



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Private Bag X313, PRETORIA, 0001, 185 Francis Baard Street, Sedibeng Building, Pretoria
Tel: 012 336 7500 Fax: 021 323 4472/012 326 2715

LICENCE IN TERMS OF CHAPTER 4 OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998) (THE ACT)

I, **Mandisa Mafiso**, in my capacity as Acting Mpumalanga Provincial Head in the Department of water and Sanitation and acting under authority of the power sub-delegated to me by the Director General of the Department of Water and Sanitation, hereby authorises the following water uses in respect of this licence:

SIGNED: 

DATE: 29/03/2023

LICENCE NUMBER: 06/B71E/GACIJ/8841

FILE NUMBER: 27/2/2/B571/16/3

REF NO: WU24570

1. **Water User:** Marula Platinum Mine (Pty) Limited

Postal Address: P. O. Box 1496
STEELPOORT
1133

2. **Water Uses**

- 2.1 Section 21(a) of the Act: Taking of water from a water resource, subject to the conditions set out in Appendices I and II.
- 2.2 Section 21(c) of the Act: Impeding or diverting the flow of water in a watercourse, subject to the conditions set out in Appendices I and III.
- 2.3 Section 21(g) of the Act: Disposing of waste in a manner which may detrimentally impact on a water resource, subject to the conditions as set out in Appendices I and IV.
- 2.4 Section 21(i) of the Act: Altering the bed, banks, course or characteristics of a watercourse, subject to the conditions as set out in Appendices I and III.
- 2.5 Section 21(j) of the Act: Removing, discharging or disposing water found underground if it is necessary for the efficient continuation of an activity or for the safety of people, subject to the conditions as set out in Appendices I and V.

B14020

3. Properties on which the use will be exercised

- 3.1. Section 21(a) of the Act: Clapham 118KT and Driekop 253KT
 3.2. Section 21(c) of the Act: Clapham 118KT, Driekop 253KT, Forest Hill 117KT and Winnarshoek 250KT
 3.3. Section 21(g) of the Act: Clapham 118KT and Driekop 253KT
 3.4. Section 21(i) of the Act: Clapham 118KT, Driekop 253KT, Forest Hill 117KT and Winnarshoek 250KT
 3.5. Section 21(j) of the Act: Clapham 118KT and Driekop 253KT

4. Registered Owner of Properties on which the water uses will be exercised

Table1: properties owner

Owner's Name	Farm Name and Portion Number
Kgoshi MW Manyaka and Kgoshikgadi MS Manyaka	Clapham 118KT
Kgoshi MB Mohlala and Kgoshi MW Mohlala	Driekop 253KT
Kgoshi MB Mohlala	Winaarshoek 250KT
Kgoshi S Mashishi and Kgoshikgadi S Kgoete	Forest Hill 117KT

5. Licence and Review Period

This licence is valid for a period of seventeen (17) years from the date of issuance and it may be reviewed every five (5) years.

6. Definitions

Any word or term defined under the Act shall, have the same meaning as defined in the Act, unless otherwise specifically stated.

“The Regional Head” means the Provincial Head: Mpumalanga, Department of Water and Sanitation, Private Bag X 11259, MBOMBELA, 1200.

“Regulations GN 704” refers to the regulations on use of water for mining and related activities aimed at the protection of water resources made in terms of section 26(1)(b), (g) and (i) of the Act and promulgated under Government Notice 704 of 4 June 1999 and published in Government Gazette No. 20119.

“Report” refers to the following documentations and the communications (emails, letters, verbal, etc) related thereto.

Number	Report Title	Compiled By	Date
1	Marula Platinum Mine Ventilation Shaft Settling Dam and Pipeline Development Specialist Hydrological Study	JG Afrika	October 2022
2	Marula Platinum Mine Monthly Water Quality Report. Quarter 4 of 2021/2022. April to June 2022	Aquatico Scientific	July 2022
3	Motivation in Terms of Section 27 of the National Water Act. Marula Platinum Mine, Limpopo Province	JG Afrika	June 2022
4	Marula Platinum Mine Social and Labour Plan	Marula Platinum	July 2018
5	Water Use Licence Application Summary Report. Marula Platinum (Pty) Ltd (WU24570)	JG Afrika	October 2022

6	Proposed Changes to the Approved Layout of the Marula Platinum Mine: Basic Impact Assessment Report (BAR) and Environmental Management Programme Report (EMPr)	SLR	May 2022
7	2022 Marula Platinum Mine Integrated Water and Waste Management Plan Update Report	Marine Mountain Environmental Consultants	August 2022
8	Engineering Detail of Settling Dam	Implats	June 2022
9	Wetland and Aquatic Assessment of the Potential Implats and Risk Levels of a New Slurry Pipeline and Settling Dam at the Marula Platinum Mine Near Burgersfort, Limpopo Province	JG Afrika	September 2022
10	Watercourse Ecological Assessment as Part of the Environmental and Water Use Authorisation Processes for Ventilation Shafts at Marula Platinum Mine, Limpopo Province	Scientific Aquatic Services	December 2020
11	Geohydrological Assessment for New Ventilation Shafts, Settling Dam and Slurry Pipeline Infrastructure for Marula Platinum WUL	JG Afrika	October 2022
12	Marula Platinum Mine Stormwater Management Plan	JG Afrika	October 2022

7. Description of an activity

The licence authorises Marula Platinum Mine (Pty) Limited for section 21(a), (c), (g), (i) and (j) water uses. The activity is for mining the Merensky and UG2 reefs using underground mining on the farms Clapham 118KT, Driekop 253KT, Winnaarshok 250KT and Forest Hill 117KT located in the magisterial district of Greater Tubatse Local Municipality within the Sekhukhune District Council of the Limpopo Province within the B71E Quaternary Catchment.



APPENDIX I

GENERAL PROVISIONS AND CONDITIONS OF THE LICENCE

1. GENERAL PROVISIONS

Legal Framework

- 1.1 This licence is subject to all applicable provisions of the National Water Act, 1998 (Act 36 of 1998) as amended from time to time.
- 1.2 The licence shall not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.

Administrative duties/obligations/responsibilities of the Licensee

- 1.3 The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.
- 1.4 The Licensee must obtain any proprietary rights or servitudes at his / her own cost for lawful access to a property not owned by the Licensee
- 1.5 The Licensee will be responsible for any water use charges or levies imposed by a Responsible Authority according to the pricing strategy. The levies/charges will be charged from the date of the issuance of this licence.
- 1.6 No water taken may be pumped, stored, diverted, or alienated for any other purpose other than as intended in this licence without the written approval of the Delegated Authority.
- 1.7 It is the responsibility of the Licensee to request an amendment of this licence to reflect the registered volume should the requirements change. All requests must be made to the Provincial Head.
- 1.8 If the water use entitlement is not fully utilised within the 5 (five) year period referred to in condition 2.4 in Appendix I, the licence may be amended to reflect the extent of the water use that is being utilised, or the licence may be cancelled.
- 1.9 A request for extension of time to fully utilise an entitlement to use water must be submitted to the Provincial Head, at least three months, before the expiry of the 5 (five) years referred to in condition 2.4 in Appendix I. An extension may only be made after the Delegated Authority has considered all relevant factors.
- 1.10 Only one request for extension of time for commencement or of fully exercising of water use licence will be considered.
- 1.11 The maximum period for extension of time that may be granted to fully utilise the water entitlement is a maximum of 2 (two) years after the initial 5 (five) year period referred to in condition 2.4 in Appendix I.

Change of property details

- 1.12 Amendment of the licence to reflect the name of the new owner will not be approved if there are any outstanding charges or levies imposed by the Responsible Authority to the previous owner.

Issue of licence no guarantee of supply for Section 21(a) and (j)

- 1.13 This licence does not imply any guarantee that the said quantities and qualities of water will be available at present or at any time in the future.

Monitoring

- 1.14 The quantity of water authorised to be taken in this licence may not be exceeded.
- 1.15 The quality of water authorised to be disposed and discharged in this licence may not be exceeded.
- 1.16 Any changes to the monitoring programmes should be approved by the Provincial Head.

Reviewal of licences

- 1.17 The volume authorised in this licence may be reduced when the licence is reviewed.
- 1.18 No water taken may be pumped, stored, diverted, or alienated for any other purpose other than as intended in this licence without the written approval of the Delegated Authority.

Effecting of the Reserve

- 1.19 While effect must be given to the Reserve as determined in terms of the Act, where a desktop determination of the Reserve has been used in issuance of a licence, when a comprehensive determination of the Reserve has finally been made, it shall be given effect to.

Liabilities and Rights

- 1.20 The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of, shortage of water; inundations or flood; siltation of the resource; and required Reserve releases.
- 1.21 The Minister reserves the right to construct water storage works at any time in any watercourse and to store all surplus water reaching the storage works, as well as to control the allocation of such water.

Dam Safety Requirements

- 1.22 The Licensee is not indemnified from any detrimental effect that the dam(s) may have on other properties.
- 1.23 The Department does not accept any responsibility or liability for any damages or losses that may be suffered by any other party because of the construction and utilisation of the dams.
- 1.24 The Licensee is not exempted from compliance with the provisions of the Dam Safety Regulations published under Government Gazette Notice R.139 of 24 February 2012 or any amendment thereof read with Chapter 12 of the Act, which are applicable to all dams with a safety risk.

Restrictions

- 1.25 The Licensee must adhere to any restrictions that are gazetted and imposed on the respective water resource.

Water measurement and reporting

- 1.26 The Provincial Head may at any time direct a Licensee, at the Licensee's expense, to have the accuracy of the Licensee's water measuring device/s verified, in addition to the requirements of their inspection and calibration schedule by a person or an institution accredited to verify the accuracy.

Stormwater Management

- 1.27 Stormwater leaving the Licensee's premises shall in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped, spilled on the premises.

Amendments

- 1.28 The Licensee may apply for amendment of this licence in terms of the Act at any time during the period of validity of this licence. Applications must be submitted to the Provincial Head.

Appeals

- 1.29 If this licence is appealed, it is automatically suspended and the water use activities must cease upon receipt of a notification of the appeal from the Department, alternatively the Licensee may request the Minister to lift the suspension pending conclusion of the appeal via the Chief Director Legal Services at the address below:
Private Bag X313
Pretoria
0001



2. GENERAL CONDITIONS

Administrative duties/obligations/responsibilities of the Licensee

- 2.1 The Licensee must avail an original copy of the water use licence and the supporting reports upon request by the Department.
- 2.2 The conditions of the authorisation must be brought to the attention of all persons (employees, sub-consultants, contractors etc.) associated with the undertaking of these activities and the Licensee must take such measures that are necessary to bind such persons to the conditions of this licence.

Commencement of water use licence.

- 2.3 The Licensee must inform the Provincial Head in writing within seven (07) days after the Licensee commences with water use entitlement and again within thirty (30) days upon completion of the activity/ies.
- 2.4 The water uses authorised in this licence must be fully utilised within five (5) years from the date of issuance of this licence.
- 2.4.1 The Licensee shall note that this licence supercedes the previous licence dated 29 March 2019 and amendment dated 14 October 2020 issued to the Mine by the Department of Water and Sanitation.
- 2.5 If the Licensee cannot fully utilise the water use entitlement within 5 (five) years, the Licensee may request from the Provincial Head, with reasons, an extension of time to fully utilise the said water use entitlement.
- 2.6 If the above (condition 2.5) is not adhered to, the water use entitlement may be cancelled or amended accordingly.

Change of details of Licensee or property

- 2.7 The Licensee must inform the Provincial Head of any change of ownership, name, address, premises and/or legal status within sixty (60) days of such change taking place.
- 2.8 If the properties in respect of this licence is/are subdivided or consolidated, the Licensee must provide full details of any change(s) in respect of the properties to the Provincial Head within sixty (60) days after the registration of title deed(s).
- 2.9 If the Licensee is not the end user/beneficiary of the water user related infrastructure and will not be responsible for long term maintenance and management of the infrastructure, the Licensee must provide a hand over report to the successor in title including a brief management/maintenance plan and the agreement for infrastructure along with allocation of responsibilities, within sixty (60) days after the date of change of end user or beneficiary.

Early renewal for the Licence

- 2.10 The Licensee must, if needed, apply for early renewal of this licence in terms of the Act within one (1) year before the expiry date of a licence. The application must be submitted to the Provincial Head.

Malfunctions, incidences, contingencies and pollution prevention

- 2.11 The Licensee must service all vehicles and other machinery outside the extent of the watercourse/s.

- 2.12 Oils and other potential pollutants must be disposed of at a licensed site, with the necessary agreement from the owner of such a site.
- 2.13 The Licensee must handle, transport, store and use any hazardous substances according to the relevant legislation or South African National Standards (SANS).
- 2.14 Accurate and up-to-date records must be kept of all system malfunctions resulting in non-compliance with the requirements of this licence. The records must be available for inspection by the Provincial Head upon request. Such malfunctions must be tabulated under the following headings with a full explanation of all the contributory circumstances:
- 2.14.1 operating errors;
 - 2.14.2 mechanical failures (including design, installation or maintenance);
 - 2.14.3 environmental factors (e.g. flood);
 - 2.14.4 loss of supply services (e.g. power failure); and
 - 2.14.5 other causes.
- 2.15 Any incident that causes or may cause water pollution shall be reported to the Provincial Head or the designated representative within 24 hours. Should the incident occur during a weekend or public holiday, the Licensee must report the incident on the next official working day.
- 2.16 The Licensee must, within 14 days, or a shorter period of time, as specified by the Provincial Head, from the occurrence or detection of any incident referred above, submit an action plan which must include a detailed time schedule to the satisfaction of the Provincial Head of measures to be taken to:
- 2.16.1 correct the impacts resulting from the incident;
 - 2.16.2 prevent the incident from causing any further impacts; and
 - 2.16.3 prevent a recurrence of a similar incident
- 2.17 All incidents must be recorded in an incident register.

Water Conservation and Water Demand Management (WC/WDM)

- 2.18 The Licensee must establish and implement a continual process of raising awareness among itself, its workers and stakeholders with respect to Water Conservation and Water Demand Management initiatives.
- 2.19 The Licensee shall use water efficiently to minimise total water intake, avoid usage of water where possible, implement best management and operating practices, and maximise the reuse /recycle of contaminated water.
- 2.20 The Licensee must continually investigate new and emerging technologies and put into practice water efficient devices and /or apply technique for the efficient use of water, in an endeavour to conserve water at all times.
- 2.21 The Licensee must develop and submit Water Conservation and Water Demand Management (WC/WDM) plan to the Provincial Head within one year (1) from the date of issuance of this licence. The WC/WDM Plan should:
- 2.21.1 quantify the water use efficiency of the activity.
 - 2.21.2 contain the mine/industry water management and water loss strategies and programmes;
 - 2.21.3 sets annual targets for improved water use efficiency for the mining/industrial activity, beneficiation and waste disposal practices and stipulates which measures will be implemented to achieve the targets on the mine;

- 2.22 The Licensee must report annually on the implementation of WC/WDM plan including retrofitting with water efficient technologies and devices, reduction of total water demand, improvement in water use efficiency benchmarks and target.
- 2.23 The Licensee must update the WC/WDM plan every five (5) years and submit to the Provincial Head for approval.
- 2.24 The Licensee must, where water is stored off-channel in a dam or reservoir ensure that all distribution and reticulation systems or pipelines are properly constructed, operated and maintained in good working order to prevent water losses through physical leakages, burst and reservoir overflows.

Storm water management

- 2.25 Storm water management facilities must be constructed, operated and maintained in a sustainable manner throughout the project as detailed in the Storm Water Management Plan.
- 2.26 Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the stream.
- 2.27 All storm water that would naturally run across the dirty areas shall be diverted via lined channels and drains designed to contain the 1:50 year flood.
- 2.28 The dirty storm water system shall be designed and implemented to provide suitable routing and pumping capacity for contaminated storm water from the individual facilities to the respective storm water dams in accordance with the design specifications.
- 2.29 Clean storm water must be diverted from construction works, mining areas, and roads and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow.

Monitoring, Methods of analysis

- 2.30 Sample analysis must be conducted by a recognized analytical laboratory, accredited by the South African National Accreditation System (SANAS), or that participates in a recognised Proficiency Testing Scheme to analyze the relevant constituents in the wastewater.
- 2.31 The date and time of monitoring in respect of each sample taken shall be recorded together with the results of the analysis.
- 2.32 The Licensee must adhere to the monitoring programmes submitted with the application.

Water Measurement and Reporting

- 2.33 The Licensee shall install appropriate water measuring devices to measure the amount of water abstracted prior use of water.
- 2.34 The Licensee must install the flow metering devices to all water uses and readings must be taken on each flow meter on a monthly basis.
- 2.35 Flow measuring, recording and monitoring devices shall be maintained in a sound state of repair and calibrated/ verified by a suitable competent person as per device specification. This must include a programme of checking, calibration, and/ or replacement of measuring devices.
- 2.36 Calibration /verification certificates of the flow measuring, recording and integrating devices must be available for inspection by the Provincial Head or the representative upon request.

Membership to a Water Users Association

- 2.37 If a water user association exists or is established in the area to manage the resource, it is compulsory for the Licensee to be a member of the water user association. The Licensee must adhere to the rules, regulations and water management stipulations of the water user association.

Restrictions on access to certain areas

- 2.38 Strict access procedures must be developed and followed in order to control access to the property. Access to the facility/ies must be limited to authorised persons and animals.
- 2.39 Notices prohibiting unauthorised persons from entering the areas as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.

Auditing and Reporting

- 2.40 The Licensee must conduct annual internal audits on compliance with the conditions of this licence. The first audit must be conducted within ninety (90) calendar days from the date of commencement of water use entitlement. A report on internal audits must be submitted to the Provincial Head within sixty (60) calendar days of the finalisation of the audits.
- 2.41 The Licensee must appoint an independent external auditor to conduct biennial (every two (2) years) external audits on compliance with the conditions this licence. The first audit must be conducted and finalised within one (1) after commencement of a water use. A report on the audit must be submitted to the Provincial Head within sixty (60) calendar days of the finalisation of each audit.

Security by applicant

- 2.42 The Licensee must ensure sufficient financial provision according to applicable legislation.

Compensative measures

- 2.43 The Licensee must prevent adverse effects on other water users. All complaints must be recorded in complaints register and be investigated by a suitable qualified person accredited by a institution/ Registration Body and if investigations prove that the Licensee has impaired the rights of other water users, the Licensee must implement appropriate compensative measures as determined by the Provincial Head. Check discussions and irrigation template.

Closure And Post Closure Mine Water Management

- 2.44 The Licensee must submit the final Rehabilitation plan aimed at water resource management as part of the final closure water management plan to the Provincial Head within one (1) years of remaining life of the mine as part of IWWMP.
- 2.45 The Licensee must apply for a post closure water use related activities five (5) years before commencing with closure to the Provincial Head for written approval.
- 2.46 The Licensee must participate in the development of a regional post-closure water management strategy, in accordance with a methodology and format to be approved by the Provincial Head, in collaboration with all hydro-geological interconnected mines.

APPENDIX II

Section 21(a) of the Act: Taking water from a water resource

1. The Licensee is authorised to take a maximum volume in cubic metres as indicated in Table 2.

Table 2: taking water from a water resource

Water use	Description/ Purpose	Properties	Volume (m ³ / annum)	Co-ordinates
Section 21(a)	Reuse water from underground workings after settling for mining purposes (drilling)	Driekop 253KT	202 778 m ³ per annum	S24°30' 48.51" E30°05' 01.79"
Section 21(a)	Reuse of water from the underground workings for mining process	Driekop 253KT	20 000m ³ per annum	S24°30' 40.58" E30°04'48.80"
Section 21(a)	Abstraction of water through a scavenger Borehole (around TSF and RWD) for mining process	Clapham 118KT	408 372m ³ per annum	S24°30' 3.82" E30°04'44.22"
Section 21(a)	Reusing water abstracted from underground through a scavenger Borehole	Clapham 118KT	316 000m ³ per annum	S24°30' 32.61" E30°06'09.56"

2. The quantity of water authorised to be taken in terms of this licence may not be exceeded without prior authorisation by the Minister.
3. This licence does not imply any guarantee that the said quantities and qualities of water will be available at present or at any time in the future.
4. Due to possible over-allocation of water in this water resource, when compulsory licensing is required in future in terms of Chapter 4 of the Act, this licence shall be subject to a reduction of the allocated volume in order to comply with the requirements of the Act.
5. The abovementioned volume may be reduced when the licence is reviewed.
6. The Licensee shall continually investigate new and emerging technologies and put into practice any water efficient devices or apply technique for the re-use of water containing waste, in an endeavour to conserve water at all times.
7. All water taken from the resource shall be measured as follows:
 - 7.1 the daily quantity of water taken must be metered or gauged and the total recorded at the last day of each month; and
 - 7.2 the license shall keep record of all water taken and a copy of the records shall be forwarded to the Provincial Head on or before 25 January and 25 July of each year.
8. No water taken may be pumped, stored, diverted, or alienated for purposes other than intended in this licence, without written approval by the Minister or his/her delegated nominee.
9. The Licensee shall install and monitor appropriate water measuring devices to measure the amount of water abstracted, received and/or consumed, as applicable to the infrastructure.
10. The Licensee shall be responsible for any water use charges or levies, which may be imposed from time to time by the Department or responsible authority in terms of the Department's Raw Water Pricing Strategy.

11. Notices prohibiting unauthorised persons from entering the certain areas, as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.
12. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of-
 - 12.1 shortage of water;
 - 12.2 inundation or flood;
 - 12.3 siltation of the resource; and
 - 12.4 required reserve releases.
13. The Licensee shall ensure that all measuring devices are properly maintained and in good working order and must be easily accessible. This shall include a programme of checking, calibration, and/or renewal of measuring devices.
14. The Licensee shall establish a programme of formal Information Management System, which maintains a database on water supply, distribution and delivery infrastructure.
15. The Licensee shall establish and implement a continual process of raising awareness amongst itself, its workers and stakeholders for the need to for WC/WDM.



APPENDIX III

Section 21(c) of the Act: Impeding or diverting the flow of water in a watercourse and
Section 21(i) of the Act: Altering the bed, banks, course, or characteristic of a watercourse

1. GENERAL

1.1 This licence authorises Marula Platinum Mine for Section 21(c) and (i) water use activities for the construction facilities as set out in Table 3, within quaternary catchment B71E and in the water use licence application reports submitted to the Department (refer condition 1.2):

Table 3: Water use activities

Water use	Descriptions/purposes	Properties (farm name)	Total length / width in m per annum	Co-ordinates
Section 21(c) & (i)	Access road to mine crossing Matadi River	Clapham 118KT	L: 35 m B: 12 m	S 24°28'58.50" E 30° 6'44.90"
	Conveyor transfer of ore from the shaft to the concentrator plant, crossing the Moopetsi river tributary 1 (Mine stream)	Clapham 118KT	L: 36 m B: 5 m	S 24° 30' 30.7" E 30° 05' 03.3"
	Access road to mine crossing the Moopetsi river tributary 1 (mine stream)	Clapham 118KT	L: 8 m B: 11 m	S 24° 29' 42.90" E 30° 06' 05.70"
	Access road to mine crossing at Moopetsi River	Clapham 118KT	L: 27 m B: 11 m	S24° 30' 07.50" E 30° 05' 17.50"
	Access road to the mine crossing Moopetsi river tributary 1 (mine stream)	Clapham 118KT	L: 15 m B: 11 m	S 24° 30' 13.20" E 30° 05' 00.80"
	Access road to TSF: Crossing Old Bridge on Moopetsi	Clapham 118KT	L: 46 m B: 7 m	S 24° 30' 23.80" E 30° 05' 50.50"
	Access road Road and pipeline crossing Mooeptsis at Driekop Shaft	Driekop 253KT	L: 19 m B: 10m	S 24° 30' 38.3" E 30° 04' 57.1"
Section 21(c) & (i)	Sewer line crossing at Tshwenyane	Clapham 118KT	L: 22 m B: 0.8 m	S 24° 29' 51.90" E 30° 04' 36.60"
	Sewer line crossing at Moopetsi Tributary (Mine Stream)	Clapham 118KT	L: 11 m B: 0.8 m	S 24° 30' 35.90" E 30° 05' 01.59"
	Tailings pipeline crossing at Moopetsi Tributary	Clapham 118KT	L: 46 m B: 0.8 m	S 24° 30' 24.00" E 30° 05' 51.00"
	Conveyer belt crossing Tshwenyane river	Clapham 118KT	L: 22 m B: 5 m	S 24° 30' 04.33" E 30° 04' 29.05"
	Road crossing Tshwenyane river at UG2 Concentrator Plant	Clapham 118KT	L: 28 m B: 9 m	S 24° 30' 17.90" E 30° 04' 24.20"
	Powerlines crossing Tshwenyane River	Clapham 118KT	L: 100 m B: 0.3 m	S 24° 30' 06.05" E 30° 04' 28.86"
	Powerlines crossing Moopetsi Tributary 1	Driekop 253KT	L: 50 m B: 0.3 m	S 24° 30' 39.14" E 30° 04' 54.70"
	Powerlines crossing Moopetsi Tributary 2	Clapham 118KT	L: 50 m B: 0.3 m	S 24° 30' 20.42" E 30° 05' 05.67"
	Powerlines crossing Moopetsi Tributary 1	Driekop 253KT	L: 50m B: 0.3 m	S 24° 30' 03.38" E 30° 04' 29.04"

Water use	Descriptions/purposes	Properties (farm name)	Total length / width in m per annum	Co-ordinates
	Diversion of drainage line around the new TSF	Clapham 118KT Driekop 253KT	L: 1 880 m B: 1.5 m	S 24° 30' 55.63" E 30° 06' 37.06" S 24° 31' 05.69" E 30° 05' 51.08"
	Undermining of the upper reaches of the non-perennial Tshwenyane River to a shallowest mining depth of 36 mbgl	Clapham 118KT	L: 489 m B: 116 m Depth: 36 m	S 24° 29' 56.98" E 30° 04' 34.75"
Section 21(c) & (i)	Mining the ore body under or within the 1:50 year flood-line of a watercourse: Undermining of an unnamed non-perennial northern tributary (drainage line) of the Moopetsi River (termed the Northern Stream) to a shallowest mining depth of 37 mbgl.	Forest Hill 117KT	L: 375 m B: 91 m Depth: 29 m	S 24° 29' 06.10" E 30° 04' 04.45"
	Mining the ore body under or within the 1:50 year flood-line of a watercourse: Undermining of a drainage line of the unnamed non-perennial northern tributary (drainage line) of the Moopetsi River	Forest Hill 117KT	L: 485 m B: 168 m Depth: 29 m	S 24° 28' 47.01" E 30° 03' 58.60"
	Mining the ore body under or within the 1:50 year flood-line of a watercourse: Undermining of an unnamed non-perennial tributary (drainage line) of the non-perennial Tshwenyane River to a shallowest mining depth of 41 m mbgl.	Clapham 118KT	L: 277 m B: 399 m Depth: 32 m	S 24° 29' 44.19" E 30° 04' 23.79"
	Mining the ore body under or within the 1:50 year flood-line of a watercourse: Undermining of the non-perennial Moopetsi Tributary (Mine Stream) via the Driekop shaft to a shallowest depth of 78 mbgl. Mining is taking place to a shallowest depth of 26.6 mbgl.	Driekop 253KT	L: 272 m B: 138 m Depth: 26.6 m	S 24° 30' 40.02" E 30° 04' 51.45"
Section 21(c) & (i)	Ventilation shaft within 100m of an unnamed non-perennial drainage line	Driekop 253KT	L: 150 B: 50	S24°31'47.85" E30° 4'39.91"
Section 21(c) & (i)	Ventilation shaft within 100m of an unnamed non-perennial drainage line	Winnaarshoek 250KT	L: 150 B: 50	S24°30'39.08" E30° 03'38.5"

Water use	Descriptions/purposes	Properties (farm name)	Total length / width in m per annum	Co-ordinates
Section 21(c) & (i)	Ventilation shaft within 100m of an unnamed non-perennial drainage line	Winnaarshoek 250KT	L: 150 B: 50	S24°30'39.0" E30° 03'38.4"
Section 21(c) & (i)	Overhead powerline crossing unnamed non-perennial drainage line	Driekop 253KT	L: 100 B: 0.3	S24°30'38.2" E30° 04'57.2
Section 21(c) & (i)	Water pipelines crossing Tshwenyane River	Clapham 118KT	L: 100 B: 0.2	S24°30'04.9" E30°04'29.4"
Section 21(c) & (i)	Water pipelines crossing unnamed tributary of Moopetsi River	Driekop 253KT	L: 100 B: 0.2	S24°30'37.69" E30° 4'56.80"
Section 21(c) & (i)	Water pipelines crossing unnamed non-perennial drainage line	Driekop 253KT	L: 100 B: 0.2	S24°30'31.7" E30° 05'04.3"
Section 21(c) & (i)	Water pipelines within 100m of Mogompene River	Driekop 253KT	L: 1035 B: 0.2	S24°30'38.63" E30° 3'56.90"
Section 21(c) & (i)	Tailings pipeline crossing Tshwenyane River	Clapham 118KT	L: 100 B: 0.8	S24°30'4.15" E30° 4'29.56"
Section 21(c) & (i)	Tailing's pipeline crossing unnamed tributary of Moopetsi River	Clapham 118KT	L: 100 B: 0.8	S24°30'31.70" E30° 5'4.41"
Section 21(c) & (i)	Tailings pipeline crossing Moopetsi River	Clapham 118KT	L: 100 B: 0.8	S24°30'23.56" E30° 5'50.56"

Table 4: Exemption from Government Notice 704

Regulation	Property Description	Description of Exemption	Motivation
Regulation 4 (b): <i>except in relation to a matter contemplated in regulation 10, carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood-line or within a horizontal distance of 100 metres from any watercourse or estuary, whichever is the greatest</i>	Portion 0 of Farm No. 118 Clapham	Crossing of watercourse at two locations by water pipeline	Water pipeline to transfer water between the raw water dam, ventilation shafts and concentrator plant to allow for mining operations
		Crossing of watercourse at three locations by slurry pipeline	Slurry pipeline to transfer slurry from the concentrator plant for disposal at the tailing's storage facility
	Portion 0 of Farm No. 253 Driekop	Crossing of watercourse at one location by water pipeline	Transfer of water between the raw water dam, ventilation shafts and concentrator plant for ventilation of Driekop ventilation shaft 9
		Water pipeline within 100m of watercourse Crossing of watercourse at one location by overhead electrical cable	Overhead electrical transmission line to supply power to Driekop ventilation shaft 9

		Driekop ventilation shaft 9 within 100m of watercourse	Establishment of Driekop ventilation shaft 9 for ventilation of Driekop shaft
	Portion 0 of Farm No. 250 Winnaarshoek	Clapham ventilation shafts 7 and 8 within 100m of watercourse	Establishment of Clapham ventilation shafts 7 and 8 for ventilation of Clapham shaft

1.2. The Licensee must carry out and complete all the activities listed under condition 1.1 according to the following:

1.2.1 Reports submitted to the Department or the Provincial Head, specifically:

Number	Report Title	Compiled By	Date
1	Marula Platinum Mine Ventilation Shaft Settling Dam and Pipeline Development Specialist Hydrological Study	JG Afrika	October 2022
2	Marula Platinum Mine Monthly Water Quality Report. Quarter 4 of 2021/2022. April to June 2022	Aquatico Scientific	July 2022
3	Motivation in Terms of Section 27 of the National Water Act. Marula Platinum Mine, Limpopo Province	JG Afrika	June 2022
4	Marula Platinum Mine Social and Labour Plan	Marula Platinum	July 2018
5	Water Use Licence Application Summary Report. Marula Platinum (Pty) Ltd (WU24570)	JG Afrika	October 2022
6	Proposed Changes to the Approved Layout of the Marula Platinum Mine: Basic Impact Assessment Report (BAR) and Environmental Management Programme Report (EMPr)	SLR	May 2022
7	2022 Marula Platinum Mine Integrated Water and Waste Management Plan Update Report	Marine Mountain Environmental Consultants	August 2022
8	Engineering Detail of Settling Dam	Implats	June 2022
9	Wetland and Aquatic Assessment of the Potential Implats and Risk Levels of a New Slurry Pipeline and Settling Dam at the Marula Platinum Mine Near Burgersfort, Limpopo Province	JG Afrika	September 2022
10	Watercourse Ecological Assessment as Part of the Environmental and Water Use Authorisation Processes for Ventilation Shafts at Marula Platinum Mine, Limpopo Province	Scientific Aquatic Services	December 2020
11	Geohydrological Assessment for New Ventilation Shafts, Settling Dam and Slurry Pipeline Infrastructure for Marula Platinum WUL	JG Afrika	October 2022
12	Marula Platinum Mine Stormwater Management Plan	JG Afrika	October 2022

1.3 Conditions of this licence; and

1.4 Any other written direction issued by the Provincial Head in relation to this licence.

1.5 No activity must take place within the 1:100-year flood line or the delineated riparian habitat, whichever is the greatest, or within 500 m radius from the boundary of any wetland unless authorised by this licence.

- 1.6 The conditions of the authorisation must be brought to the attention of all persons (employees, sub-consultants, contractors etc.) associated with the undertaking of these activities and the Licensee must take such measures that are necessary to bind such persons to the conditions of this licence.
- 1.7 A copy of the water use licence and reports set out under condition 1.2 of this Appendix must be on site at all times.
- 1.8 A suitably qualified person(s), appointed by the Licensee, and approved in writing by the Provincial Head, must be responsible for ensuring that the activities are undertaken in compliance with the specifications as set out in reports submitted to the Department or the Provincial Head and the conditions of this licence.
- 1.9 Buffers of 30m must be implemented between the wetland and the irrigation area and the pasture area.
- 1.10 Ecological class of rivers and wetlands (PES of B) must not to be lowered. Recommended Ecological Class (REC) for wetland must be set as class B.
- 1.11 A layout plan confirming that the 1:100-year floodline of the watercourse upstream of the dam wall do not affect any public property must be submitted to the Department within 30 days of issuance of water use licence.

2. FURTHER STUDIES AND INFORMATION REQUIREMENTS

- 2.1 For water use activities in Table 3:
 - 2.1.1 Detailed design drawings of all the infrastructure of impeding and/or diverting flow of watercourses on the property must be submitted to the Provincial Head within three (3) months of date the issuance. The foregoing must indicate the regulated activities, marking the limits of disturbance in relation to the impacted watercourse; morphology of the watercourse; site specific impacts; and environmental management, particularly erosion and sediment, controls and measures.
 - 2.1.2 No fundamental alterations of the site design plan(s) and drawings are allowed, unless a modification is requested and granted by the Provincial Head in writing; and
 - 2.1.3 No site activities must occur beyond the proposed site location of the erosion and sedimentation controls and marked limits of disturbance.
- 2.2 If the Licensee is not the end user/beneficiary of the water use related infrastructure and will not be responsible for long term maintenance and management of the infrastructure, the Licensee must provide a programme for hand over to the successor-in-title including a brief management/maintenance plan and the agreement for infrastructure along with allocation of responsibilities, within three (3) months of the date of issuance of this licence.
- 2.3 An Environmental Management Plan (EMP) and rehabilitation plan for the decommissioning of any of the water use activities listed in Table 3 must be submitted five (5) years before commencing with closure to the Provincial Head for a written approval.
- 2.4 For all the activities listed under condition 1.1, Table 3, "as-built" plan(s) and engineering drawing(s) prepared by a registered professional engineer, must be submitted to the Provincial Head within three (3) months of the date of issuance of this licence. These plan(s) and drawing(s) must indicate the watercourse including wetland boundaries and layout and structure location(s) of all infrastructure a impeding and/or diverting flow of the watercourse as well as alterations to the watercourse on the property.

- 2.5 A Storm Water Management Plan must be updated and drawn up on A1 paper and submitted to the Provincial Head for written approval within 3 months of licence being issued. Clean water dirty water must be separated.
- 2.6 Storm Water management plan should be designed in a way that aims to ensure that post-development run-off does not exceed pre-development values in:
 - 2.6.1 Peak discharge for any given storm,
 - 2.6.2 Total volume of run-off for any given storm,
 - 2.6.3 Frequency of run-off volumes,
 - 2.6.4 Pollutant and debris concentrations reaching watercourses,
 - 2.6.5 Demonstrate minimal soil and vegetation clearance practices,
 - 2.6.6 Demonstrate an effective re-vegetation campaign for bare areas,
 - 2.6.7 Velocity of outgoing storm water shall not exceed the velocities of incoming water in order to reduce erosion impacts, and
 - 2.6.8 Increase in run-off due to a higher water table resulting from tree clearing practices.

3. PROTECTIVE MEASURES

3.1 Storm Water Management

- 3.1.1 Storm water management practices must be constructed, operated and maintained in a sustainable manner throughout the project and for the water use activities set out in condition 1.1 and must include but are not limited to the following:
 - 3.1.1.1 Increased runoff due to vegetation clearance (always promoting limiting vegetation clearance) and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the watercourse(s).
 - 3.1.1.2 Storm water must be diverted from construction works, access roads, linear infrastructure and reptile ponds and must be managed in such a manner as to disperse runoff and to prevent the concentration of storm water flow: and
 - 3.1.1.3 The velocity of storm water discharges must be attenuated, and the banks of the watercourses protected.

3.2 Structures and Materials

- 3.2.1 Necessary erosion prevention measures must be employed to ensure the sustainability of all structures.
- 3.2.2 The height, width and length of structures must be limited to the minimum dimension necessary to accomplish the intended function.
- 3.2.3 Structures must not be damaged by floods exceeding the magnitude of floods occurring on average once in every 100 years.
- 3.2.4 Structures must be non-erosive, structurally stable and must not induce any flooding or safety hazard.
- 3.2.5 Structures must be inspected regularly for accumulation of debris, blockage, erosion of abutments and overflow areas - debris must be removed and damages must be repaired and reinforced immediately.
- 3.2.6 Any access roads, bridges, pathways, or other linear crossings should be:
 - 3.2.6.1 Non-erosive, structurally stable and should not induce any flooding or safety hazard;

- 3.2.6.2 Any damage is repaired immediately to prevent further damage;
- 3.2.6.3 Non-polluting with respect to silt and litter that can be deposited into a watercourse.
- 3.2.6.4 Watercourse crossings to facilitate the movement of aquatic and non-aquatic organisms and fauna;
- 3.2.6.6 Crossing surfaces must be tarred, paved or concreted along the extent of the watercourse and extent at least 100m beyond the extent of the watercourse to minimise impacts on the characteristics of the watercourse.
- 3.2.6.7 Where any road is within the 100m buffer zone of the watercourse, this portion of the road shall be concreted, paved or tarred; and
- 3.2.6.8 Not consist of any polluting material.

3.2.7 Landscape maintenance plan must be submitted for approval by Provincial Head within 6 months of licence being issued.

3.3 Water Quality

3.3.1 The Licensee shall sample the water quality monthly for the mentioned variables (Table 5) at least at the monitoring points both upstream and downstream of the activities (Table 5) and report to the Provincial Head within thirty (30) days after the results of each sampling event is received:

Table 5: Water quality parameters relevant for sampling.

Variable	Limit
Flow (ℓ/s)	Condition 3.4.8
Temperature (°C)	<10% variation
pH	6.0 – 8.5
Electrical conductivity (EC) (mS/m)	<70
Suspended solids (SS) (mg/ℓ)	<25
Dissolved oxygen (mg/ℓ)	>6
Turbidity (NTU)	<5
Alkalinity (mg CaCO ₃ /ℓ)	<100
PO ₄ (mg/ℓ)	<0.5
NO ₃ /NO ₂ (as N) (mg/ℓ)	<6
NH ₃ (as N) (mg/ℓ)	<10
BTEX, TPH (mg/ℓ)	<1
Faecal coliforms (counts/100mℓ)	<130

The variables may be amended on discretion of the Provincial Head. Only an accredited (SANS 17025) laboratory to be used for analysis.

- 3.3.2 Monitoring must continue for three (3) years after the issuance of this licence for the activities listed in condition 1.1
- 3.3.3 Monitoring must be undertaken as set out in section 5.
- 3.3.4 Activities that lead to elevated levels of turbidity of any watercourse(s) must be prevented, reduced, or otherwise remediated. Activities must be scheduled to take place during the dry seasons when flows are lowest where reasonably possible. If this is not possible and if management measures have not been provided for in the reports submitted to the Provincial Head, the Licensee must submit such to the Provincial Head for a written approval before these activities commence. Natural in stream hydrology is to be used to determine which months constitute the low flow months.
- 3.3.5 The Licensee must ensure that the quality of the water to downstream water users does not decrease because of the of the water use activities listed under condition 1.1.

- 3.3.6 Pollution of and disposal/spillage of any material into the watercourse must be prevented, reduced, or otherwise remediated through proper operation, maintenance and effective protective measures.
- 3.3.7 Vehicles and other machinery must be serviced well above the 1:100 year flood line or delineated riparian habitat, whichever is the greatest. Oils and other potential pollutants must be disposed off at an appropriate licensed site, with the necessary agreement from the owner of such a site.
- 3.3.8 Any hazardous substances must be handled according to the relevant legislation relating to transport, storage and use of the substance and all storage facilities must be equipped with large, clearly readable Material Safety Data Sheets (MSDS).
- 3.3.9 All reagent storage tanks and reaction units must be supplied with a bunded area built to cater for at least 110% of the capacity of the facility and provided with sumps and pumps to return the spilled material back into the system. The system must be maintained in a state of good repair and standby pumps must be provided.
- 3.3.10 The Licensee shall actively participate in any Catchment Management Agency's related activity.
- 3.3.11 The Licensee has to indicate to the Responsible Authority within sixty (60) days after issuance of this licence, the strategic placement of bio-swale, bio-filters, silt, litter and hydrocarbon (oil) traps to minimise the risk of pollutants entering the natural drainage system of the area.

3.4 Flow

- 3.4.1 The Licensee must determine flood lines (1:50 and 1:100 year) to ensure risks are adequately managed. Flood lines must be clearly indicated on the site plan(s) and drawings along with all wetland boundaries.
- 3.4.2 The activities must be conducted in a manner that does not negatively affect catchment yield, hydrology and hydraulics. The Licensee must ensure that the overall magnitude and frequency of flow in the watercourse(s) does not decrease, other than for natural evaporative losses and authorised attenuation volumes.
- 3.4.3 Appropriate design and mitigation measures must be developed to minimise impacts on the natural flow regime of the watercourse i.e. through placement of structures/supports and to minimise turbulent flow in the watercourse.
- 3.4.4 Structures must be designed in a way to prevent the damming of stream/river water and not impact on the flow of the water, during the construction and operational phases of all developments.
- 3.4.5 The development may not impede natural drainage lines.
- 3.4.6 The diversion structures may not restrict river flows by reducing the overall river width or obstructing river flow.
- 3.4.7 The characteristics of streambed are likely to be altered locally. In particular the rock and rubble created during the construction process is likely to have sharp edges, and not smooth surfaces that are typically associated with river rocks and pebbles. All rock and rubble must be removed from the watercourse once construction has been completed. Any rock placed in the watercourse to enhance the dissolved oxygen content of the water must adhere to the same criteria, namely only smooth rock surfaces to be placed within the watercourse.
- 3.4.8 The Licensee shall determine flow requirements for endemic aquatic organisms and the associated habitat (riparian and in-stream) by a registered, professional, independent and

qualified aquatic ecologist and hydrologist within one (1) year after the issuance of this licence and submit the report to the Provincial Head for a written approval. Reporting on the flow requirements as per condition 3.3.1 of this Appendix.

3.5 Riparian and Instream Habitat (Vegetation and Morphology)

- 3.5.1 Activities (including spill clean-up) must start up-stream and proceed into a down-stream direction, so that the recovery processes can start immediately, without further disturbance from upstream works.
- 3.5.2 Operation and storage of equipment must not take place within the 1:100 year flood line or delineated riparian habitat, whichever is the greatest unless authorised in this licence.
- 3.5.3 Activities must not occur in sensitive riffle habitats.
- 3.5.4 Indigenous riparian vegetation, including dead trees, outside the limits of disturbance indicated in the site plans must not be removed from the area.
- 3.5.5 Alien and invader vegetation must not be allowed to further colonise the area, and all new alien vegetation recruitment must be sustainably eradicated or controlled according to a respective management plan as formally approved by the Provincial Head in writing within one (1) month after the issuance date of this licence.
- 3.5.6 Existing vegetation composition must be maintained or improved by maintaining the natural variability in flow fluctuations. Rehabilitated areas shall have vegetation basal cover of at least 15% at all times.
- 3.5.7 Recruitment and maintaining of a range of size classes of dominant riparian species in perennial channels must be stimulated.
- 3.5.8 Encroachment of additional exotic species and terrestrial species in riparian zones must be discouraged.
- 3.5.9 Accumulation of woody debris on terraces by periodic flooding must be discouraged.
- 3.5.10 Existing flood terraces and deposition of sediments on these terraces to ensure optimum growth, spread and recruitment of these species must be maintained.
- 3.5.11 All reasonable steps must be taken to minimise noise and mechanical vibrations in the vicinity of the watercourse. Noise levels (noise resulting from the activities listed in Table 2 and associated activities) to be below 35dB from 18:00 – 06:00 daily.
- 3.5.12 Necessary erosion prevention mechanisms must be employed to ensure the sustainability of all structures and activities and to prevent instream sedimentation.
- 3.5.13 Soils that have become compacted through the water use activities must be loosened to an appropriate depth to allow seed germination.
- 3.5.14 Slope/bank stabilisation measures must be implemented with a 1:3 ratio or flatter and vegetated with indigenous vegetation immediately after the shaping.
- 3.5.15 Stockpiling of removed soil and sand must be stored outside of the 1:100 flood line or delineated riparian habitat, whichever is the greatest, to prevent being washed into the river and must be covered to prevent wind and rain erosion.
- 3.5.16 The indiscriminate use of machinery within the instream and riparian habitat will lead to compaction of soils and vegetation and must therefore be strictly controlled.

- 3.5.17 The overall macro-channel structures and mosaic of cobbles and gravels must be maintained by ensuring a balance (equilibrium) between sediment deposition and sediment conveyance maintained. A natural flooding and sedimentation regime must thus be ensured as far as reasonably possible.
- 3.5.18 As much indigenous vegetation growth as possible should be promoted within the proposed development area in order to protect soil and to reduce the percentage of the surface area which is paved/hardened/compacted.
- 3.5.19 Run-off from paved/hardened/compacted surfaces should be slowed down by the strategic placement of berms.
- 3.5.20 The Licensee shall protect the banks of the watercourse against instability and erosion and ensure a healthy and sufficient bank side vegetation cover. A specific management program addressing this concern shall be developed by a professional, qualified, independent and registered ecologist and aquatic specialist and submitted to the Provincial Head for written approval within three (3) months after the issuance of this licence.
- 3.5.21 Plant Species Plan must be drawn up in conjunction with a landscape architect or botanist and approved by Provincial Head and implemented within 6 months of licence being issued.

3.6 **Biota**

- 3.6.1 The Licensee must take all reasonable steps to allow movement of aquatic species, including migratory species. The Licensee shall appoint a professional, qualified, independent and registered ecologist and aquatic specialist to determine the impact of the weirs on aquatic biota migration and submit a report for written approval to the Provincial Head within six (6) months after the issuance of the licence. The Licensee shall implement the recommendations endorsed by the Provincial Head. Reporting on biota component must be captured separately in the reporting requirement of condition 5.1 of Appendix IV. The report must also assess the reintroduction of endemic aquatic species in this environment (note condition 5.1 REC value).
- 3.6.2 All reasonable steps must be taken not to disturb the breeding, nesting and/or feeding habitats and natural movement patterns of aquatic biota.
- 3.6.3 The current level of diversity of biotopes and communities of animals, plants and microorganisms must be maintained.

4 **REHABILITATION AND MANAGEMENT**

- 4.1 The Licensee must embark on a systematic long-term rehabilitation programme to restore the watercourse to environmentally acceptable and sustainable conditions, which must include, but not be limited to the rehabilitation of disturbed and degraded riparian areas to restore and upgrade the riparian habitat integrity to sustain a bio-diverse riparian ecosystem.
- 4.2 All disturbed areas must be re-vegetated with an indigenous seed mix in consultation with an indigenous plant expert, ensuring that during rehabilitation only indigenous shrubs, trees and grasses are used in restoring the biodiversity.
- 4.3 An active campaign for controlling invasive species must be implemented within disturbed zones to ensure that it does not become a conduit for the propagation and spread of invasive exotic plants.
- 4.4 Rehabilitation must be concurrent with construction.
- 4.5 Topsoil must be stripped and redistributed.

- 4.6 Compacted and disturbed areas must be shaped to natural forms and to follow the original contour. In general cut and fill slopes and other disturbed areas must not exceed 1:3 (v:h) ratio, it must be protected, vegetated, ripped and scarified parallel with the contour.
- 4.7 The Provincial Head must sign a release form indicating that rehabilitation was done satisfactory according to specifications as per this license.
- 4.8 A photographic record must be kept as follows and submitted with reports as set out in section 5:
- 4.8.1 Dated photographs of all the sites to be impacted before construction commences;
- 4.8.2 Dated photographs of all the sites during construction on a monthly basis; and
- 4.8.3 Dated photographs of all the sites after completion of construction, seasonally.
- 4.9 Rehabilitation structures must be inspected regularly for the accumulation of debris, blockages instabilities and erosion with concomitant remedial and maintenance actions.
- 4.10 Rehabilitation Plan must be updated and drawn on a drawing for approval by provincial Head within 6 months of licence being issued.
- 4.11 Experienced environmental rehabilitation personnel as well as the correct equipment for environmental rehabilitation must be available.

5 MONITORING AND REPORTING

- 5.1 A comprehensive and appropriate environmental assessment and monitoring programme (including bio-monitoring and eco-toxicology) to determine the impact, change, deterioration and improvement of the aquatic system associated with the activities listed under condition 1.1 and other existing activities as well as compliance to these water use licence conditions must be developed and submitted to the Provincial Head for a written approval before commencement and must subsequently be implemented
- 5.2 Six (6) monthly monitoring reports for Groundwater and Surface water must be submitted to the Provincial Head until otherwise agreed in writing with the Provincial Head.
- 5.3 A qualified and responsible scientist must be retained by the Licensee who must give effect to the various licence conditions and to ensure compliance thereof pertaining to all activities impeding and/or diverting flow of watercourses as well as alterations to watercourses on the property as set out in condition 1.1.
- 5.4 The Licensee shall conduct an internal and external audit as per condition 11 and 12 of Appendix 1 and the audit report must include:
- 5.4.1 Reporting in respect of the monitoring programme referred to in condition 5.1 of Appendix IV and all other reporting and compliance conditions outlined in this licence;
- 5.4.2 A record of implementation of all mitigation measures including a record of corrective actions; and
- 5.4.3 Compensation measures for damage where mitigation measures have failed to adequately protect the in-stream and riparian habitat or any other characteristic of the watercourses.
- 5.5 The Licensee must apply in writing to the Provincial Head for alternative reporting arrangements for which written approval must be provided.
- 5.6 A comprehensive ground water and surface water monitoring and remediation plan must be provided within 6 months of licence being issued. Such plan must detail how the possible pollution effects from the dirty water impoundment facilities that do not have a barriers system that complies with the requirements of the current Regulations will be remediated and how

future pollution from the same facilities will be prevented, in accordance with the requirements of section 19 of the National Water Act (1998).

6 OTHER WATER USERS

- 6.1 The Licensee must attempt to prevent adverse effect on other water users. All complaints must be investigated by a suitable qualified person and if investigations prove that the Licensee has impaired the rights of other water users, the Licensee must initiate suitable compensative measures.

7. POLLUTION PREVENTION, INCIDENTS AND MALFUNCTIONS

- 7.1 If surface and/or groundwater pollution has occurred or may possibly occur, the Licensee must conduct, and/or appoint specialists to conduct necessary investigations and implement additional monitoring, pollution prevention and remediation measures to the satisfaction of the Provincial Head.
- 7.2 The Licensee shall keep all records relating to the compliance or non-compliance with the conditions of this licence in good order. Such records shall be made available to the Provincial Head within 14 (fourteen) days of receipt of a written request by the Department for such records.
- 7.3 The Licensee shall keep an incident report and complaints register, which must be made available to any external auditors and the Department.

8 BUDGETARY PROVISIONS

- 8.1 The water user must ensure that there is a budget sufficient to complete and maintain the water use and for successful implementation of the rehabilitation programme as set out in this licence.
- 8.2 The Department may at any stage of the process request proof of budgetary provisions for rehabilitation and closure of project.

9. SPECIAL CONDITIONS FOR CIVIL ENVIRONMENT AND RECREATION

- 9.1 The Master Plan must be updated with 1:100-year floodline and scientific buffers and submitted for approval.
- 9.2 Scientific buffers for the watercourses must be determined and submitted for approval.
- 9.3 The PES, EIS, REC must be submitted for approval.
- 9.4 Designs for the slurry pipe must be such to avoid pollution leaks.
- 9.5 The updated EMPR must be implemented.
- 9.6 A Rehabilitation plan for the watercourses must be compiled and submitted for approval.
- 9.7 The existing Stormwater management plan must be updated and implemented.
- 9.8 Infrastructure to be planned outside the buffer.
- 9.10 A Maintenance plan must be submitted for approval.
- 9.11 The Monitoring and auditing plan must be updated with new water uses.
- 9.12 A clean audit must be shown on the existing mine.

APPENDIX IV

Section 21(g) of the Act: Disposing of waste in a manner which may detrimentally impact on a water resource

1. CONSTRUCTION AND OPERATION

- 1.1 The Licensee shall carry out and complete all the activities, including the construction and operation of the settling dam, pollution control dam, return water dam, storm water dam, Erichsen dam and tailings dam according to the Report and according to the final plans in the design report attached as approved by the Provincial Head.
- 1.2 The construction of the all wastewater (named above) and process facilities must be carried out under the supervision of a professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as approved by the designer.
- 1.3 Within 30 days after the completion of the activities referred here in accordance with the relevant provisions of this licence, the licensee shall in writing, under reference 27/2/2/B571/16/3, inform the Provincial Head thereof. This shall be accompanied by a signature of approval from the designer referred to above that the construction was done according to the design plans referred to in the Report.
- 1.4 The Licensee must ensure that the disposal of the plant return water, polluted Storm water, process water and sludge and the operation and maintenance of the system are done according to the provisions in the Report.
- 1.5 The Licensee shall as well submit a set of as-built drawings to the Provincial Head after the completion of the storage facility.
- 1.6 The return water dam and pollution control dams shall be operated and maintained to have a minimum freeboard of 0.8 metres above full supply level and all other water systems related thereto shall be operated in such a manner that it is at all times capable of handling the 1:50 year flood-event on top of its mean operating level.
- 1.7 The Licensee shall use acknowledged methods for sampling and the date, time and sampler must be indicated for each sample.

2. STORAGE AND DISPOSAL OF WASTE AND WATER CONTAINING WASTE

- 2.1 This licence authorises the disposal of waste and/or wastewater in a manner which may detrimentally impact on a water resource. The disposal shall take as indicated below in Table 6.

Table 6: disposing of waste or water containing waste

Water use	Description/ Purpose	Properties	Capacity/ Volume (m ³ annum)	Co-ordinates
Section 21(g)	To dispose and contain tailings return water and shaft excess water into the RWD operational compartment	Clapham 118KT	Volume: 1 214 068 Capacity: 35 866m ³	S 24° 30' 25.18" E 30° 06' 07.20"
Section 21(g)	To dispose and contain of excess return water and runoff into RWD storm water compartment for reuse to minimise the potential for overflow to the environment	Clapham 118KT	158 679m ³ Capacity 1 634 683m ³ per annum	S24°30'20.41" E29°06'08.14"

Section 21 (g)	To dispose tailings generated in the concentrator into the tailings storage facility (TSF)	Clapham 118KT	Tonnes: 3 593 000 Capacity: 14.5 million tonnes	S 24° 30' 38.92" E 30° 06' 30.13"
Section 21(g)	To dispose and contain dirty water from underground mining area for settling into the Driekop settling dam 1 and dam 2	Driekop 253KT	Volume: 594 598m ³ Capacity: 264 m ³	S 24° 30' 50.44" E 30° 05' 07.95"
			Volume: 594 598 m ³ Capacity: 3 051m ³	S 24° 30' 50.44" E 30° 05' 06.65"
Section 21(g)	Settling water into the settling dam to be reused underground for mining purposes	Driekop 253KT	Volume 683 948m ³ per annum Capacity 208 m ³	S24°30'.48.53" E29°05'05.03"
Section 21(g)	To dispose mine waste the DMS waste dump	Clapham 118KT	180 000m ³ per annum	S24°29'46.18" E29°04'07.40"
Section 21(g)	To dispose waste rock into Clapham waste rock dump	Clapham 118KT	170 000m ³ per annum	S 24° 29' 53.95" E 30° 04' 51.10"
Section 21(g)	To dispose and store water from underground into the Clapham settling dam 1 for settling of solids	Clapham 118KT	Volume: 899 034 Capacity: 1 343m ³	S 24° 29' 59.28" E 30° 04' 45.98"
Section 21(g)	To dispose and store water from underground into the settling dam 2	Clapham 118KT	Volume: 899 034 m ³ Capacity: 1 421m ³	S 24° 29' 59.37" E 30° 04' 46.40"
Section 21(g)	To dispose process water into Clapham Erichsen Dam	Clapham 118KT	Volume: 85 750m ³ Capacity: 248	S 24° 30' 02.05" E 30° 04' 49.62"
Section 21(g)	To dispose and store runoff from the shaft area into the Driekop Storm Water Dam 1	Clapham 118KT	Volume: 29 060m ³ Capacity: 1 414 m ³	S 24° 30' 39.06" E 30° 05' 04.60"
Section 21(g)	To dispose and store runoff from the shaft area into the Driekop Storm Water Dam 2	Clapham 118KT	Volume: 29 060m ³ Capacity: 1 535 m ³	S 24° 30' 38.52" E 30° 05' 05.96"
Section 21(g)	To suppress dust in the existing TSF using water cannon sprayers with process water	Clapham 118KT	306 600m ³ per annum	S 24° 30' 41.40" E 30° 06' 16.25"
Section 21(g)	To dispose and contain settled water from settling dam into the Driekop Erichsen dam for reuse	Driekop 253KT	208m ³ capacity 683 948m ³ annum	S 24° 30' 48.53" E 30° 05' 05.03"
Section 21(g)	To dispose and store water from the settling dams and treated effluent into the Clapham service water dam for re-use	Clapham 118KT	Volume: 1 393 233 Capacity: 1 071 m ³	S 24° 29' 59.24" E 30° 04' 46.99"
Section 21(g)	To suppress dust on a new TSF with mine process water using cannon sprayers	Clapham 118KT Driekop 253KT	459 900m ³ per annum	S 24° 30' 57.20" E 30° 06' 03.59"
Section 21(g)	To dust suppress via gooseneck at Clapham shaft storm water dam	Clapham 118KT	3 600 m ³ per annum	S 24° 30' 06.72" E 30° 04' 49.33"
Section 21(g)	To dispose and contain water from TSF and plant Storm water dam into the process water dam	Clapham 118KT	Volume: 2 113 032 Capacity: 3 042 m ³	S 24° 30' 09.14" E 30° 04' 15.71"
Section 21(g)	To dispose and contain runoff from the plant into the Storm	Clapham 118KT	Volume: 82 557 Capacity: 6 712 m ³	S 24° 29' 55.18" E 30° 04' 20.71"

	water dam at the concentrator plant			
Section 21(g)	To dispose and store runoff from the Clapham shaft into the Clapham Storm water dam	Clapham 118KT	Volume: 58 500 Capacity: 4 713 m ³	S 24° 30' 04.86" E 30° 04' 57.61"
Section 21(g)	To dust suppress at the concentrator plant using process water	Clapham 118KT	1 260 m ³ annum	S 24° 29' 58.30" E 30° 04' 14.31"
Section 21(g)	To dispose tailings into the new Tailings Storage Facility (TSF)	Clapham 118KT Driekop 253KT	Volume: 2 658 783 Capacity: 22 472 703 m ³	S 24° 31' 01.11" E 30° 06' 14.90"
Section 21(g)	To dispose and contain dirty water from underground mining area and concentrator plant for settling into the Driekop settling dam 3 and 4	Driekop 253KT	Volume: 229 200m ³ /a Capacity: 1000m ³	S24°30'51.72" E30° 5'3.15"

3. QUALITY OF WASTEWATER TO BE DISPOSED

3.1 The quality of water containing waste disposed of into the return water dam shall not exceed the following limits as outlined in Table 7:

Table 7: limits into wastewater

SUBSTANCE PARAMETER	Return water dam (mg/l)	Penstock	3DKEDam (Driekop settlement 1,2,3 and 4 dams and Erichsen dam	Clapham settling dam 1&2 dams, erichsen dam and service water dam	Storm water dam at the concentrator
pH	8.5	8.4	8.2	8.2	8.5
Electric conductivity mS/m	213	219	381	310	230
Total Dissolved Solids (TDS) (mg/l)	1519	1563	3064	2219	1644
Chloride (mg/l)	193	199	186	243	173
Nitrate (mg/l) as N	127	121	386	230	143
Sulphate (mg/l)	309	329	176	213	310
Calcium (mg/l)	80	73	254	191	91
Fluoride (mg/l)	0.7	0.8	0.8	0.9	0.5
Sodium (mg/l)	261	225	160	170	250
Potassium (mg/l)	21	18	16	16	15
Iron as Fe (mg/l)	0.4	0.8	0.3	0.2	0.3
Magnesium (mg/l)	91	99	138	105	85
Manganese (mg/l)	0.2	0.3	0.4	0.2	0.3

4. MONITORING

4.1.1 The Licensee shall on monthly basis monitor water resources at monitoring points selected in consultation with the Provincial Head to determine the impact of the facility and other activities on the water quality by taking samples at the monitoring points described in Table 8:

Table 8: Surface water monitoring points

Monitoring point	Co-ordinates	Description
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SW2B	S 24° 30' 55.29" E 30° 05' 44.56"	Moopetsi upstream (replacement for SW2)
SW1	S 24° 29' 09.50" E 30° 04' 54.25"	Moopetsi upstream
SW5	S 24° 30' 07.65" E 30° 05' 16.79"	Moopetsi River downstream of TSF
SW4	S 24° 29' 36.64" E 30° 04' 43.80"	Tshwenyane River
RWD	S 24° 30' 29.45" E 30° 06' 12.85"	Return water dam
12SWdam	S 24° 29' 54.02" E 30° 4' 18.03"	Storm water dam at concentrator plant
3DKEDam	S 24° 30' 48.58" E 30° 05' 05.08"	Driekop Erichsen dam
5CLEDam	S 24° 29' 59.22" E 30° 04' 46.80"	Clapham Erichsen Dam

Table 9: Ground Water monitoring points

Monitoring point	Co-ordinates	Description
SRKM26	S 24° 30' 17.30" E 30° 05' 57.80"	Monitoring borehole down gradient of existing RWD
SRKM3	S 24° 30' 37.21" E 30° 06' 10.71"	Monitoring borehole down gradient of existing TSF
H12-1546	S 24° 30' 13.68" E 30° 5' 55.32"	Madikane community supply
SRKM25	S 24° 30' 45.60" E 30° 06' 51.70"	Upgradient of tailings dam
AO3	S 24° 31' 12.77" E 30° 06' 32.61"	Monitoring borehole between tailings dam and BH26

- 4.2 The date, time and monitoring point in respect of each sample taken shall be recorded together with the results of the analysis.
- 4.3 Monitoring points shall not be changed without notification to and written approval by the Provincial Head.
- 4.4 An Aquatic Scientist approved by the Provincial Head must establish a monitoring programme for the following indices: Invertebrate Habitat Assessment System (IHAS) and the latest SASS (South African Scoring System). Sampling must be done once during the summer season and once during the winter season, annually, to reflect the status of the river upstream and downstream of the mining activities.
- 4.5 Water quality tests to be performed on the tailings disposal complex monitoring boreholes on a quarterly basis in order to determine the risks to the receiving environment. The data gathered in the investigation must be reported annually during March of each year to the Provincial Head. If any toxicity levels as specified is exceeded, the Licensee must institute an investigation to determine the cause of toxicity.
- 4.6 Water quality tests must be conducted quarterly on the wastewater stream from the disposal facility when returned back to the mine for use as process water.
- 4.7 Analysis shall be carried out in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), in terms of the Standards Act, 1982 (Act 30 of 1982).

4.8 The methods of analysis shall not be changed without prior notification to and written approval by the Minister.

5. WATER RESOURCE PROTECTION

5.1 The impact of the activities of the mine shall not exceed the following in-stream water quality objectives as stipulated in the water quality reserve for the area.

6. REPORTING

6.1 The Licensee shall update the water balance annually and calculate the loads of waste emanating from the activities. The Licensee shall determine the contribution of their activities to the mass balance for the water resource and must furthermore co-operate with other water users in the catchment to determine the mass balance for the water resource reserve compliance point.

6.2 The Licensee shall submit the results of analysis for the monitoring requirements to the Provincial Head on a quarterly basis under Reference number 27/2/2/B571/16/3.

7. STORM WATER MANAGEMENT

7.1 Storm water leaving the Licensee's premises shall in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises.

7.2 Increase runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the stream.

7.3 Storm water shall be diverted from the Marula Platinum Mine complex site and roads and shall be managed in such a manner as to disperse runoff and concentrating the storm-water flow.

7.4 Where necessary works must be constructed to attenuate the velocity of any storm water discharge and to protect the banks of the affected watercourses.

7.5 Storm water control works must be constructed, operated and maintained in a sustainable manner throughout the impacted area.

7.6 Increased runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the streams.

7.7 All storm water that would naturally run across the pollution areas shall be diverted via channels and trapezoidal drains designed to contain the 1:50 year flood.

7.8 The polluted storm water system shall be designed and implemented to provide suitable routing and pumping capacity for contaminated storm water from the individual facilities to the respective storm water dams in accordance with the design specifications as contained in the report.

7.9 The polluted storm water captured in the storm water control dams shall be pumped to the process water treatment plant for reuse and recycling.

8. PLANT AREAS AND CONVEYANCES

8.1 Pollution caused by spills from the conveyances must be prevented through proper maintenance and effective protective measures especially near all stream crossings.

- 8.2 All reagent storage tanks and reaction units must be supplied with a bunded area built to the capacity of the facility and provided with sumps and pumps to return the spilled material back into the system. The system shall be maintained in a state of good repair and standby pumps must be provided.
- 8.3 Any hazardous substances must be handled according to the relevant legislation relating to the transport, storage and use of the substance.
- 8.4 Any access roads or temporary crossings must be:
- 8.4.1 non-erosive, structurally stable and shall not induce any flooding or safety hazard; and
 - 8.4.2 Be repaired immediately to prevent further damage.

9. ACCESS CONTROL

- 9.1 Strict access procedures must be followed in order to gain access to the property. Access to the clarifier dam, Storm water dams, waste rock dump and return water dams and any wastewater containment facilities must be limited to authorised employees of the Licensee and their contractors only.
- 9.2 Notices prohibiting unauthorised persons from entering the areas referred to in condition 9.1, as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.

10. CONTINGENCIES

- 10.1 Accurate and up-to-date records shall be kept of all system malfunctions resulting in non-compliance with the requirements of this licence. The records shall be available for inspection by the Provincial Head upon request. Such malfunctions shall be tabulated under the following headings with a full explanation of all the contributory circumstances:
- 10.1.1 operating errors;
 - 10.1.2 mechanical failures (including design, installation or maintenance);
 - 10.1.3 environmental factors (e.g. flood);
 - 10.1.4 loss of supply services (e.g. power failure); and
 - 10.1.5 Other causes.
- 10.2 The Licensee must, within 24 hours, notify the Provincial Head of the occurrence or potential occurrence of any incident which has the potential to cause, or has caused water pollution, pollution of the environment, health risks or which is a contravention of the licence conditions.
- 10.3 The Licensee must, within 14 days, or a shorter period of time, as specified by the Provincial Head, from the occurrence or detection of any incident referred above, submit an action plan, which must include a detailed time schedule, to the satisfaction of the Provincial Head of measures taken to: –
- 10.3.1 correct the impacts resulting from the incident;
 - 10.3.2 prevent the incident from causing any further impacts; and
 - 10.3.3 Prevent a recurrence of a similar incident.

11. AUDITING

- 11.1 The Licensee shall conduct an annual internal audit on compliance with the conditions of this licence. A report on the audit shall be submitted to the Provincial Head within one month of finalisation of the report and shall be made available to an external auditor should the need arise.
- 11.2 The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. The first audit must be conducted within 3 (three)

months of the date this licence was issued and a report on the audit shall be submitted to the Provincial Head within one month of finalisation of the report.

12. INTEGRATED WATER AND WASTE MANAGEMENT

- 12.1 The Licensee must prepare an *Integrated Water and Waste Management Plan (IWWMP)*, which must together with the *Rehabilitation Strategy and Implementation Programme (RSIP)*, be submitted to the Provincial Head within one (1) year from the date of issuance of this licence.
- 12.2 The Licensee shall undertake impact predictions on all mine residue deposit which shall together with the IWWMP be submitted to the Provincial Head within a year after issuance of this licence.
- 12.3 The IWWMP and RSIP shall thereafter be updated and submitted to the Regional Head for approval, annually.
- 12.4 The Licensee must, at least 180 days prior to the intended closure of any facility, or any portion thereof, notify the Provincial Head of such intention and submit any final amendments to the IWWMP and RSIP as well as a final *Closure Plan*, for approval.
- 12.5 The Licensee shall make full financial provision for all investigations, designs, construction, operation and maintenance for a water treatment plant should it become a requirement as a long-term water management strategy.

13. SPECIAL CONDITIONS FOR CIVIL ENGINEERING SERVICE

- 13.1 Limitations: This recommendation does not exempt the designer from complying with any other legislation. This review refers only to the activity as specified and described in the signed design report and drawings listed under documentation submitted for consideration.
- 13.2 Notices of commencement: One month's written notice must be given to the DWS before commencement of construction activities. Such notice shall make clear reference to the site location details and the reference number of the project as indicated on the license and include a high-level project programme to facilitate optional attendance of the preconstruction meeting (specified in SANS 10409 (2020)) by the Regulator and an inspection of the site during construction. One month's written notice must also be given to the Department of Water and Sanitation before commencement of the operational phase activities.
- 13.3 Deviation from accepted design: The designs are approved as currently indicated for those facilities that are already compliant and for those which have been earmarked for upgrades as indicated in the as-built report. The licence holder must notify the DWS in writing, within 24 (twenty-four) hours if any condition of this design and its acceptance cannot be or is not adhered to during operation. The notification must be supplemented with reasons for non-compliance, and proposed rectification measure
- 13.4 The licence holder shall employ a third-party controller (as defined in SANS 10409: 2020), also known as an independent CQA person, who is responsible for ensuring that the procedures of document management on site are followed and that independent laboratory tests are undertaken. The CQA person shall keep records.
- 13.5 Design and construction records: including topographical surveys and methodical materials test results (on all materials used), shall be maintained and archived and accessible for the life of the facilities (including decommissioning).
- 13.6 The facility owner should ensure the independence of the Engineer, Contractor, Subcontractors, Material suppliers, and CQA agent in the development and implementation of the construction quality assurance.

- 13.7 Standard specifications or prescribed management standards: The SANS standard specifications and generally accepted engineering practices specified shall be the most recent amendment thereof as at commencement of construction. As a minimum these include SANS 10409: 2020; SANS 1526 (2015) and GRI GM 19 as well as SANS 1200D as relevant to embankment dams.
- 13.8 Repairs to damages: The license holder should ensure that the facilities are kept in a safe operating condition and should ensure timeous repair to the facilities should they suffer any damages.
- 13.9 Monitoring: Comprehensive records of liquid movement with time shall be maintained. A water balance should be carried out monthly and records of the monthly water balance should be kept and submitted quarterly to the relevant authority upon request.
- 13.10 The authorities shall not be held responsible for any damages or losses suffered by the licence holder or its successor in title in any instance where construction or operation after construction is temporarily or permanently stopped for reasons of non-compliance by the license holder with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of acceptance.
- 13.11 Should the facilities found not to be competent, the licence holder should notify DWS within a week of coming to this knowledge, detailing the measures that they would implement to address any shortcomings.
- 13.12 On completion of construction activities, a close out report must be submitted to DWS detailing but not limited to: Construction methods followed, tests for quality assurance undertaken, as-built drawings including a map showing as built footprint of the infrastructure. The supporting evidence shall include the number of tests, minimum, maximum, mean value and standard deviation for each test method undertaken on all materials used in the design and construction which any include compacted clay, geotextiles, geomembranes and drainage material. All materials should be compliance with latest SANS standards at the time of construction.
- 13.13 The barrier system comprises of subsurface finger drains which alleviates concerns regarding the black turf clay component of the foundation, a dry tailings between clay liner and HDPE liner to act as cushion, a composite 2mm HDPE GM having double texturing in the perimeter wall area with a 300mm blended CCL, and overlying by complex finger drain system having collectors into spine drains in trapezoidal trenches. Spacing of up to 50m apart with tailings deposition above the GM. This shall be executed as demonstrated in the reports.

14. SPECIAL CONDITIONS FOR GEOHYDROLOGICAL STUDIES

- 14.1 Since seepage from the mine infrastructures has degraded the groundwater quality in the local area, forming a contamination plume, a groundwater monitoring plan of the impacted areas must be submitted with proposed mitigation measures to the Regional Head within 6 months from the date of issuance of the licence. Mitigation measures for the spillages to the Moopetsi River must also be submitted.
- 14.2 Scavenger boreholes implemented must be included in the groundwater monitoring plan and proximate observation boreholes must be installed to analyse the success of contaminant mass removal from the local aquifer and for comparison to the model results.
- 14.3 At-least 2 monitoring boreholes must be established between the TSF and the community boreholes to confirm that the contaminant plume is not drawn towards community wells and to act as an early warning system should the plume extend towards community wells, parameters involved must also be modelled.

- 14.4 Prior to and during re-flooding of the mine underground workings, the potential for groundwater mounding and rising of water levels close to surface must be closely monitored in boreholes sited in the modelled long term potential decant areas.
- 14.5 Monitoring of boreholes near the two dewatering areas must continue. The model must be used to provide guidance on the need for any additional monitoring boreholes near these areas.
- 14.6 Numerical groundwater flow and transport model developed must be updated every 2 years using most recent observed data to monitor and mitigate groundwater potential effects especially those of proposed management initiative of scavenger boreholes for the existing TSF plume, the potential groundwater risk of the proposed TSF and the potential for post mine closure decant.
- 14.7 Static groundwater levels and groundwater quality must be monitored at the existing site monitoring boreholes to ensure that any deviation of the groundwater flow from the idealised predictions is detected in time.
- 14.8 The Mine shall also install leak detector around the waste containment facilities to detect the possible pollution emanating from this facilities.



APPENDIX V

Section 21(j) of the Act: Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.

1. The Licensee is authorised to remove a total volume of six hundred and thirty-one thousand one hundred and fifty cubic metres per annum (631 150 m³/a) of underground water from underground mining area and dispose of the underground water into settling dams as indicated on Table 10.

Table 10: Removing water found underground for the continuation of an activity

Water use	Description/ Purpose	Properties	Volume (m ³ /annum)	Co-ordinates
Section 21(j)	Dewatering of the underground operation from Driekop section	Driekop 253KT	202 778 m ³ per annum	S 24° 30' 48.51" E 30° 05' 01.79"
Section 21(j)	Dewatering of underground water from the Clapham underground operation	Clapham 118KT	408 372m ³ per annum	S 24° 30' 03.82" E 30° 04' 44.22"
Section 21(j)	Dewatering Borehole D5 at Driekop working	Driekop 253KT	20 000m ³ per annum	S 24° 30' 03.82" E 30° 04' 44.22"

2. The disposal of water into the return water dam must take place at the location indicated in Table 6.
3. The quantity of water authorised to be removed and disposed in terms of this licence may not be exceeded without prior authorisation by the Minister.
4. The Licensee must provide any water user whose water supply is impacted by the water use with potable water.
5. The quantity of water removed from underground must be metered and recorded on a daily basis.
6. The groundwater levels must be monitored monthly.
7. Self-registering flow meters must be installed in the delivery lines at easily accessible positions near the dewatering points.
8. The flow metering devices must be maintained in a sound state of repair and calibrated by a competent person at intervals of not more than once in two years. Calibration certificates must be available for inspection by the Provincial Head or his/her representative upon request.
9. Calibration certificates in respect of the flow meters must be submitted to the Provincial Head after installation thereof and thereafter at intervals of two years.

10. The date and time of monitoring in respect of each sample taken must be recorded together with the results of the analysis.
11. Analysis must be carried out in accordance with methods prescribed by and obtainable from the South African Bureau of Standards, in terms of the Standards Act, 1982 (Act 30 of 1982).
12. The methods of analysis must not be changed without prior notification to the Licensee and written approval by the Minister or his/her delegated nominee.
13. The Provincial Head must be informed of any incident that may lead to under-groundwater being disposed of contrary to the provisions of this licence, by submitting a report containing the following information:
 - 13.1 Nature of the incident (e.g. operating malfunctions, mechanical failures, environmental factors, loss of supply services, etc);
 - 13.2 Actions taken to rectify the situation and to prevent pollution or any other damage to the environment; and
 - 13.3 Measures to be taken to prevent re-occurrence of any similar incident.
14. The Licensee must follow acceptable construction, maintenance and operational practices to ensure the consistent, effective and safe performance of the underground water removal system.
15. Reasonable measures must be taken to provide for mechanical, electrical or operational failures and malfunctions of the underground water removal system.

[END OF LICENCE]