	400.42	402.42	6.38	168300	150000		<0.005	<0.005	0.003	<0.005	0.013	<0.005	0.06	<0.005	<0.00005	1.7	<0.005	0.053	0.019	<0.005	16000	0.004
Feb-21	5.15	4.27	0	400.148	400.42	402.42																				
Mar-21	5.04	4.16	0	400.258	400.42	402.42																				
Apr-21	5.18	4.3	0	400.118	400.42	402.42																				
May-21	4.83	3.95	0	400.468	400.42	402.42																				
Jun-21	4.7	3.82	0	400.598	400.42	402.42	6.35	123100	150000		0.016	<0.005	0.0025	0.054	0.18	0.031	27	<0.005	0.00026	2.1	0.05	0.048	0.06	<0.005	13000	<0.004
Jul-21	4.65	3.77	0	400.648	400.42	402.42																				
Aug-21	4.87	3.99	0	400.428	400.42	402.42	6.54	119400	120000		0.06	<0.01	0.0025	0.19	1	0.11	99	<0.01	0.00022	2.2	0.17	0.043	0.16	<0.01	11000	0.009
Sep-21	5.13	4.25	0	400.168	400.42	402.42	6.93	71600	78000		0.03	0.003	0.004	0.067	2.8	0.034	32	0.004	0.00015	0.66	0.061	0.019	0.079	<0.002	2900	0.019
Oct-21	5.29	4.41	0	400.008	400.42	402.42																				
Nov-21	6.35	5.47	0	398.948	400.42	402.42																				
Dec-21	5.4	4.52	0	399.898	400.42	402.42	7.1	82000	81000		0.07	<0.002	0.0045	0.26	2.4	0.13	120	0.007	0.0005	1	0.24	0.019	0.22	<0.002	3000	0.044
Jan-22	5.4	4.52	0	399.898	400.42	402.42																				
Feb-22	5.53	4.65	0	399.768	400.42	402.42																				
Mar-22	5.37	4.49	0	399.928	400.42	402.42																				
Apr-22	5.24	4.36	0	400.058	400.42	402.42	6.45	127400	76440		0.029	<0.005	0.0032	0.1	1.1	0.054	45	<0.005	0.0002	1.4	0.092	0.037	0.1	<0.005	9300	0.011
May-22					400.42	402.42																				
Jun-22	5.29	4.41	0	400.008	400.42	402.42																				
Jul-22				400.098	400.42	402.42																				
Aug-22	5.2	4.32	0	400.098	400.42	402.42																				
Sep-22					400.42	402.42																				
Oct-22	5.1	4.22	0	400.198	400.42	402.42	6.64	141200	84720	23																
Nov-22	4.96	4.08	0	400.338	400.42	402.42																				
Dec-22	4.93	4.05	0	400.368	400.42	402.42	7.03	67400	40440	25.4																
Jan-23	4.79	3.91	0	400.508	400.42	402.42	6.72	61600	36960	27.2																
Feb-23					400.42	402.42																				
Mar-23					400.42	402.42																				
Apr-23	4.47	3.59	0	400.828	400.42	402.42	6.81	71300	42780	19.2																
May-23					400.42	402.42																				
Jun-23	6.97	6.09		398.328	400.42	402.42	4.87	123.8			16	<2.0	3.3	<2.0	2500	<2.0	990	<2.0	<0.050	120	<2.0	17	6.9	<2.0	3600	0.012
Jul-23	4.9	4.02		400.398	400.42	402.42	6.95	88.6		23.1	26		3.7	50	3000	23	23000	<5.0	0.39	320	48	26	70		4600	0.018
Aug-23	4.8	3.92	0	400.498	400.42	402.42	7.01	86.3		24.7	16		2.8	<0.01	2950	<0.01		<0.01	<0.0002	157	<0.01	<0.1	83		3920	0.055
Sep-23					400.42	402.42																				
Oct-23	4.72	3.84		400.578	400.42	402.42																				
Nov-23	4.97	4.09		400.328	400.42	402.42																				
Dec-23					400.42	402.42																				
					400.42	402.42																				

Monitoring Bore	Easting	Northing	Casing Height	Casing RL
TMB04	422,265	6,814,854	0.88	405.298

DACIAN GOLD

TMB05 Quality Summary

Month	SWL mBTOC	SWL (mbgl)	Ground Level RL	Groundwater RL	WTL	ATL	pH	EC (µS/cm)	TDS (mg/L)	Temp	As	Sb	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mn	Ni	Se	Zn	Tl	Sulphate	WAD Cyanide
	<-----Field Samples										Metals in mg/L															
Jun-18	2.49	1.73		398.299	398.53	399.03	7.5	54000	41000		0.003	<0.002	0.0003	0.004	0.005	0.003	1.9	<0.002	<0.00005	0.63	0.01	0.021	0.018	<0.002	5300	<0.004
Sep-18	2.44	1.68		398.349	398.53	399.03	7.3	58000	43000		<0.002	<0.002	0.0002	<0.002	<0.002	<0.002	<0.02	<0.002	<0.00005	0.12	<0.002	0.022	0.006	<0.002	4700	<0.004
Dec-18	2.29	1.53		398.499	398.53	399.03	7.4	53000	43000		<0.002	<0.002	0.0004	0.007	<0.002	<0.002	0.11	<0.002	<0.00005	4.7	0.034	0.019	0.014	<0.002	5200	<0.004
Mar-19	2.47	1.71		398.319	398.53	399.03	6.8	57000	43000		<0.002	<0.002	0.0004	<0.002	0.021	<0.002	<0.02	<0.002	<0.00005	6.6	0.037	0.016	0.01	<0.002	4900	<0.004
Jun-19	2.36	1.6		398.429	398.53	399.03	7.3	62000	46000		<0.002	<0.002	0.0004	<0.002	0.006	<0.002	<0.02	<0.002	<0.00005	2.6	0.024	0.019	0.005	<0.002	5200	<0.004
Sep-19	2.18	1.42		398.609	398.53	399.03	6.6	100000	84000		<0.005	<0.005	0.0011	<0.005	0.012	<0.005	3.3	<0.005	<0.00005	2.7	0.038	0.052	0.015	<0.005	12000	<0.004
Dec-19	1.98	1.22		398.809	398.53	399.03	6.4	100000	84000		<0.005	<0.005	0.0011	<0.005	0.006	<0.005	0.52	<0.005	<0.00005	1.3	0.025	0.051	0.008	<0.005	12000	<0.004
Mar-20	1.72	0.96		399.069	398.53	399.03	6.9	87000	69000		<0.002	<0.002	0.0003	<0.002	0.13	<0.002	6.9	<0.002	<0.00005	1.2	0.018	0.032	0.01	<0.002	8000	0.004
Apr-20	1.59	0.83		399.199	398.53	399.03																				
Jun-20	1.35	0.59		399.439	398.53	399.03																				
Jul-20	1.41	0.65		399.379	398.53	399.03	6.9	87000	68000		<0.002	<0.002	0.0002	<0.002	0.33	<0.002	3.5	<0.002	<0.00005	0.61	0.014	0.019	0.007	0.003	7300	<0.004
Aug-20	1.55	0.79		399.239	398.53	399.03																				
Sep-20	1.53	0.77		399.259	398.53	399.03																				
Oct-20	1.57	0.81		399.219	398.53	399.03	6.7	83000	63000		<0.002	<0.002	<0.0002	0.004	0.28	<0.002	8	<0.002	<0.00005	1.3	0.012	0.012	0.003	<0.002	6900	<0.004
Nov-20	1.65	0.89		399.139	398.53	399.03																				
Dec-20	1.61	0.85		399.179	398.53	399.03																				
Jan-21	1.71	0.95		399.079	398.53	399.03	6.53	154500	130000		<0.005	<0.005	0.0018	<0.005	0.026	<0.005	0.07	<0.005	<0.00005	2.9	0.021	0.06	0.034	<0.005	16000	<0.004
Feb-21	1.72	0.96		399.069	398.53	399.03																				
Mar-21	1.57	0.81		399.219	398.53	399.03																				
Apr-21	1.61	0.85		399.179	398.53	399.03																				
May-21	1.8	1.04	#VALUE!	398.989	398.53	399.03																				
Jun-21	1.57	0.81	#VALUE!	399.219	398.53	399.03	6.74	71400	69000		0.004	<0.002	0.0003	<0.002	0.19	0.003	7.4	<0.002	<0.00005	2.1	0.024	0.027	0.008	<0.002	6800	<0.004
Jul-21	1.7	0.94	#VALUE!	399.089	398.53	399.03																				
Aug-21	1.62	0.86	#VALUE!	399.169	398.53	399.03	6.77	78100	73000		<0.005	<0.005	<0.0005	<0.005	0.33	0.077	3	<0.005	<0.00005	1.5	0.068	0.028	0.022	<0.005	8800	0.048
Sep-21	1.69	0.93	#VALUE!	399.099	398.53	399.03	6.99	74600	67000		0.006	<0.002	<0.0002	<0.002	2.2	0.49	25	<0.002	<0.00005	4.3	0.36	0.012	0.014	<0.002	4600	0.66
Oct-21	1.84	1.08	#VALUE!	398.949	398.53	399.03																				
Nov-21	1.93	1.17	#VALUE!	398.859	398.53	399.03																				
Dec-21	1.95	1.19	#VALUE!	398.839	398.53	399.03	7.1	80000	63000		<0.002	<0.002	0.0002	0.006	0.59	0.016	7.8	<0.002	<0.00005	3.3	0.1	0.012	0.017	<0.002	6500	<0.004
Jan-22	2.08	1.32	#VALUE!	398.709	398.53	399.03																				
Feb-22	2.18	1.42	#VALUE!	398.609	398.53	399.03																				
Mar-22	2.14	1.38	#VALUE!	398.649	398.53	399.03																				
Apr-22	2.13	1.37	#VALUE!	398.659	398.53	399.03	6.68	90700	54420		0.006	<0.005	0.0005	<0.005	1.4	0.006	31	<0.005	<0.00005	15	0.03	0.015	0.042	<0.005	7000	0.022
May-22					398.53	399.03																				
Jun-22	2.21	1.45	#VALUE!	398.579	398.53	399.03																				
Jul-22					398.53	399.03																				
Aug-22	2.28	1.52	#VALUE!	398.509	398.53	399.03																				
Sep-22					398.53	399.03																				
Oct-22	2.28	1.52	#VALUE!	398.509	398.53	399.03	7.28	78200	46920																	
Nov-22	1.87	1.11	#VALUE!	398.919	398.53	399.03			0																	
Dec-22	1.86	1.1	#VALUE!	398.929	398.53	399.03	7.55	85600	51360	24.8																
Jan-23	1.82	1.06	#VALUE!	398.969	398.53	399.03	7.33	84300	50580	26																
Feb-23					398.53	399.03																				
Mar-23					398.53	399.03																				
Apr-23	1.32	0.56	#VALUE!	399.469	398.53	399.03	6.98	89500	53700	19.7																
May-23					398.53	399.03																				
Jun-23	1.43	0.67		399.359	398.53	399.03	7.54	99800			<5.0	<5.0	1.4	<5.0	1500	<5.0	150	<5.0	<0.050	14000	68	8.6	28	<5.0	6900	0.0054
Jul-23	1.47	0.71		399.319	398.53	399.03	7.33	96000		18.7	<10		<1.0	<10	1900	<10	2200	<10	<0.050	16000	83	11	55		8400	<0.0040
Aug-23					398.53	399.03	7.48	58000		24.7	<0.01		<0.0001		<0.001	<0.01		<0.01	<0.0002	14600	89	<0.1	52		7170	<0.04
Sep-23	2.43	1.67		398.359	398.53	399.03																				
Oct-23	1.85	1.09		398.939	398.53	399.03																				
Nov-23	1.86	1.1		398.929	398.53	399.03																				
Dec-23					398.53	399.03																				
Jan-24					398.53	399.03																				
Feb-24					398.53	399.03																				
Mar-24					398.53	399.03																				

Monitoring Bore	Easting	Northing	Casing Height	Casing RL
TMB05	423,116	6,814,640	0.76	400.789

Trigger	Trigger RL
1.5	398.529
1	399.029

DACIAN GOLD

TMB06 Quality Summary

Month	SWL mBTOC	SWL (mbgl)	Ground Level RL	Groundwater RL	WTL	ATL	Field Samples pH	EC (µS/cm)	TDS (mg/L)	Temp	Metals in mg/L As	Sb	Cd	Cr	Co	Cu	Fe	Pb	Hg	Mn	Ni	Se	Zn	Tl	Sulphate	WAD Cyanide
Jun-18	2.86	2.24		398.483	399.22	399.72	7.8	57000	44000		<0.002	<0.002	0.0002	<0.002	0.005	<0.002	0.07	<0.002	<0.00005	0.79	0.007	0.026	0.017	<0.002	7100	<0.004
Sep-18	2.91	2.29		398.433	399.22	399.72	6.6	63000	47000		<0.002	<0.002	0.0002	<0.002	0.081	<0.002	9.5	<0.002	<0.00005	24	0.039	0.002	0.007	<0.002	6500	<0.004
Dec-18	2.78	2.16		398.563	399.22	399.72	7.2	43000	35000		<0.001	<0.001	0.0003	0.025	0.003	<0.001	<0.01	<0.001	<0.00005	4.3	0.025	0.027	0.005	<0.001	6800	<0.004
Mar-19	2.95	2.33		398.393	399.22	399.72	6.6	4600	3900		<0.001	0.002	<0.0001	<0.001	0.018	<0.001	8.6	<0.001	0.00013	5.4	0.007	<0.001	0.004	<0.001	2100	<0.004
Jun-19	2.89	2.27		398.453	399.22	399.72	6.6	4000	3600		<0.001	<0.001	<0.0001	<0.001	0.02	<0.001	16	<0.001	<0.00005	7.2	0.008	<0.001	0.005	<0.001	2100	<0.004
Sep-19	2.68	2.06		398.663	399.22	399.72	6.4	4700	3800		<0.001	<0.001	<0.0001	<0.001	0.007	<0.001	6.1	<0.001	<0.00005	3.3	0.002	<0.001	0.01	<0.001	2000	<0.004
Dec-19	2.57	1.95		398.773	399.22	399.72	6.3	25000	17000		<0.001	<0.001	0.0002	<0.001	0.049	0.008	30	<0.001	<0.00005	5.8	0.031	0.013	0.007	<0.001	5200	<0.004
Mar-20	2.39	1.77		398.953	399.22	399.72	6.9	35000	25000		<0.001	<0.001	<0.0001	<0.001	0.095	<0.001	4.9	<0.001	<0.00005	6.7	0.011	0.007	0.008	<0.001	4000	0.013
Apr-20	2.4	1.78		398.943	399.22	399.72																				
Jun-20	2.12	1.5		399.223	399.22	399.72																				
Jul-20	2.16	1.54		399.183	399.22	399.72	6.8	76000	59000		<0.002	<0.002	<0.0002	<0.002	0.47	<0.002	4.9	<0.002	0.0004	0.6	0.002	0.025	0.003	<0.002	6800	0.017
Aug-20	2.19	1.57		399.153	399.22	399.72																				
Sep-20	2.22	1.6		399.123	399.22	399.72																				
Oct-20	2.24	1.62		399.103	399.22	399.72	6.5	74000	54000		<0.002	<0.002	<0.0002	<0.002	0.47	<0.002	88	<0.002	<0.00005	6.5	0.009	0.007	0.007	<0.002	6500	0.036
Nov-20	2.28	1.66		399.063	399.22	399.72																				
Dec-20	2.3	1.68		399.043	399.22	399.72																				
Jan-21	2	1.38		399.343	399.22	399.72	6.85	79400	61000		<0.005	<0.005	<0.0005	<0.005	0.58	<0.005	6.5	<0.005	<0.00005	0.77	<0.005	0.021	0.039	<0.005	7000	0.015
Feb-21	2.29	1.67	#VALUE!	399.053	399.22	399.72																				
Mar-21	2.26	1.64	#VALUE!	399.083	399.22	399.72																				
Apr-21	2.25	1.63	#VALUE!	399.093	399.22	399.72																				
May-21	2.31	1.69	#VALUE!	399.033	399.22	399.72																				
Jun-21	2.27	1.65	#VALUE!	399.073	399.22	399.72	7.17	8500	8300		0.014	<0.001	0.0005	0.15	0.11	0.21	150	0.036	<0.00005	4.8	0.18	0.003	0.19	<0.001	2200	<0.004
Jul-21	2.26	1.64	#VALUE!	399.083	399.22	399.72																				
Aug-21	2.25	1.63	#VALUE!	399.093	399.22	399.72	6.9	65200	57000		<0.005	<0.005	<0.0005	0.015	0.46	0.011	16	<0.005	<0.00005	0.7	0.017	0.023	0.018	<0.005	7600	0.02
Sep-21	2.32	1.7	#VALUE!	399.023	399.22	399.72	6.92	63700	54000		0.002	<0.002	<0.0002	0.004	0.51	<0.002	15	<0.002	<0.00005	0.82	0.006	0.02	0.016	<0.002	5600	0.077
Oct-21	2.41	1.79	#VALUE!	398.933	399.22	399.72																				
Nov-21	2.43	1.81	#VALUE!	398.913	399.22	399.72																				
Dec-21	2.46	1.84	#VALUE!	398.883	399.22	399.72	6.7	9900	7500		0.021	<0.001	0.0008	0.18	0.13	0.31	160	0.047	<0.00005	6.5	0.23	0.001	0.2	<0.001	2200	<0.004
Jan-22	2.74	2.12	#VALUE!	398.603	399.22	399.72																				
Feb-22	2.56	1.94	#VALUE!	398.783	399.22	399.72																				
Mar-22	2.56	1.94	#VALUE!	398.783	399.22	399.72																				
Apr-22	2.64	2.02	#VALUE!	398.703	399.22	399.72	6.78	67900	40740		0.006	<0.002	<0.0002	0.019	0.54	0.021	21	0.005	<0.00005	1	0.023	0.022	0.087	<0.002	6700	0.037
May-22					399.22	399.72																				
Jun-22	2.8	2.18	#VALUE!	398.543	399.22	399.72																				
Jul-22					399.22	399.72																				
Aug-22	2.74	2.12	#VALUE!	398.603	399.22	399.72																				
Sep-22					399.22	399.72																				
Oct-22	2.6	1.98	#VALUE!	398.743	399.22	399.72	6.9	9810	5886																	
Nov-22	2.57	1.95	#VALUE!	398.773	399.22	399.72			0																	
Dec-22	2.57	1.95	#VALUE!	398.773	399.22	399.72	7.13	9800	5880	24.6																
Jan-23	2.53	1.91	#VALUE!	398.813	399.22	399.72	6.98	10100	6060	25.7																
Feb-23					399.22	399.72																				
Mar-23					399.22	399.72																				
Apr-23	2.16	1.54	#VALUE!	399.183	399.22	399.72	6.77	4330		21.2																
May-23					399.22	399.72																				
Jun-23	2.36	1.74		398.983	399.22	399.72	8.04	7170		14.2	<1.0	<1.0	<0.10	<1.0	15	<1.0	3500	<1.0	<0.050	3700	1.8	<1.0	2.7	<1.0	1900	<0.0040
Jul-23	2.4	1.78		398.943	399.22	399.72	8.4	7010		20.3	16		0.25	93	59	170	72000	24	<0.050	5300	99	<1.0	110		2200	<0.0040
Aug-23					399.22	399.72	7.83	7340		21.5	<0.001		<0.0001	<0.001	230	<0.001		<0.001	<0.0001	4160	3	<0.01	109		2040	<0.004
Sep-23					399.22	399.72	7.34	7830		18.3																
Oct-23	2.35	1.73		398.993	399.22	399.72																				
Nov-23	2.46	1.84		398.883	399.22	399.72																				
Dec-23					399.22	399.72																				

Monitoring Bore	Easting	Northing	Casing Height	Casing RL
TMB06	423,116	6,814,392	0.62	401.343