



## water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria, 0001, Sedibeng Building, 185 Francis Baard Street, Pretoria, Tel: (012) 336 7500 Fax (012) 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, *Margaret-Ann Diedricks*, in my capacity as Director-General in the Department of Water and Sanitation and acting under authority of the powers delegated to me by the Minister of Water and Sanitation, hereby authorises the following water uses in respect of this licence:

SIGNED: 

DATE: *11 JUNE 2015*

LICENCE NO: 08/C23D/ABEFGJ/2836

FILE NO: 27/2/2/C423/4/4

1. Licensee: **Ezulwini Mining Company (Pty) Ltd: Cooke 4 Operation**  
Postal Address: Private Bag X9  
Randfontein  
1760
2. Water uses
  - 2.1 Section 21(a) of the Act: Taking of water from a water resource, subject to the conditions as set out in Appendices I and II.
  - 2.2 Section 21(b) of the Act: Storage of water, subject to the conditions as set out in Appendices I and III.
  - 2.3 Section 21(e) of the Act: Engaging in a controlled activity, subject to the conditions as set out in Appendices I and IV.
  - 2.4 Section 21(f) of the Act: Discharging waste or water containing waste into a water resource through a pipe, canal, sewer or other conduit, subject to the conditions as set out in Appendices I and V.
  - 2.5 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 VI.

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- 2.6 Section 21(j) of the Act: Removing, discharging or disposing of water found underground, subject to the conditions as set out in Appendices I and VII.

3. **Properties on which the use will be exercised and Registered owner of the Properties**

Table 1: Water uses excised and properties ownership

Water Uses	Property	Registered Owner
Section 21(a)	Portions 3, 4, 9, 13, 14, 24, 25, 26 and 27 of the farm Waterpan 292 IQ	Ezulwini Mining Company Pty Ltd
	Remaining extent 41 of the farm Jachtfontein 344 IQ	Ezulwini Mining Company Pty Ltd
	Portion 24 Modderfontein 345 IQ	Randfontein Estates Ltd
Section 21(b)	Portion 3 of the Waterpan 292 IQ,	Ezulwini Mining Company Pty Ltd
Section 21(e)	Portion 14 of the farm Waterpan 292 IQ	Ezulwini Mining Company Pty Ltd
	Farm Syferfontein 293 IQ	Corobrik Pty Ltd
Section 21(f)	Portion 3 and 26 of the farm Waterpan 292IQ	Ezulwini Mining Company Pty Ltd
Section 21(g)	Portions 3, 4, 9, 13, 14, 24, 25, 26 and 27 of the farm Waterpan 292 IQ	Ezulwini Mining Company Pty Ltd
	Remaining extent 41 of the farm Jachtfontein 344 IQ	Rand Uranium Pty Ltd
	Remaining extent 42 of the farm Jachtfontein 344 IQ	Republic of South Africa
	Portion 24 Modderfontein 345 IQ	Randfontein Estates Ltd
Section 21(j)	Portions 3, 4, 9, 13, 14, 24, 25, 26 and 27 of the farm Waterpan 292 IQ	Ezulwini Mining Company Pty Ltd
	Remaining extent 41 of the farm Jachtfontein 344 IQ	Rand Uranium Pty Ltd
	Portion 24 Modderfontein 345 IQ	Randfontein Estates Ltd

4. **Licence and Review Period**

- 4.1. This licence is valid for a period of twenty (20) years and it may be reviewed every five (5) years.

5. **Definitions**

"Any terms, words and expressions as defined in the National Water Act, 1998 (Act 36 of 1998) shall bear the same meaning when used in this licence."

"The Provincial Head" means the Head of Provincial Operations: Gauteng, Department of Water and Sanitation, Private Bag X995, Pretoria, 0001.

"Report" refers to the report entitled:

- a) Ezulwini Mining Company (Pty) Integrated Water and Waste Management Plan, report dated 14 November 2011.
- b) Ezulwini Mining Company (Pty) Ltd Environment Engineering, Overall Summary Water and Salt Balance, report dated 23 September 2011, compiled by MDM Engineering (Pty) Ltd.
- c) Ezulwini Strategic Water Management Plan Geological Structure, report dated January 2011, compiled by Johan Fourie and Associates.
- d) First Uranium: Ezulwini Mine Mandatory Code of Practice for mine residue Deposit, report dated September 2010, compiled by Environmental Civil Mining Projects (Pty) Ltd.
- e) Ezulwini Mine Social and Labour Plan, report dated December 2005.
- f) Harmony Randfontein Operations Mine Closure Plan, report dated 15 February 2005
- g) Harmony Gold Mining Limited Geohydrological Risk Assessment for Cooke 3 shaft, report dated December 2001, compiled by RISON Consulting (Pty) Ltd
- h) Harmony Gold Mining Limited Predicted rate of re-watering the Gembokfontein West Groundwater Compartment, report dated November 2001, compiled by RISON Consulting (Pty) Ltd.
- i) Harmony Gold Mining Limited Geohydrological Review of the Potential Impacts Associated with the Proposed Flooding of the Randfontein No. 4 shaft, report dated February 2005, compiled by RISON Consulting (Pty) Ltd.
- j) Environmental Impact Assessment for Ezulwini Joint Venture Mine, report dated 01 October 2005, compiled by Jahan Fourie and Associates Consulting Environment Engineers
- k) Sibanye Gold: Cooke Operation – Cooke 4 Shaft Stormwater Management Plan, report dated July 2014, compiled by Shangoni Management Services (Pty) Ltd
- l) Harmony Gold Mining Company Ltd, Randfontein Estate Peter Wright Dam Secondary Dam Safety Inspection, report dated 2004, compiled SRK Consulting
- m) And as well as all other related documentations and communication (emails, letters, verbal, etc)

## 6. Brief description of the Project

Ezulwini Mining Company (Pty) Ltd – Cooke 4 Operation is authorised in terms of Section 40 of the National Water Act, 1998 (Act 36 of 1998) for Section 21(a), (b), (e), (f), (g), and (j) water uses. Mining of gold and uranium ore, ore processing and associated infrastructure are located on Portions 3, 4, 9, 13, 14, 24, 25, 26 and 27 of the farm Waterpan 292 IQ, Portion 24 Modderfontein 345 IQ and the Remaining extent 41 of the farm Jachtfontein 344 IQ in the Quaternary Catchment C22D, C22J and C22H within Upper Vaal Water Management Area.



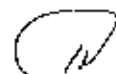
## APPENDIX I

### General conditions for the licence

1. This licence is subject to all applicable provisions of the National Water Act, 1998 (Act 36 of 1998).
2. The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.
3. The Licensee must immediately inform the Provincial Head of any change of name, address, premises and/or legal status.
4. If the property(ies) in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the properties to the Provincial Head of the Department within sixty (60) days of the said change taking place.
5. If a water user association is established in the area to manage the resource, membership of the Licensee to this association is compulsory.
6. The Licensee must be responsible for any water use charges or levies imposed by a Responsible Authority.
7. 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 must be given effect to.
8. The licence must not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.
9. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other applicable provisions of the Act, as amended from time to time.
10. The Licensee must conduct an annual internal audit on compliance with the conditions of the licence. A report on the audit shall be submitted to the Provincial Head within one (1) month of finalization.
11. The Licensee must 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 three (3) months of the date issuance of licence and a report on the audit must be submitted to the Provincial Head within one (1) month of finalisation of the report.
12. Flow metering, recording and integrating devices must be maintained in a sound state of repair and calibrated by a competent person at intervals of not more than two (2) years. Calibration certificates must be available for inspection by the Provincial Head or his/ her representative upon request.
13. Any incident that causes or may cause water pollution must be reported to the Provincial Head or his/her designated representative within 24 hours.



14. Licensee shall use water efficiently to minimise total water intake, void usage of water where possible, implement "good" housekeeping and operating practices, and maximise the reuse /recycle of contaminated water.



## APPENDIX II

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

## 1. ABSTRACTION OF WATER

- 1.1 The licensee is authorised to abstract a maximum quantity of water per annum from mine shaft to use as process water as indicated in Table 2.

Table 2: Volume of water to be abstracted for Section 21(a) water use

Water Use Activities	Properties Description	Volumes (m <sup>3</sup> /a)	Co-ordinates
Use of water from underground shaft (dewatering) for underground mining	Portions 3, 4, 9, 13, 14, 24, 25, 26 and 27 of the farm Waterpan 292 IQ; Jachtfontein 344 IQ Remaining extent 41 and 42; Portion 24 Modderfontein 345 IQ	912 500 (m <sup>3</sup> /a)	S 26° 21' 43.6" E 27° 42' 30.5"
Use of water from underground shaft (dewatering) for used in the metallurgical plant for processing	Portion 27 of the farm Waterpan 292 IQ	912 500 m <sup>3</sup> /a	S 26° 21' 37.6" E 27° 42' 47.9"
Use of water from underground shaft (dewatering) for used in the workshops	Portion 26 of the farm Waterpan 292 IQ	365 000 m <sup>3</sup> /a	S 26° 21' 38.1" E 27° 42' 35.2"
Use of water from underground shaft (dewatering) for domestic use	Portion 26 of the farm Waterpan 292 IQ	1 460 000 m <sup>3</sup> /a	S 26° 21' 43.9" E 27° 42' 30.5"
<b>Total amount of water</b>		<b>3 650 000 m<sup>3</sup>/a</b>	

- 1.2 The quantity of water authorised to be taken in terms of this licence may not be exceeded without prior authorisation by the Minister.
- 1.3 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.
- 1.4 The above mentioned volumes may be reduced when the licence is reviewed.
- 1.5 The Licensee must 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.
- 1.6 The Licensee must continually investigate new and emerging technologies and put into practice water use efficient devices or in an endeavour to conserve water at all times.
- 1.7 No water taken may be used for purposes other than intended in this licence, without written approval by the Provincial Head or his/her delegated nominee.



- 1.8 The Licensee must install appropriate water measuring devices to measure the volume of water abstracted. The Licensee must ensure that all measuring devices are properly maintained and in good working order and must be easily accessible. This must include a programme of checking, calibration, and/ or renewal of measuring devices. All water taken from the resource must be measured, recorded and reported as follows:
- 1.8.1 The daily quantity of water taken must be metered or gauged and the total recorded at the last day of each month; and
  - 1.8.2 The Licensee must keep record of all water measurement 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.
- 1.9 Notices prohibiting unauthorised persons from entering 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.
- 1.10 The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of:
- 10.1.1 shortage of water;
  - 10.1.2 inundations or flood;
  - 10.1.3 siltation of the resource; and
  - 10.1.4 required reserve releases.
- 1.11 The Licensee must establish a programme of formal Information Management System, which maintains a database on water supply, distribution and delivery infrastructure.
- 1.12 The Licensee must establish and implement a continual process of raising awareness amongst itself, its workers and stakeholders with respect to Water Conservation and Water Demand Management initiatives.



## APPENDIX III

## Section 21(b) of the Act: Storing of water

## 1. STORING OF WATER

- 1.1 The Licensee is authorised to store a maximum quantity of fourteen million five hundred fifty-two thousand five hundred fifty per annum (14 552 550 m<sup>3</sup>/a) of fissure water from underground shaft (dewatering ) into Peter Wright Dam (instream dam of Klein Wes Rietspruit River) at the geographic position and property as indicated in Table 3.

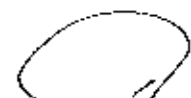
Table 3: Volume of water to be stored into Peter Wright for Section 21(b) water use

Purpose	Properties Description	Volumes (m <sup>3</sup> /a)	Capacity (m <sup>3</sup> )	Co-ordinates
Storing of fissure water from underground shaft (dewatering) and into a Peter Wright Dam (Instream dam of Klein Wes Rietspruit River)	Portion 3 of the Waterpan 292 IQ,	14 552 550 m <sup>3</sup> /a	1 950 000 m <sup>3</sup>	S 26° 21' 45.6"
				E 27° 43' 36.9"
				S 26° 21' 50.7"
				E 27° 43' 59.4"

- 1.2 The Licensee must obtain any proprietary rights or servitudes at his own cost.
- 1.3 The Licensee is not indemnified from any detrimental effect that the dams may have on other properties. The Department does not accept any responsibility or liability for any damages or losses that may be suffered by any other party as a result of the construction and utilisation of the dams.
- 1.4 The Licensee is not exempted from compliance with any applicable Dam Safety Regulations.
- 1.5 No additional water storage facilities can be constructed on the property without prior written consent of the Minister or responsible authority.

## 2. MONITORING REQUIREMENTS

- 2.1 Suitable measuring structures must be constructed upstream and downstream of the dam to measure the flow entering and leaving the dam and this information must be available to the Provincial Head on request
- 2.2 The quantity of water stored must be recorded as at the last day of each month.
- 2.3 The Licensee must establish a monitoring programme and the date and time of monitoring in respect of each sample taken shall be recorded together with the results of the analysis as well as other significant information (low flow, flooding, pollution incident, etc.).





**3. CONSTRUCTION OF DAMS(S)**

- 3.1 The as-built plans and specifications of the dams must be submitted to the Provincial Head for his/her records.
- 3.2 Construction of any additional dam(s) must not commence before authorisation in terms of the Environment Conservation Act, 1989 (Act 73 of 1989) is issued.
- 3.3 The Department reserves the right to construct storage works at any time in any stream and to store all surplus water reaching the dam(s) and to control the allocation of such water.
- 3.4 Construction of any additional dam(s) must not commence unless the required authorisation to build has been issued by the Dam Safety Office of the Department.

**4. DAM SAFETY REQUIREMENTS**

- 4.1 The construction, operation, and maintenance of all dam facilities classified as a dam with a safety risk, must be carried out under the supervision of a professional Civil Engineer, registered under the Engineering Professional of South Act, 1990 (Act of 1990).
- 4.2 The Licensee must supply any information, drawings, specification, design assumptions, calculation, documents and test results when requested by the Provincial Head.
- 4.3 The Licensee is not exempted from compliance with any applicable Dam Safety Regulators published under Government notice R.139 of July 2012, read with Chapter 12 of the Act.
- 4.4 Any approved professional person must be appointed to carry out a safety evaluation annually and must:
  - 4.4.1 Consider whether the safety norms pertaining to the design, construction, monitoring, operation performance and maintenance of the dam satisfy acceptable dam engineering
  - 4.4.2 Compile a report on the matters contemplated above according to the prescribed requirements and submit the signed and dated report to the owner of the dam within the prescribed period



## APPENDIX IV

Section 21 (e) of the Act: Engaging in a controlled activity; Irrigation of tailings and recharging of aquifer with fissure water from underground workings

1. QUANTITY OF FISSURE WATER FOR IRRIGATION AND RECHARGING OF AQUIFER

1.1 This licence authorises the irrigation of slime dam for rehabilitation and recharge of excess water into the Gembokfontein East dolomitic aquifer as indicated in Table 4.

Table 4: Volume of water used for irrigation slime dam and recharge of aquifer

Purpose/Description	Volumes (m <sup>3</sup> /a)	Properties Description	Area of Facility (ha)	Co-ordinates
Irrigation of vegetation on the Slime Dam for rehabilitation	365 000 m <sup>3</sup> /a	Portion 14 of the farm Waterpan 292 IQ	110 ha	S 26°20'59.5" E 27°43'11.3"  S 26°21'00.1" E 27°43'55.5"  S 26°21'23.2" E 27°43'57.9"  S 26°21'16.7" E 27°43'03.1"
Recharge of excess water into the Gembokfontein East dolomitic compartment pumped from the Gembokfontein West dolomitic compartment	5 110 000 m <sup>3</sup> /a	Farm Syferfontein 293 IQ		S 26°20'14.2" E 27°48'02.2"
<b>Total amount of water</b>	<b>5 475 000 m<sup>3</sup>/a</b>			

1.2 The quantity of fissure water authorised to be irrigated and recharged aquifer in terms of this licence must not be exceeded.

2. CROP TYPE AND AREA IRRIGATED

2.1 This licence authorises to irrigate a total surface area of one hundred and ten hectares (110 ha) of slime dams and shrubs for mine rehabilitation.

3. QUALITY OF WASTE OR WATER CONTAINING WASTE

3.1 The quality of fissure water from underground workings for irrigation and recharge the dolomitic aquifer must not exceed the following non-exceedance values or range as set out in Table 5.

**Table 5: Target Water Quality Parameters**

Variable	Limits
pH	5.5 – 9.5
Electrical Conductivity (EC)	30 mS/m
Total dissolved solid (SS)	25 Mg/l
Sulphate (SO <sub>4</sub> )	350 Mg/l
Total hardness (CaCO <sub>3</sub> )	100 Mg/l
Iron (Fe)	0.1 Mg/l
Total Cyanide (HCN)	0.02 Mg/l
Nitrate (NO <sub>2</sub> /NO <sub>3</sub> as N)	2 Mg/l
Fluoride (F)	1 Mg/l
Chloride (Cl)	50 Mg/l
Manganese (Mn)	0.4 Mg/l
Ammonia (NH <sub>4</sub> as N)	1 Mg/l
Phosphate (PO <sub>4</sub> as P)	1 Mg/l
Chemical Oxygen Demand (COD)	75 Mg/l
Calcium (CaCO <sub>3</sub> )	90 Mg/l
Sodium (Na)	70 Mg/l
Uranium (U)	70 µg/l

#### 4. MONITORING

- 4.1 The quality of fissure water containing waste irrigated and recharged of aquifer must be metered and recorded daily.
- 4.2 Monitoring for the quality of water irrigated and recharged of aquifer must be at the point where the effluent is piped into the irrigation dam and recharge point.
- 4.3 Flow metering, recording and integrating devices must be maintained in a sound state of repair and calibrated by a certificated must be available for inspection by the Provincial Head or his/her representative upon request
- 4.4 The monitoring point(s) must not be changed without prior notification to and written approval by the Provincial Head.
- 4.5 A monitoring program to determine compliance with the groundwater quality reserve on the property/properties must be designed in consultation with the affected parties as well as the Provincial Head
- 4.6 The date, time and monitoring point in respect of each sample taken must be recorded together with the results of the analysis.



- 4.7 The samples taken at outlet point of the mine shaft must be analysed for the variables at the required frequencies as shown in Table 5.

## 5. REPORTING

- 5.1 The information required in terms of condition 3 must be submitted to the Provincial Head, under references 27/2/2/C423/4/4 within one month of the closure of the period concerned.

## 6. METHODS OF ANALYSIS

- 6.1 Analyses 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).
- 6.2 The methods of analysis must not be changed without prior notification to and written approval by the Provincial Head.
- 6.3 The samples must be tested in an accredited laboratory.

## 7. GENERAL IRRIGATION PRACTICES

- 7.1 Irrigation and recharging of dolomitic aquifer with fissure water must be practiced in a systematic manner and precautions shall be taken so as to prevent:
- 7.1.1 Water logging and pooling of waste in any location;
  - 7.1.2 Pollution of underground water or surface water due to seepage or otherwise;
  - 7.1.3 Runoff from the irrigation area because of wet weather or any other conditions whatsoever and
  - 7.1.4 The site of the irrigation area must be adequately fenced to prevent the entry of animals and unauthorised persons.

## 8. PIPELINES

- 8.1 The pipelines used for the conveyance of fissure water from dewatering point must be painted in a conspicuous colour or manufactured of a coloured material distinctly different from the colour of the pipelines in which drinking water is flowing to avoid the possibility of any cross-connections of the different pipelines.
- 8.2 All stop-valves and taps on the pipelines conveying fissure water from underground must be of a type that can be opened and closed by means of a loose wrench. This wrench must be in the safekeeping of a responsible member of the staff to prevent unauthorised use thereof.



## APPENDIX V

## Section 21 (f) of the Act: Discharging waste or water containing waste into a water resource

## 1. DISCHARGE OF WATER CONTAINING WASTE

- 1.1 The Licensee is authorised to discharge wastewater into Klein Wes Rietspruit and Leeuspruit River as indicated in Table 6.

Table 6: Discharge of Water containing Waste into a water resource

Purpose/Description	Volume (m <sup>3</sup> /a)	Property Description	Coordinates
Discharging of fissure water from dewatering into the Klein Wes Rietspruit River through a concrete canal	14 552 550 m <sup>3</sup> /a	Portion 3 of the farm Waterpan 292IQ,	S 26°21'43.7" E 27°44'02.4"
Discharging of fissure water from dewatering into the Leeuspruit River through a pipe	3 650 000 m <sup>3</sup> /a	Portion 26 of the farm Waterpan 292 IQ,	S 26°22'30.4" E 27°42'07.8"

## 2. QUALITY OF WASTE WATER TO BE DISCHARGED

- 2.1 The quality of wastewater discharged into the Klein Wes Rietspruit and Leeuspruit River must not exceed the limits as specified in Table 7:

Table 7: Quality of waste water to be discharged

Variable	Limits
pH	5.5 – 9.5
Electrical Conductivity (EC)	90 mS/m
Total dissolved solid (SS)	25 Mg/l
Sulphate (SO <sub>4</sub> )	350 Mg/l
Total hardness (CaCO <sub>3</sub> )	100 Mg/l
Iron (Fe)	0.1 Mg/l
Total Cyanide (HCN)	0.02 Mg/l
Nitrate (NO <sub>2</sub> /NO <sub>3</sub> as N)	2 Mg/l
Fluoride (F)	1 Mg/l
Chloride (Cl)	50 Mg/l
Manganese (Mn)	0.4 Mg/l
Ammonia (NH <sub>4</sub> as N)	1 Mg/l
Phosphate (PO <sub>4</sub> as P)	1 Mg/l
Chemical Oxygen Demand (COD)	75 Mg/l
Calcium (CaCO <sub>3</sub> )	90 Mg/l

Variable	Limits
Sodium (Na)	70 Mg/l
Uranium (U)	70 µg/l
Mean gross alpha activity	< 1.5 Bq/L
Mean gross beta activity	< 2.5 Bq/L

### 3. MONITORING

- 3.1 The Licensee shall monitor water resources at the upstream and downstream of Klein Wes Rietsspruit and Leeuspruit River to determine the impact of the facility and other activities on the water quality by taking samples at the monitoring points.
- 3.2 The quality of wastewater must be monitored for the variable and frequencies as required by Appendix IV and any other variable as may be required from time to time by the Provincial Head.
- 3.3 The quantity of the wastewater must be monitored as required by Appendix IV and as may be required from time to time by the Provincial Head.
- 3.4 The date, time and monitoring point in respect of each sample taken must be recorded together with the results of the analysis.
- 3.5 Monitoring points must not be changed prior to notification to and written approval by the Provincial Head.
- 3.6 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 summer season and once during winter season, to reflect the status of the river upstream and downstream of the activities.
- 3.7 Water quality testing must be performed on the old shale quarry 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 water quality levels as specified is exceeded, the Licensee must institute an investigation to determine the cause of poor water quality.
- 3.8 The Licensee must participate in any initiative such as Direct Estimation of Ecological Effect Potential (DEEEP) to determine the water quality of waste discharges. Both acute and chronic toxicity must be addressed and at least three taxonomic groups must be present when water quality tests are performed.
- 3.9 Analysis must be carried out in accordance with methods prescribed by and obtainable from the South African National Standards (SANS), in terms of the Standards Act, 1982 (Act 30 of 1982).
- 3.10 The methods of analysis must not be changed without prior notification to and written approval by the Minister.



#### 4. WATER RESOURCE PROTECTION

- 4.1 The impact of activities of mining on Klein Wes Rietspruit and Leeuspruit River must not exceed the in-stream water quality objectives detailed in Table 8 (or resource quality objectives) as stipulated in the water quality reserve for the area:

**Table 8: Surface water quality for quaternary catchment C22H and C22J**

Variable	Surface water quality limits
pH	7.6-9.1
Electrical Conductivity(EC)	≤85 mS/m
Magnesium Sulphate (Mg SO <sub>4</sub> )	≤16 mg/l
Calcium Chloride (CaCl <sub>2</sub> )	≤141 mg/l
Magnesium Chloride (MgCl <sub>2</sub> )	≤36 mg/l
Sodium Chloride (NaCl)	≤191 mg/l
Dissolved Oxygen	7-8 mg/l
Ammonia (NH <sub>3</sub> )	≤129 µg/l

#### 5. PLANT AREAS AND CONVEYANCES

- 5.1. Pollution caused by spills from the conveyances must be prevented through proper maintenance and effective protective measures especially near all stream crossings.
- 5.2. 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 must be maintained in a state of good repair and standby pumps must be provided.
- 5.3. Any hazardous substances must be handled according to the relevant legislation relating to the transport, storage and use of the substance.
- 5.4. Any access roads or temporary crossings must be:
- 5.4.1 Non-erosive, structurally stable must not induce any flooding or safety hazard and
  - 5.4.2 Be repaired immediately to prevent further damage.

## APPENDIX V

**Section 21 (g) of the Act: Disposing of waste in a manner which may detrimentally impact on a water resource****1. CONSTRUCTION, OPERATION AND MAINTANANCE**

- 1.1 The Licensee must carry out and complete all the activities, including the operation and maintenance of the facilities listed in Table 9, according to the Report and according to the final plans submitted with the Integrated Water Use Licence Application as approved by the Provincial Head.
- 1.2 All dirty stormwater must report to the dirty containment facility.
- 1.3 The Licensee must ensure that the disposal of the wastewater and the operation and maintenance of the systems are done according to the provisions in the Report.
- 1.4 Return water dam and Attenuation dam must be operated and maintained to have a minimum freeboard of 0.8 metres above full supply level and all other water systems related thereto must 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.
- 1.5 No mining infrastructure, especially tailings or waste rock facilities must be placed on major fault lines or dykes as well as any surface water resources including streams.

**2. DISPOSAL OF WATER CONTAINING WASTE AND WASTE MATERIALS**

- 2.1 The Licensee is authorised to dispose of a maximum quantity in cubic metres per annum ( $m^3/a$ ) or tons per annum (tons/a) of waste or water containing waste into the waste management facilities on the geographical position indicated in Table 9:

**Table 9: Disposal of water/waste into waste disposal facilities**

Purpose Description	Volumes/Capacity ( $m^3/a$ )(tons/a)( $m^3$ )	Area of Facility (ha)	Property details	Co-ordinates
Disposal of dirty water piped from the tailing storage facility into Attenuation Dam	1 680 825 $m^3/a$ 184 750 $m^3$	3 ha	Portion 27 of the farm Waterpan 292 IQ	S 26°21'24.6" E 27°43'09.3" S 26°21'26.2" E 27°43'14.6" S 26°21'33.4" E 27°43'15.2" S 26°21'35.0" E 27°43'11.4"
Disposal of fissure water from dewatering into Concrete dam	912 500 $m^3/a$		Portion 26 of the farm Waterpan 292 IQ	S 26°21'59.9" E 27°42'13.1"



Purpose Description	Volumes/Capacity (m <sup>3</sup> /a)(tons/a)(m <sup>3</sup> )	Area of Facility (ha)	Property details	Co-ordinates
Disposal of tailings materials into tailings storage facility dam	2 407 872 tons/a	176.9	Portion 14 of the farm Waterpan 292 IQ,	S 26°21'13.7" E 27°43'31.3"
Dust suppression on haul roads with water from Pollution Control Dam	216 000 m <sup>3</sup> /a	2 ha	Portion 14, 26 and 27 of the farm Waterpan 292 IQ	Haul Roads
Disposal of dirty water from the tailing storage facility into Return Water Dam	1 680 825 m <sup>3</sup> /a 47 533 m <sup>3</sup>	2 ha	Portion 14 of the farm Waterpan 292 IQ	S 26°21'96.0" E 27°43'09.6"  S 26°20'96.6" E 27°43'14.2"  S 26°21'05.3" E 27°43'09.5"  S 26°21'06.5" E 27°43'00.1"
Backfilling of underground mined area with tailing materials	192 000 tons/a		Portions 3, 4, 9, 13, 14, 24, 25, 26 and 27 of the farm Waterpan 292 IQ; Jachtfontein 344 IQ Remaining extent 41 and 42; Portion 24 Modderfontein 345 IQ	S 26° 21' 43.6" E 27° 42' 30.5"
Disposal of waste rock dumps	140 324 tons/a	5 ha	Portion 26 of the farm Waterpan 292 IQ	S 26°21'47.7" E 27°42'13.0"  S 26°21'47.7" E 27°42'41.9"  S 26°21'48.1" E 27°42'49.6"  S 26°21'51.8" E 27°42'48.3"

### 3. MONITORING

#### 3.1 GROUNDWATER MONITORING

- 3.1.1 The Licensee must monitor on quarterly basis the water resources at groundwater monitoring points to determine the impact of the facilities and other activities on water quality by taking samples at the monitoring points described in Table 10:

**Table 10: Groundwater Monitoring Points**

Borehole Id No.	Description	Co-ordinates
EZM 1	North East of the Tailings Facility	E 26°20'55.9" S 27°43'57.4"
EZM 2	South East of the Tailings Facility	E 26°21'16.7" S 27°42'59.9"
EZM 3	South West of the Tailings Facility	E 26°21'28.5" S 27°43'59.8"
EZM 5	North of Tailing Facility	E 26°20'54.3" S 27°43'34.6"
EZM 6	East of metallurgical plant	E 26°21'44.7" S 27°43'03.3"
SRK	South of Tailing Facility	E 26°21'27.9" S 27°43'35.7"

- 3.1.2 The Licensee must submit within one month of the date of issuance of this licence, a groundwater quality monitoring programme to the Provincial Head which must provide the detailed criteria followed in the establishment of the groundwater monitoring points as described below:
- 3.1.2.1 The date, time and monitoring point in respect of each sample taken must be recorded together with the results of the analysis.
- 3.1.2.2 Monitoring points must not be changed prior to notification to and written approval by the Provincial Head.
- 3.1.2.3 A groundwater monitoring must include groundwater levels to establish the baseline groundwater quantity within the area.
- 3.1.2.4 Monitoring boreholes must be clearly marked and numbered, and must be equipped with lockable caps. The Department reserves the right to sample monitoring boreholes at any time and to analyse these samples, or to have samples taken and analysed.
- 3.1.3 The Licensee must maintain groundwater quality monitoring network to the satisfaction of the Provincial Head, so that unobstructed sampling, as required in terms of this licence, can be undertaken.
- 3.1.4 Proper regular monitoring of the aquifer must be done since groundwater could be the sole source within the vicinity.



- 3.1.5 Groundwater monitoring programme must include water level monitoring, rainfall records, and hydrochemistry. The hydrochemistry shall include: pH, electrical conductivity, total dissolved solids, calcium, magnesium, sodium, potassium, silica, chloride, sulphate, nitrate, fluoride, iron, manganese, copper and zinc.
- 3.1.6 Monitoring must be undertaken upstream, at site and downstream during operational, decommissioning and closure phases.
- 3.1.7 The Licensee must monitor the impact of activities along geological structures that may act as preferential pathways for contaminant transport.
- 3.1.8 The Licensee must monitor the direct impacts associated with the disposal of waste.
- 3.1.9 The Licensee must monitor the impact of the activities on downstream groundwater users at the monitoring points.
- 3.1.10 The frequency of sampling must not be changed prior to notification and written approval by the Provincial Head.
- 3.1.11 The location of additional monitoring points, which may from time to time be specified by the Provincial Head, must be communicated in writing to the Licensee and this communication shall be regarded as part of the licence.
- 3.1.12 The Licensee must use acknowledged methods for borehole sampling and the date, time, sampler and borehole number must be indicated for each sample.
- 3.1.13 The Licensee must make provision for the sampling of any additional monitoring requirements that might be required from time to time as specified by the Provincial Head.
- 3.1.14 Analysis must 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).

### 3.2. SURFACE WATER MONITORING

- 3.2.1 The Licensee must monitor on monthly basis the water resources at surface monitoring points to determine the impact of the facilities and other activities on water quality by taking samples at the monitoring points described in Table 11:

**Table 11: Surface Water Monitoring Points**

Surface Monitoring Point	Description	Co-ordinates
ERWD	Water extracted tailing facility to RWD	E 26°20'59.4" S 27°43'05.9"
RBH	Underground water discharge to PW Dam	E 26°21'27.1" S 27°43'30.5"
N8	Sewage effluent discharge to PW Dam	E 26°21'50.6" S 27°43'19.8"
N9	PW Dam outlet water	E 26°22'03.9" S 27°44'19.9"



Surface Monitoring Point	Description	Co-ordinates
KWR1	Klein Wes Rietspruit at gravel road culvert	E 26°24'06.8" S 27°46'13.9"
KWR2	Klein Wes Rietspruit at farm dam	E 26°24'15.7" S 27°46'40.8"
L1	Underground water discharge to storage dam	E 26°21'59.1" S 27°42'12.6"
L2	Leeuspruit at R28 road culvert	E 26°23'45.6" S 27°42'00.4"
L3	Leeuspruit below South Deep mine	E 26°25'21.7" S 27°40'53.1"

- 3.2.2 Licensee must establish surface water monitoring plan for upstream and downstream of Klein Wes Rietspruit and Leeuspruit River.
- 3.2.3 The Licensee must submit within one (1) month of the date of issuance of this licence, a surface water quality monitoring programme which must provide the detailed criteria followed in the establishment of surface water monitoring.

#### 4. INCIDENT MONITORING

- 4.1 Emergency incidents must be dealt with in accordance with the requirements as stipulated in Appendix I.
- 4.2 If, in the opinion of the Provincial Head, water pollution may be or is occurring, or a water quality variable at any monitoring points shows an increasing trend, the Licensee must initiate an investigation into the cause of the incident or suspected incident.
- 4.3 In the event that the emergency incident results in pollution of water resource, the Licensee must monitor the water quality and an incident report must be submitted to the Provincial Head within fourteen (14) days of the incident.

#### 5. WATER RESOURCE PROTECTION

- 5.1 The impact of the activities of the mine on the groundwater must not exceed the groundwater quality target as detailed in the groundwater Reserve for C22H catchment as set out in Table 12:

Table 12: Groundwater quality Reserve for quaternary catchment C22H

Chemical Parameter	Target Water Quality Range
pH	5.0 – 9.5
Electrical Conductivity (mS/m)	20.13
Calcium (mg/l)	15.95
Magnesium (mg/l)	6.60



Chemical Parameter	Target Water Quality Range
Sodium (mg/l)	7.81
Chloride (mg/l)	4.24
Sulphate (mg/l)	5.28
Nitrate (mg/l)	0.13

## 6. REPORTING

- 6.1 The Licensee must update the water balance annually and calculate the loads of waste emanating from the activities. The Licensee must 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 must submit the results of analysis for the monitoring requirements to the Provincial Head on a quarterly basis under Reference number 27/2/2/C423/4/4

## 7. STORMWATER MANAGEMENT

- 7.1 All stormwater must be diverted and drained:
- 7.1.1 From the mining site, by means of trenches constructed by the Licensee; and
- 7.1.2 Must be prevented from coming into contact with any substance, whether such substance is a solid, liquid, vapour or gas, or combination thereof, which is produced, stored dumped or spilled on the premises, including leachate.
- 7.2 Runoff may not be discharged to a watercourse and/or the environment unless it complies with the quality requirements as may from time to time be determined by the Provincial Head, but must be diverted to and contained in trenches constructed by the Licensee.
- 7.3 Runoff water which complies with the quality requirements as may from time to time be determined by the Provincial Head, will be regarded as uncontaminated runoff water and must be diverted away from mining sites and be released into the environment after verification of compliance by the Provincial Head.
- 7.4 Runoff water which does not comply with the quality requirements as may from time to time be determined by the Provincial Head, may not be released into a watercourse or the environment, but must be regarded as contaminated runoff and must be collected and contained in facilities constructed from where it must be dealt with accordingly.
- 7.5 In the event that runoff water becomes contaminated with seepage or as a result of the operational activities on the premises of the Licensee to the extent of not complying with the water quality requirements as may from time to time be determined by the Provincial Head, the Licensee must:
- 7.5.1 Provide a detailed report to the Provincial Head within Fourteen (14) days;



7.5.2 This water must be contained within the site and be dealt with appropriately and be collected into facilities constructed for this purpose, until the Provincial Head has informed the Licensee otherwise.

7.6 All seepage produced by the mine facilities and trucks, must be collected in subsoil and surface seepage interception drains and containment works.

7.7 No seepage or contaminated runoff water may be discharged to a watercourse or environment.

## 8. PLANT AREAS AND CONVEYANCES

8.1 Pollution caused by spills from the conveyances must be prevented through proper maintenance and effective protective measures.

8.2 All reagent storage tanks and reactions 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 must 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 substances.

## 9. ACCESS CONTROL

9.1 The Licensee must ensure effective access control on the mine site to reasonably prevent entry of domestic animals, game and unauthorised persons while the solid waste disposal sites are operative and during the period of construction for closure.

9.2 Notices prohibiting unauthorised persons from entering the mine residue facility, as well as an internationally accepted sign indicating the risks involved in unauthorised entry must be displayed at suitable intervals along the boundary fence of the solid waste disposal site.

9.3 The Licensee must take all reasonable steps to maintain service roads in a condition which ensures unimpeded access to the mine residue facility for vehicles involved in operational closure construction and/or transporting waste and must keep these roads free of waste.

9.4 The Licensee must ensure that all entrance gates are manned during the hours of operation/closure construction and locked outside the hours of operational/closure construction.

## 10. CONTINGENCIES

10.1 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:

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 must conduct an annual internal audit on compliance with the conditions of this licence. A report on the audit must be submitted to the Provincial Head within one month of finalisation of the report, and must be made available to an external auditor should the need arise.
- 11.2 The Licensee must 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 6 (six) months of the date of issuance of this licence and a report on the audit must 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 update an *Integrated Water and Waste Management Plan (IWWMP)*, which must together with the updated *Rehabilitation Strategy and Implementation Programme (RSIP)*, be submitted to the Provincial Head for approval within one (1) year from the date of issuance of this licence.
- 12.2 The IWWMP and RSIP must thereafter be updated and submitted to the Provincial Head for approval, annually.
- 12.3 The Licensee must, at least hundred and eighty (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 Rehabilitation Plan as well as a final Closure Plan, for approval.
- 12.4 The Licensee must make full financial provision for all investigations; construction, operation and maintenance for a water treatment plant shall it become a requirement as a long-term water management strategy.



**13. WATER CONSERVATION AND WATER DEMAND MANAGEMENT**

- 13.1 Licensee shall develop and submit a water conservation and demand management (WC/WDM) plan to the Provincial Head, which
- 13.1.1 quantify the water use efficiency of the activity;
  - 13.1.2 contains the mine water management and water loss strategies and programmes;
  - 13.1.3 sets annual targets for improved water use efficiency for the mining activity, beneficiation and waste disposal practices and stipulates which measures will be implemented to achieve the targets on the mine;
- 13.2 Licensee shall update the WC/WDM plan on an annually basis and submit to the Provincial Head for approval.
- 13.3 Licensee shall report on annually basis the implementation of water conservation and water demand management measures including retrofitting with water efficient technologies and devices, reduction of total water demand, improvement in water use efficiency benchmarks and targets.

**14. OTHER WATER USERS**

- 14.1 The Licensee must attempt to prevent adverse effects 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.

**15. POLLUTION PREVENTION, INCIDENTS AND MALFUNCTIONS**

- 14.1 Pollution incidents must be dealt with in accordance with Section 19 and 20 of the Act.
- 14.2 Any incident that may cause pollution of any water resource must immediately be reported to the Provincial Head.
- 14.3 If surface and/or groundwater pollution has occurred or may possibly occur, the Licensee must conduct, and/or appoint specialists to conduct the necessary investigations and implement additional monitoring, pollution prevention and remediation measures to the satisfaction of the Provincial Head.
- 14.4 The Licensee must 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 fourteen (14) days of receipt of a written request by the Department for such records.
- 14.5 The Licensee must keep an incident report and complaints register, which must be made available to any external auditors and the Department.





## 16. GENERAL CONDITIONS

- 15.1 Water samples must be taken from all the monitoring boreholes by using approved sampling techniques and adhering to recognized sampling procedures. Samples must be analyzed for both organic as well as inorganic pollutants, as industrial activities often lead to hydrocarbon spills in the form of diesel and oil. At least the following water quality parameters should be analyzed for:
- 15.1.1 Major ions (Ca, K, Mg, Na, SO<sub>4</sub>, NO<sub>3</sub>, Cl, F)
  - 15.1.2 pH
  - 15.1.3 Electrical Conductivity (EC)
  - 15.1.4 Total Petroleum hydrocarbon (TPH)
  - 15.1.5 Total Alkalinity
- 15.2 These must be recorded on a data sheet. It is proposed that the data should be entered into an appropriate computer database and reported to the Department of Water and Sanitation.
- 15.3 Quarterly groundwater sampling must be done to establish a database of plume movement trends, to aid eventual mine closure.
- 15.4 The Licensee must ensure in advance that alternative water supply for external water users is provided to these users should groundwater resources be impacted.
- 15.5 A proper ground and surface water monitoring network must be established to monitor the quality and quantity of groundwater as per the report recommendation and ensuring that water used by other water users are safeguarded in accordance to Chapter 14 of the National Water Act, 1998.
- 15.6 The Licensee must at all times together with the conditions of this licence adhere to the Regulations on use of water for mining and related activities aimed at the protection of water resources (GN 704, dated 4 June 1999).

## 17. BUDGETARY PROVISIONS

- 16.1 The Licensee 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 license.
- 16.2 The Provincial Head may at any stage of the process request proof of budgetary provisions for rehabilitation and closure of project.

## 18. SITE SPECIFIC CONDITION

- 17.1 Licensee must establish mitigation measures on the groundwater contaminated within the area due to seepage from the existing tailings facility and ensure that the corrective measures are implemented adequately.
- 17.2 Licensee must ensure emergency action procedures to protect groundwater quality from degradation and a plan for remediation must be developed.
- 17.3 Licensee must submit updated Geohydrological report which includes the Hydrocensus detailing, Monitoring plan and programme, Management plan and Post closure management plan.



## APPENDIX VII

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 maximum volume of water in cubic metres from underground working as indicated in Table 13:

Table 13: Volume of water to be dewatered

Description of water uses	Volume (m <sup>3</sup> /a)	Property	Co-ordinates
Dewatering underground fissure water from Gembokfontein West dolomitic aquifer	27 375 000 m <sup>3</sup> /a	Portions 3, 4, 9, 13, 14, 24, 25, 26 and 27 of the farm Waterpan 292 IQ; Remaining extent 41 and 42 of the farm Jachtfontein 344 IQ; Portion 24 Modderfontein 345 IQ	S 26°21'13.7" E 27°43'31.3"

2. No dewatering water may be pumped, stored, diverted, or alienated for purposes other than intended in this licence, without written approval by the Provincial Head or his/her delegated nominee.
3. The quality of water authorised to be removed from underground in terms of this licence may not be exceeded without prior consultation with the Provincial Head.
4. The groundwater levels must be monitored every six (6) months (once in the beginning of the dry season and once in the beginning of the wet season).
5. Self registering flow metres must be installed in the delivery lines at easily accessible positions near the dewatering points.
6. 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 (2) years. Calibration certificates shall be available for inspection by the Provincial Head or his/her representative upon request.
7. Calibration certificates in respect of the pumps must be submitted to the Provincial Head after installation thereof and thereafter at intervals of two (2) years.
8. The date and time of monitoring in respect of each sample taken must be recorded together with the results of the analysis.
9. The Licensee must submit an annual mine water removal report to the Provincial Head, with special indication to:
  - 9.1 monthly quantity pumped from respective working and its quality
  - 9.2 Impact of pumping (environmental and social).



10. The Licensee must implement measures to protect groundwater quality and minimise potential negative impacts on groundwater quality and levels during operation.
11. The Licensee must measure the groundwater being removed for each month with its quality and submit the results with an annual Water Quality Management Report to the Provincial Head.
12. If there will be any groundwater users that will be negatively affected as a result of dewatering at the mine, the Licensee must supply and compensate the groundwater users on the basis contemplated in the Act.
13. Analysis must be carried out in accordance with methods prescribed by and obtainable from the South African National of Standards, in terms of the Standards Act, 1982 (Act 30 of 1982).
14. 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.
15. The Provincial Head must be informed of any incident that may lead to groundwater being disposed of contrary to the provisions of this licence, by submitting a report containing the following information:
  - 15.1. nature of the incident (e.g. operating malfunctions, mechanical failures, environmental factors, loss of supply services, etc)
  - 15.2. actions taken to rectify the situation and to prevent pollution or any other damage to the environment and
  - 15.3. measures to be taken to prevent re-occurrence of any similar incident.
16. The Licensee must follow acceptable construction, maintenance and operational practices to ensure the consistent, effective and safe performance of the groundwater removal system.
17. Reasonable measures must be taken to provide for mechanical, electrical or operational failures and malfunctions of the underground water removal system.

[END OF LICENCE]

