



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) 326-4472/ (012) 326-2715

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

I, **Trevor Balzer**, in my capacity as Deputy Director-General: Special Projects in the Department of Water and Sanitation: and acting under authority of the powers sub- delegated to me by the Acting Director- General of Water and Sanitation, hereby authorizes the following water uses in respect of this licence. **This Licence supersedes or replaces water use licence granted to Assmang (Pty) Ltd: Beeshoek Iron Ore Mine, licence number: 10/D73A/ABGJ/2592, dated 01 December 2014.**

SIGNED: Trevor Balzer

DATE: 2/09/2018

**LICENCE NO: 10/D73A/ABGJ/2592
FILE NO: 27/2/2/D173/6/1**

- | | |
|-------------------------------|--|
| 1. Licensee | Assmang (Pty) Ltd – Beeshoek Iron Ore Mine |
| Postal Address | Private Bag X3002
POSTMASBURG
8420 |
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| 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: | Storing of water, subject to conditions as 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(j) of the Act: | Removing, discharging or disposing of water found underground 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. |

B08135

3. Properties in respect of which this licence is issued

- 3.1 Portion 4 of the Farm Olynfontein 475
- 3.2 Portion 1 and Remaining Extent of the farm Beesthoek 448

4. Registered owner of the Properties

- 4.1 Assmang (Pty) Ltd

5. Licence and Review Period

- 5.1 This licence is valid for a period of twenty four (24) years and may be reviewed on the interval not more than five (5) years.

6. 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 Provincial Head: Northern Cape, Department of Water and Sanitation, Private Bag X6101, Kimberly, 8800.

"Extent of the water course (regulated area)" means "within the outer edge of the 1 in 100 year flood line or delineated riparian area as measured from the middle of the watercourse measured on both banks, or within a 500 m radius from the boundary of any wetland" (The boundary of a wetland is the outer edge of the seasonal or temporary zone as delineated for the wetland).

"Wetland" means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

"Characteristics of a watercourse/s" mean the flow regime, water quality, habitat (including the physical structure of the watercourse/s and associated vegetation) and biota found within the extent of the watercourse/s.

"Responsible Authority" means the Department of Water and Sanitation or Catchment Management Agency.

"Report" refers to the reports entitled:

- i. Groundwater Quality Motivation Report, compiled by Envirogistics, dated May 2016;
- ii. Critical Evaluation of the Groundwater Quality Monitoring Network at Beeshoek Mine and the Development of Groundwater Related EMP's, compiled by Geo-Pollutions Gauteng (Pty) Ltd, dated April 2016;
- iii. Integrated Water and Waste Management Plan, compiled by Envirogistics, dated 24 May 2016;
- iv. Beeshoek Iron Ore Stormwater Management Plan, compiled by Storm Water Solutions (Pty) Ltd, dated May 2016;



- v. Assmang Beeshoek Mine Water and Salt Balance Report, compiled by Irene Lea Environmental and Hydrogeology, dated June 2017;
- vi. Updated Numerical Modeling of the Predicted Groundwater Drawdown Resulting from Mining of Village Pit at Beeshoek Iron Ore Mine for Assmang Beeshoek Iron Ore Mine, compiled by Geo-Pollution Technologies Gauteng (Pty) Ltd, dated June 2017;
- vii. Waste Characterisation and Groundwater Monitoring Network Audit for Assmang Beeshoek Iron Ore Mine, compiled by Geo-Pollution Technologies Gauteng (Pty) Ltd, dated April 2017;
- viii. Report on Geotechnical and founding Conditions Underlying the Site of the proposed Village Pit Stormwater Catchment Dam at Beeshoek Mine, compiled by Pronto Consulting, undated;
- ix. Assmang Limited – Beeshoek Iron Ore Mine Integrated Water Use Licence and Integrated Water and waste Management Plan Report, compiled by Ivuzi Environmental (Pty) Ltd, dated November 2010;
- x. Assmang Limited Beeshoek Iron Ore Mine Conceptual Design for fine Residue Storage Facility Report, compiled by Geotail Consultant (Pty) Ltd, dated July 2009;
- xi. Public Participation Report, compiled by GCS Environmental Engineering (Pty) Ltd, dated October 2010;
- xii. Hydrocensus Survey and the interpretation of data in Postmasburg Area Report, compiled by Geo-Pollution Technologies Gauteng, dated November 2010;
- xiii. Numerical Modeling of the Predicted Groundwater Drawdown Resulting from Mining of the Village Pit Report, compiled by Geo-pollution Technologies (Pty) Ltd, dated 2008;
- xiv. Environmental Impact Assessment and Management Programme Report, compiled by Ivuzi Environmental Consultant (Pty) Ltd, dated July 2009;
- xv. Public Participation Report, compiled by Ivuzi Environmental Consultant (Pty) Ltd, dated July 2010;
- xvi. Copy of Social and Labour Plan Report compiled by Ivuzi Environmental Consultant (Pty) Ltd, dated July 2010;
- xvii. And As well as other related documentation and communication (email, letters and phone calls).

7. Description of the Project

The proposed project entails taking of water, storing of water, disposal of contaminated water, waste rock, ROM/plant/quartzite Stockpiles, sewage effluent, dust suppression, Jig discard dumps, dirty stormwater containment and dewatering activities for iron ore opencast mining activities on the properties mentioned in item 3. The mining activities includes opencast mining operation, which consists of six (6) opencast pits with an estimated iron ore reserve of 160 million tons, hauling of ore, crushing of ore (primary, and secondary crushing), washing and screening and other mining related activities. The water uses activities fall within D73A Quaternary Catchment in the Vaal Water Management Area.

8. Licence superseded or Replaced

- 8.1 This Licence supersedes or replaces water use licence granted to Assmang (Pty) Ltd: Beeshoek Iron Ore Mine, licence number: 10/D73A/ABGJ/2592, dated 01 December 2014.



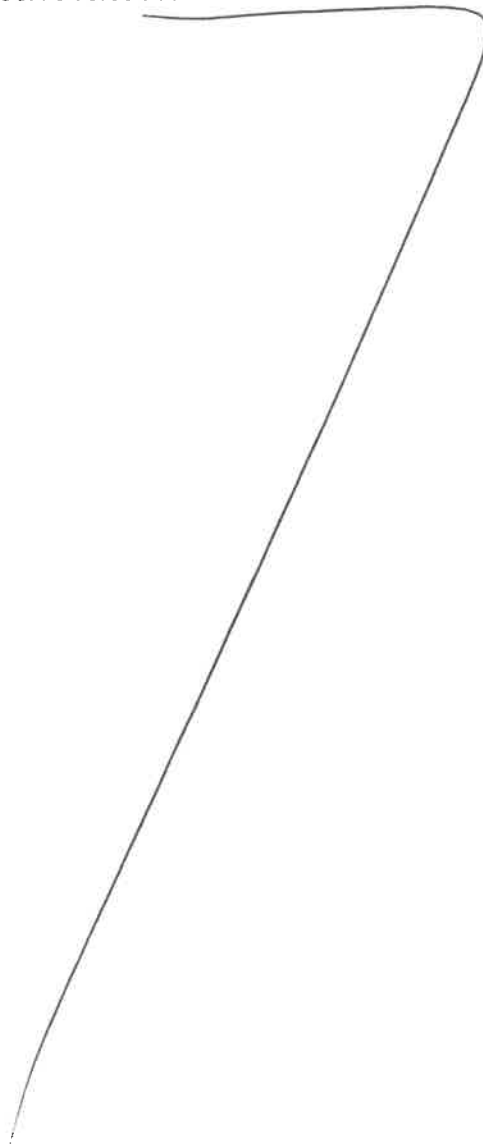
APPENDIX I

General conditions for the licence

1. This licence is subject to all 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 shall 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 shall be given effect to.
8. 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.
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 shall conduct an annual internal audit on compliance with the conditions of licence. A report on the audit shall be submitted to the Provincial Head within one (1) month of finalization.
11. The Licensee shall appoint an independent external auditor to conduct a biennial audit on compliance with the conditions of this licence. The first audit must be conducted within three (3) months of the date of this licence and a report on the audit shall be submitted to the Provincial Head within one month of finalization.
12. All measuring, recording and integrating devices shall be maintained in a sound state of repair and calibrated by a competent person at intervals as specified and required according to the device specifications. The licensee must calibrate the inflow and outflow meters and these calibration certificates shall be available for inspection by the Provincial Head or Responsible Authority or his/her representative upon request. A relevant maintenance and calibration schedule should be compiled and maintained by the licensee.
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.
15. The licensee is exempted from the requirements of Regulation 5 of Government Notice 704 of 04 June 1999) for the construction of various safety berms around road – to be used on haul roads to regulate movement of vehicles and trucks on site; and the use of enviroberms around opencast pits were required.
16. This Licence will supersede any water use authorisation that was issued by the Department.
17. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of:
 - 17.1 shortage of water
 - 17.2 inundations or flood
 - 17.3 siltation of the resource; and
 - 17.4 required reserve releases.



APPENDIX II

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

1. The Licensee is authorised to abstract a maximum quantity of five million six hundred and fifty-five thousand, three hundred and seventy-one cubic metres per annum (5 655 371 m³/a) of water from groundwater resources for mining, processing, and domestic use as indicated in Table 2.

Table 2: Volumes of water to be abstracted from groundwater resources

Water use(s)	Purpose/Description	Property Description	Volume (m ³ /a)	Co-ordinates
Abstraction of groundwater from BN pit borehole	Potable use and mining associated activities	Portion 1 of Beesthoek Farm 448	432 000 m ³ /a	28° 16' 14.231"S 23° 00' 9.816"E
Abstraction of groundwater through West Pit borehole WG37	mine processing and associated activities	Portion 4 of Farm Olynfontein 475	600 000 m ³ /a	28° 19' 12.560"S 22° 59' 23.724"E
Abstraction of groundwater through West Pit borehole WG35	mine processing and associated activities	Portion 4 of Farm Olynfontein 475	260 000 m ³ /a	28° 19' 8.494"S 22° 59' 23.027"E
Abstraction of groundwater through West Pit borehole WG34	mine processing and associated activities	Portion 4 of Farm Olynfontein 475	130 000 m ³ /a	28° 19' 04.781"S 22° 59' 20.095"E
Abstraction of groundwater through BN Pit borehole WG28	mine processing and associated activities	Portion 0 of Beesthoek Farm 448	97 474 m ³ /a	28° 16' 22.155"S 22° 59' 43.749"E
Abstraction of groundwater through BN Pit borehole WG66	mine processing and associated activities	Portion 1 of Beesthoek Farm 448	194 948 m ³ /a	28° 16' 11.519"S 23° 00' 03.795"E
Abstraction of groundwater through BN Pit borehole WG62	domestic use	Portion 0 of Beesthoek Farm 448	759 339 m ³ /a	28° 18' 03.8"S 23° 00' 03.3"E
Abstraction at Village Pit for dewatering	some mining and reuse in the mine processing and associated activities	Portion 0 of Beesthoek Farm 448	420 000 m ³ /a	28° 17' 29.13"S 22° 59' 21.88"E
Abstraction of groundwater through Village Pit borehole WG12	dewatering for safe mining and reuse in the mine processing and associated	Portion 0 of Beesthoek Farm 448.	343 360 m ³ /a	28° 17' 42.449"S 22° 59' 30.702"E

Water use(s)	Purpose/Description	Property Description	Volume (m ³ /a)	Co-ordinates
	activities			
Abstraction of groundwater through Village Pit borehole WG74 (near HF pit)	domestic usage (water supply borehole)	Portion 1 of Beesthoek Farm 448	500 000 m ³ /a	28° 17' 22.85"S 23° 00' 52.75"E
Abstraction of groundwater through borehole WG27	domestic usage (water supply borehole)	Portion 0 of Beesthoek Farm 448	18 250 m ³ /a	28° 16' 1.06"S 22° 59' 19.60"E
Abstraction of groundwater through Village Pit borehole WG73	dewatering for safe mining and reuse in the mine processing and associated activities	Portion 0 of Beesthoek Farm 448	1 900 000 m ³ /a	28° 17' 58.41"S 22°59' 32.17"E

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. The above mentioned volumes may be reduced when the licence is reviewed.
5. The Licensee must continually investigate new and emerging technologies and put into practice water efficient devices or apply technique for the efficient use of water containing waste, in an endeavour to conserve water at all times.
6. All water taken from the resource shall be measured as follows:
 - 6.1 The daily quantity of water taken must be metered or gauged and the total recorded at the last day of each month; and
 - 6.2 The Licensee shall keep record of all water taken and a copy of the records shall be forwarded to the Provincial Head each year with the annual water balance as well as per Condition 6.2 of Appendix IV.
7. 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.
8. The Licensee is to provide an updated service level agreement for the provision of water from Sedibeng Water Board within three (3) months of issuance of this Licence.




APPENDIX III

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

1. STORING OF WATER

1.1 This licence authorises storing of water as indicated in Table 3.

Table 3: Section 21 (b) water use storage facilities.

Water use(s)	Purpose/Description	Property Description	Capacity (m ³) & Volume (m ³ /a)	Co-ordinates
Storage of water in Airfield Tank	store water from borehole for mining related activities	Portion 0 of Beesthoek Farm 448	5 m ³ 63 764 m ³ /a	28° 15' 59.1"S 22° 59' 26.3"E
Storage of water in Dam D94	store water from borehole	Portion 0 of Beesthoek Farm 448	131 982 m ³ /a 100m ³	28° 18' 50.9"S 22° 59' 32.4"E
Storage of water in Dam D96	store water from borehole	Portion 0 of Beesthoek Farm 448	97 474 m ³ /a 16 m ³	28° 16' 26.3"S 22° 59' 43.6"E
Storage of water in Dam D301A	store water from Sedibeng Water Board for Mine processing and associated activities	Portion 0 of Beesthoek Farm 448	4 093 939 m ³ /a 537 m ³	28° 18' 40.7"S 23° 00' 04.8"E
Storage of water in Dam D301B	store water for Mine processing and associated activities	Portion 0 of Beesthoek Farm 448	386 079 m ³ /a 537 m ³	28° 18' 41.6"S 23° 00' 03.8"E
Storage of water in Dam D300	store water for Mine processing and associated activities (Dewatering/abstraction from WG34, W35 and W37)	Portion 0 of Beesthoek Farm 448	1 088 600 m ³ /a 454 m ³	28° 19' 11.2"S 23° 59' 01.8"E
Storage of water in Dam D90	store water for re-use	Portion 0 of Beesthoek Farm 448	759 339 m ³ /a 1 062 m ³	28° 17' 59.9"S 23° 00' 08.7"E
Storage of water in Dam D91	store water for re-use	Portion 0 of Beesthoek Farm 448	759 339 m ³ /a 1 062 m ³	28° 18' 00.5"S 23° 00' 09.6"E
Storage of water in Dam D97	store water for Mine processing and associated activities	Portion 0 of Beesthoek Farm 448	97 474 m ³ /a 28 m ³	28° 16' 50.593"S 22° 59' 29.297"E
Storage of water in Dam D92	store water for Mine processing and associated	Portion 0 of Beesthoek Farm 448	267 894 m ³ /a 100 m ³	28° 17' 54.3"S 22° 59' 46.3"E

Water use(s)	Purpose/Description	Property Description	Capacity (m ³) & Volume (m ³ /a)	Co-ordinates
	activities			
Storage of water in Tank 25TK02A	store water for required plant	Portion 1 of Beesthoek Farm 448	1 518 590 m ³ /a 100 m ³	28° 17' 32.47"S 23° 00' 35.67"E
Storage of water in Tank 25TK02 B	store water for required plant	Portion 1 of Beesthoek Farm 448	1 518 590 m ³ /a 100 m ³	28° 17' 32.47"S 23° 00' 35.67"E

- 1.2. The Licensee must obtain any proprietary rights or servitudes at their own cost.
- 1.3. The Licensee is not indemnified from any detrimental effect that the reservoir/dams/storage facilities may have on other properties and safety of the public. 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 dam(s).
- 1.4. The Licensee is not exempted from compliance with any applicable Dam Safety Regulations.
- 1.5. The Licensee must follow acceptable construction, maintenance and operational practices to ensure the consistent, effective and safe performance of the storage of water in all storage facilities.
- 1.6. 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. The quantity of water stored must be recorded as at the last day of each month.
- 2.2. The Licensee shall 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.
- 2.3. The Licensee shall submit the monitoring results as stipulated in Condition 6.2 of Appendix IV.

3. Construction of Dam(s)

- 3.1. The as-built plans and specifications of the dam(s)/storage facilities must be submitted to the Provincial Head for his/her records.
- 3.2. Construction of the dam(s) may not commence before authorisation in terms of the Environment Conservation Act, 1989 (Act 73 of 1989) is issued.
- 3.3. The Government 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.

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APPENDIX IV

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

1. CONSTRUCTION , OPERATION AND MAINTENANCE

- 1.1 The Licensee must ensure that the disposal of the waste water and the operation and maintenance of the system are done according to the provisions in the Report.
- 1.2 The waste facilities listed in Table 4 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.
- 1.3 The Licensee must use acknowledged methods for sampling and the date,, time and sampler must be indicates for each sample.
- 1.4 The Licensee shall carry out and complete all the activities, including the construction and operation of the facilities listed in Table 4 and according to the final plans submitted with the Integrated Water Use Licence Application as approved by the Provincial Head.
- 1.5 The Licensee must ensure that the disposal of waste water, operation, and maintenance of the system are done according to the provisions in the Report.
- 1.6 The tailings and pollution control dams must be designed in such a manner that any spillage can be contained and reclaimed at an early stage without any impact on the surrounding environment.

2 STORAGE OF WATER CONTAINING WASTE

- 2.1 The Licensee is authorised to dispose of a maximum quantity in cubic metres (m3) of tons of waste or water containing waste into the waste management facilities on the properties described in Table 4.

Table 4: Summary of section 21 (g) water uses

Water use(s)	Purpose/ Description	Property Description	Capacity, Dimensions & Volume (m³/annum, m³&tons/annum)	Co-ordinates
Product Stockpile Area 1 & 2	Waste disposal - Product Stockpile Area 1 & 2	Portion 1 of Beesthoek Farm 448	5 998 500 t/a	28° 16' 51.18"S 23° 00' 03.31"E
South Detrital stockpiled Area	Waste disposal - South Detrital stockpiled Area	Portion 4 of Farm Olynfontein 475	2 240 000 t/a	28° 19' 40.5"S 23° 00' 50.2"E
Waste Rock Dump North/stockpiles	Waste disposal - Waste Rock Dump North/stockpiles	Portion 1 of Beesthoek Farm 448	7 000 000 tons	28° 17' 43.93"S 23° 00' 36.85"E



Water use(s)	Purpose/Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
Jig Discard Dump/Stockpiles	Waste disposal - Jig Discard Dump/Stockpiles	Portion 1 of Beesthoek Farm 448	9 000 000 tons	28° 17' 16.38"S 23° 00' 23.44"E
East Pit Waste Rock Dump stockpiles	Waste disposal - East Pit Waste Rock Dump stockpiles	Portion 4 of Farm Olynfontein 475	68 850 000 tons	28° 20' 17.916"S 23° 00' 10.965"E
South Contaminated ROM 1 Off grade waste dump 1	Waste disposal - South Contaminated ROM 1 Off grade waste dump 1	Portion 4 of Farm Olynfontein 475	4 450 000 t/a	28° 19' 1.48"S 22° 59' 57.7"E
South Contaminated ROM 2 (including BIS) – Off grade waste dump 2	Waste disposal - South Contaminated ROM 2 (including BIS) – Off grade waste dump 2	Portion 4 of Farm Olynfontein 475	1 920 000 t/a	28° 19' 17.63"S 23° 00' 08.74"E
South Off grade ROM 1 – Off grade waste dump 3	Waste disposal - South Off grade ROM 1 – Off grade waste dump 3	Portion 0 of Beesthoek Farm 448	2 508 000 t/a	28° 18' 54.49"S 23° 00' 19.72"E
Disposal of contaminated water	Disposal of contaminated water into Dam D86	Portion 1 of Beesthoek Farm 448	7 421 078 m ³ /a 269 m ³	28° 17' 08.068"S 23° 00' 15.131"E
Disposal of contaminated water	Disposal of contaminated water into South Evaporation Ponds	Portion 0 of Beesthoek Farm 448	1 221 m ³ /a 1 600 m ³	28° 18' 48.5"S 23° 00' 11.0"E
Village Waste Rock Dump/stockpiles	Waste disposal - Village Waste Rock Dump/stockpiles	Portion 0 of Beesthoek Farm 448	31 500 000 tons	28° 18' 21.630"S 22° 59' 26.890"E
ROM Stockpile	Waste disposal - ROM Stockpile	Portion 0 of Beesthoek Farm 448	720 000 tons	28° 18' 55.383"S 23° 00' 02.324"E
HH Pit Waste Rock Dump/ Stockpiles	Waste disposal - HH Pit Waste	Portion 1 of Beesthoek Farm	6 800 000 tons	28° 16' 47.08"S 23° 01' 21.81"E

Water use(s)	Purpose/ Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
	Rock Dump/ Stockpiles	448		
North ROM Stockpile	Waste disposal - North ROM Stockpile	Portion 1 of Beesthoek Farm 448	1 400 000 tons	28° 16' 39.3"S 23° 00' 11.6"E
Disposal of contaminated water	Disposal of contaminated water into Fine Residue Dam	Portion 1 of Beesthoek Farm 448	4 864 520 m ³ /a	28° 16' 27.0"S 23° 00' 48.0"E
Plant Stockpile	Waste disposal - Plant Stockpile	Portion 1 of Beesthoek Farm 448	300 000 tons	28° 17' 20.9"S 22° 59' 58.6"E
Dust suppression with dirty water	Dust Suppression of Haul roads (North – BN Truck filing point)	Portion 1 of Beesthoek Farm 448	257 518 m ³ /a	Haul and main roads 28° 16' 12.559"S 23° 00' 10.784"E
Dust suppression with dirty water	Dust Suppression of Haul roads (South – SM filing point)	Portion 0 of Beesthoek Farm 448	211 660 m ³ /a	Haul roads 28° 18' 49.821"S 22° 59' 54.705"E
Disposal of contaminated water	Disposal of contaminated water into Tank 26TK01A	Portion 1 of Beesthoek Farm 448	225 418 m ³ /a 100m ³	28° 16' 45.7"S 22° 59' 56.8"E
Disposal of contaminated water	Disposal of contaminated water into Tank 26TK01B	Portion 1 of Beesthoek Farm 448	225 418 m ³ /a 100m ³	28° 16' 45.775"S 22° 59' 56.844"E
Disposal of contaminated water	Disposal of contaminated water Thickener TH01 Dam	Portion 1 of Beesthoek Farm 448	7 522 316 m ³ /a 23 000m ³	28° 17' 14.9"S 23° 00' 06.6"E
Disposal of contaminated water	Disposal of contaminated water into Clarifier Dam DD01	Portion 1 of Beesthoek Farm 448	6 657 912 m ³ /a 2 000m ³	28° 17' 17.194"S 23° 00' 07.841"E
Disposal of contaminated water into Stormwater Dam North	Disposal of contaminated water into Stormwater Dam North	Portion 1 of Beesthoek Farm 448	76 700m ³ /a 15 000m ³	28° 17' 30.63"S 22° 59' 46.48"E
Disposal of domestic	Disposal of	Portion 1 of	512.5 m ³ /a	28° 17'

Water use(s)	Purpose/ Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
effluent into sewage sumps	domestic effluent into sewage sumps Portion 1	Beesthoek Farm 448		21.900"S 23 ⁰ 00' 8.200"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 15.200"S 23 ⁰ 00' 2.800"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 18.382"S 23 ⁰ 00' 1.296"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 25.900"S 23 ⁰ 00' 2.500"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 25.200"S 23 ⁰ 00' 01.800"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 17.000"S 22 ⁰ 59' 56.900"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 13.400"S 22 ⁰ 59' 56.900"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 14.100"S 22 ⁰ 59' 54.800"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 9.100"S 22 ⁰ 59' 56.100"E
Disposal of domestic effluent into sewage	Disposal of domestic	Portion 1 of Beesthoek Farm		28 ⁰ 17' 6.700"S 22 ⁰ 59'

Water use(s)	Purpose/ Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
sumps	effluent into sewage sumps Portion 1	448		54.700"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 4.000"S 22 ⁰ 59' 56.100"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 16' 57.800"S 22 ⁰ 59' 57.100"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 18' 30.800"S 23 ⁰ 00' 22.000"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 31.100"S 22 ⁰ 59' 57.400"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 30.879"S 22 ⁰ 59' 59.288"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 32.025"S 22 ⁰ 59' 59.401"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 34.400"S 23 ⁰ 00' 2.000"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 47.925"S 23 ⁰ 00' 06.115"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 25.800"S 22 ⁰ 59'

Water use(s)	Purpose/Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
	sewage sumps Portion 1			48.600"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 17.200"S 22 ⁰ 59' 45.600"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 16.800"S 22 ⁰ 59' 46.600"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 16.600"S 22 ⁰ 59' 46.800"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 28.600"S 22 ⁰ 59' 54.900"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Beesthoek Farm 448 Portion 1		28 ⁰ 17' 26.200"S 22 ⁰ 59' 53.600"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 32.400"S 22 ⁰ 59' 52.800"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Portion 1	Portion 1 of Beesthoek Farm 448		28 ⁰ 16' 59.500"S 22 ⁰ 59' 40.100"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Security building Village	Portion 1 of Beesthoek Farm 448		28 ⁰ 17' 29"S 22 ⁰ 59' 52"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into	Portion 1 of Beesthoek Farm 448		28 ⁰ 16' 36.50"S 22 ⁰ 59' 48.43"E

Water use(s)	Purpose/Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
	sewage sumps at Road Transport 2			
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 1 of Beesthoek Farm 448	498.5m ³ /a	28° 17' 20.659"S 23° 00' 6.814"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 0 of Beesthoek Farm 448		28° 18' 29.716"S 23° 00' 14.846"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 0 of Beesthoek Farm 448		28° 18' 34.000"S 23° 00' 18.500"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 0 of Beesthoek Farm 448		28° 18' 39.600"S 23° 00' 17.400"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 0 of Beesthoek Farm 448		28° 18' 42.900"S 23° 00' 16.500"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 0 of Beesthoek Farm 448		28° 18' 46.200"S 22° 59' 59.300"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 0 of Beesthoek Farm 448		28° 15' 59.800"S 22° 59' 25.800"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Re	Portion 0 of Beesthoek Farm 448		28° 15' 58.800"S 22° 59' 26.800"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into	Portion 0 of Beesthoek Farm 448		28° 16' 46.700"S 22° 59'

Water use(s)	Purpose/ Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
	sewage sumps Re			40.100"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps at Road Transport 1	Portion 0 of Beesthoek Farm 448		28 ⁰ 16' 34.61"S 22 ⁰ 59' 44.00"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps at Road Transport 3	Portion 0 of Beesthoek Farm 448		28 ⁰ 16' 36.06"S 22 ⁰ 59' 46.43"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps at Long distance parking	Portion 0 of Beesthoek Farm 448		28 ⁰ 16' 46.00"S 22 ⁰ 59' 39.00"E
Disposal of domestic effluent into sewage sumps	Disposal of domestic effluent into sewage sumps Conservancy Tank at South Change House	Portion 0 of Beesthoek Farm 448		28 ⁰ 18' 34.00"S 23 ⁰⁰ ' 15.00"E
Backfilling of BN opencast pit using Waste Dump Rock Materials	Disposal of waste - Backfilling of BN opencast pit using Waste Dump Rock Materials	Portion 1 of Beesthoek Farm 448	1 625 221 t/a	28 ⁰ 16' 13.9"S 23 ⁰ 00' 17.2"E
Backfilling of East Pit using Waste Dump Rock Materials	Disposal of waste - Backfilling of East Pit using Waste Dump Rock Materials	Portion 4 of Farm Olynfontein 475	2 119 897 t/a	28 ⁰ 20' 31.2"S 22 ⁰ 59' 37.7"E
Backfilling of GK opencast pit using Waste Dump Rock Materials	Disposal of waste - Backfilling of GK opencast pit using Waste	Portion 1 of Beesthoek Farm 448	1 468 839 t/a	28 ⁰ 18' 23.4"S 23 ⁰ 01' 09.6"E

Water use(s)	Purpose/Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
	Dump Rock Materials			
Backfilling of opencast HH Pit using Waste Dump Rock Materials	Disposal of waste - Backfilling of opencast HH Pit using Waste Dump Rock Materials	Portion 1 of Beesthoek Farm 448	459 860 t/a	28° 16' 43.7"S 23° 01' 20.2"E
Backfilling of HL Opencast Pit using Waste Dump Rock Materials	Disposal of waste - Backfilling of HL Opencast Pit using Waste Dump Rock Materials	Portion 1 of Beesthoek Farm 448	2 212 010 t/a	28° 17' 21.6"S 23° 00' 55.6"E
Backfilling of Detrital area opencast pit using Waste Dump Rock Materials	Disposal of waste - Backfilling of Detrital area opencast pit using Waste Dump Rock Materials	Portion 4 of Farm Olynfontein 475	1 224 840 t/a	28° 19' 40.3"S 23° 00' 29.8"E
Backfilling of West opencast Pit using Waste Dump Rock Materials	Disposal of waste - Backfilling of West opencast Pit using Waste Dump Rock Materials	Portion 4 of Farm Olynfontein 475	10 536 114 t/a	28° 19' 18.6"S 22° 59' 30.8"E
South ROM Stockpile 2	Disposal of waste - South ROM Stockpile 2	Portion 4 of Farm Olynfontein 475	1 000 000tons	28° 18' 54.900"S 22°59' 25.880"E
S Offgrade ROM 2	Disposal of waste - S Offgrade ROM 2	Portion 0 of Beesthoek Farm 448	1 000 000tons	28° 18' 40.230"S 22°59' 48.080"E
N Offgrade ROM 1	Disposal of waste - N Offgrade ROM 1	Portion 1 of Beesthoek Farm 448	1 000 000tons	28° 17' 33.46"S 23°00' 22.67"E
BIS ROM North 1- Stockpiles being reworked further	Disposal of waste - BIS ROM North 1-	Portion 1 of Beesthoek Farm 448	2 950 000 tons (current capacity, no new	28° 17' 40.35"S 23°00' 53.51"E

Water use(s)	Purpose/Description	Property Description	Capacity, Dimensions & Volume (m ³ /annum, m ³ &tons/annum)	Co-ordinates
	Stockpiles being reworked further		depositions)	
BIS ROM North 2-Stockpiles	Disposal of waste - BIS ROM North 2-Stockpiles	Portion 1 of Beesthoek Farm 448	3 150 000 tons	28 ⁰ 16' 57.23"S 23 ⁰ 01' 05.97"E
Shale Stockpiles being reworked further	Disposal of waste - Shale Stockpiles being reworked further	Portion 1 of Beesthoek Farm 448	361 633 tons (current capacity, no new depositions)	28 ⁰ 16' 34.66"S 23 ⁰ 00' 04.95"E
Quartzite Stockpiles being reworked further	Disposal of waste - Quartzite Stockpiles being reworked further	Portion 1 of Beesthoek Farm 448	1 668 163 tons (current capacity, no new depositions)	28 ⁰ 16' 46.03"S 23 ⁰ 00' 12.39"E
West Pit Waste Rock Dump/stockpiles	Disposal of waste - West Pit Waste Rock Dump/stockpiles	Portion 4 of Farm Olynfontein 475	21 413 403 tons	28 ⁰ 19' 25.69"S 22 ⁰ 59' 46.02"E
HL Waste Rock Dump/stockpiles	Disposal of waste - HL Waste Rock Dump/stockpiles	Portion 1 of Beesthoek Farm 448	10 983 334 tons	28 ⁰ 17' 07.01"S 23 ⁰ 01' 08.32"E
GF Waste Rock Dump/stockpiles	Disposal of waste - GF Waste Rock Dump/stockpiles	Portion 1 of Beesthoek Farm 448	7 721 766 tons	28 ⁰ 17' 3.12"S 23 ⁰ 00' 38.58"E
Landfill site	Landfill site	Portion 0 of Beesthoek farm 448	500 000 tons	28 ⁰ 16' 39.725"S 22 ⁰ 59' 40.088"E

3. MONITORING

- 3.1 The Licensee shall monitor on monthly basis the water resources at groundwater and surface water monitoring points to determine the impact of the facility and other mining activities on the water quality by taking samples at the monitoring points as indicated in the Reports.
- 3.2 The date, time and monitoring point in respect of each sample taken shall be recorded together with the results of the analysis.



- 3.3 Monitoring points shall not be changed prior to notification to and written approval by the Provincial Head.
- 3.4 For boreholes already impacted upon, the Licensee must inform the water user of the danger of using that water and supply water of acceptable quality to their intended use.
- 3.5 Analysis shall 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). The method of analysis must not change without prior notification to and approval from the Responsible Authority.
- 3.6 Abstraction of groundwater must be monitored on a monthly basis. The installation of water meters must be at the expense of the Licensee and must comply with the specifications of the owner and should be SANS approved. The meters must reach 999 999m³ before being reset to 0m³.
- 3.7 Groundwater Levels must be monitored around the areas where abstraction and dewatering takes place around open pit area monthly for the duration of the mine operations.
- 3.8 The impacts of dewatering must be quantified and monitored over time at point of potential impacts. The impacts identified along with mitigation measure (and progress on implementation of mitigation measures) needs to be provided to the Department along with the monitoring results on a quarterly basis.
- 3.9 In the event where legitimate groundwater users water requirements are compromised by dewatering activities, the licensee must provide a platform for a negotiated solution between the affected parties.
- 3.10 Records of all monitoring data must submit to the Provincial Head as part of annual monitoring report in Condition 6.2 of Appendix IV.
- 3.11 Groundwater quality must be monitored on quarterly basis at all relevant boreholes identified in the Report.
- 3.12 The Licensee must install monitoring boreholes downstream of the operation, no further than 50m from potential hydrocarbon contamination sources (and any other potential hazardous material sources) such as (but not limited to) fuel tanks, dispenser, refuelling points of machinery, etc. This should be performed to monitor spillages and leaks.
- 3.13 A monitoring program must be developed that will ensure any plume that may arise from any of the existing unlined waste containing facilities is detected early must be implemented and such monitoring plan must be approved by the geohydrology specialist of the Department.
- 3.14 Should a plume be detected from any of the existing unlined facilities, the applicant must submit to the Department within 30 days of such detection, a remedial action plan that will also detail how the occurrence of such pollution in future will be prevented
- 3.15 As the Village Pit will drawdown mostly towards the southwest area and a few meters to a south eastern direction, additional boreholes at these position need to be identified or drilled for monitoring points;



- 3.16 A groundwater Monitoring Programme must be extended from the current monitoring programme done by the Mine. This means that the network should be extended over time to accommodate the migration of contaminants through the aquifer, extension of the cone of depression (water level monitoring) as well as the expansion of infrastructure and/or addition of possible pollution sources. An audit on the monitoring network should be conducted annually. The monitoring network programme should be in place and monitoring results must be submitted quarterly to the Department. Groundwater Quality Parameters such as pH, EC, Na, K, Al, Fe, Mg, Fe, Zn, Alkalinity, NO₃, SO₄, FI and Cl.
- 3.17 A groundwater risk assessment using available information shall be done on all waste handling facilities. There should be at least 1 to a maximum of 5 monitoring boreholes, 10-50 meters downstream of waste disposal facility, 2 to a maximum of 5 at 50 to 500 meters of Ore discards and 1 to 6 boreholes in Mine impounded areas.
- 3.18 The Licensee is to conduct a geohydrological assessment to ascertain the natural groundwater quality in terms of Nitrates, Barium and Manganese as these have been identified as constituents of concern. The cumulative impacts of such shall also be determined and mitigation measures proposed. This shall be finalised and submitted to the Department for approval within six (6) of licence issuance.
- 3.19 Groundwater model must be calibrated as more information becomes available. This will add significant value in terms of groundwater management and better understanding of the aquifer behaviour. The model shall be updated on a biennial basis and submitted to the Department on a biennial basis.

4. INCIDENT MONITORING

- 4.1 Emergency incidents must be dealt with in accordance with the requirements as stipulated in Appendix I
- 4.2 In the event that the emergency incident results in pollution of water resource, the Licensee must monitor the water quality and the incident report must be submitted to the Provincial Head within fourteen (14) days.

5. WATER RESOURCE PROTECTION

- 5.1 The impact of the activities of the mine waste water quality containment facilities shall not exceed the groundwater quality chemistry detailed in Table 5 in the water quality Reserve for the area.

Table 5: General Chemistry of the Water Resource

Chemical Parameter	Target Water Quality Ranges	
	Units	Class II
pH		4 – 5 & >9.5 - 10
Electric Conductivity	mS/m	150 - 370
Total Dissolved Solids	mg/l	1000-2450
Calcium as Ca	mg/l	150 - 300
Magnesium as Mg	mg/l	70 - 100
Sodium as Na	mg/l	200 - 400
Chloride as Cl	mg/l	200 - 600
Sulphate as SO ₄	mg/l	400 - 600
Nitrate as NO _x N	mg/l	10 - 20



Chemical Parameter	Target Water Quality Ranges	
	Units	Class II
Fluoride as F	mg/l	1.5 – 3.5
Faecal coliforms	Counts/10 0ml	1 - 10

5.2 It is evident from the report that the mine is situated in a dolomitic area. Dolomite aquifers are known to be highly vulnerable to pollution and difficult to remediate. There is possibility of sinkholes and cavities development, therefore; dolomite instability must be investigated and a dolomite risk management plan must be established within one (1) year of issuance of this licence.

6. REPORTING

- 6.1 The Licensee shall update the water and salt 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 compile an Annual Monitoring Report and submit it to the Provincial Head within eighteen (18) months after issuance of this licence and annually thereafter under Reference number 27/2/2/D173/6/1. This must be accompanied by the interpretation of results of analysis.

7. STORM WATER MANAGEMENT

- 7.1 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 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 stormwater does not lead to bank instability and excessive levels of silt entering the stream.
- 7.3 Stormwater shall be diverted from the mine complex site and roads and shall be managed in such a manner as to disperse runoff and concentrating the stormwater flow.
- 7.4 Where necessary, works must be constructed to attenuate the velocity of any stormwater discharge and to protect the banks of the affected watercourses.
- 7.5 Stormwater control works must be constructed, operated and maintained in a sustainable manner throughout the impacted area.
- 7.6 All stormwater that would naturally run across the pollution areas shall be diverted via channels and trapezoidal drains designed to contain the 1:50 year flood.
- 7.7 The polluted stormwater system shall be designed and implemented to provide suitable routing and pumping capacity for contaminated stormwater from the individual facilities to the respective stormwater dams in accordance with the design specifications as contained in the Integrated Water Use License Application Report.

7.8 The polluted stormwater captured in the stormwater control dams shall be pumped to the process water treatment plant for re-use 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.

9.2 Access to the pollution control dams, waste rock dumps, bio-remediation facility, stormwater dam and return water dam (including all waste management facilities listed in Table 4) must be limited to authorised employees of the Licensee and their contractors only.

9.3 Notices prohibiting unauthorised persons from entering the controlled access 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.

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).

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 Regional



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.
- 10.3.3 Prevent a recurrence of a similar incident.

11 INTEGRATED WATER AND WASTE MANAGEMENT

- 11.1 Integrated Water and Waste Management Plan (IWWMP) and Rehabilitation Strategy and Implementation Programme (RSIP) shall be updated and submitted to the Provincial Head for approval, annually.
- 11.2 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 of the IWWMP and RSIP as well as a final Closure Plan, for approval.
- 11.3 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.

12. WATER CONSERVATION AND DEMAND MANAGEMENT (WC/WDM)

- 12.1 Licensee shall develop and submit a water conservation and demand management (WC/WDM) plan to the Provincial Head, which
 - 12.1.1 quantify the water use efficiency of the activity;
 - 12.1.2 contains the mine water management and water loss strategies and programmes;
 - 12.1.3 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;
- 12.2 Licensee shall update the WC/WDM plan on an annually basis and submit to the Provincial Head for approval.
- 12.3 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.



APPENDIX V

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

1. REMOVING WATER FOUND UNDERGROUND

1.1 The Licensee is authorised to remove a total volume of three million two hundred and ninety thousand three hundred and eight cubic metres per annum (3 290 308 m³/a) of water found underground from the various boreholes and open pits as indicated in Table 6.

Table 6: Summary of section 21 (j) water uses

Water use(s)	Purpose/Description	Property Description	Volume (m ³ /a)	Co-ordinates
Dewatering from BN Pit	Safe continuation of mining activities	Portion 1 of the Farm Beesthoek 448	432 000 m ³ /a	28° 16' 14.231"S 23° 00' 9.816"E
Abstraction of groundwater through BN Pit borehole WG66 for	mine processing and associated activities (Safe continuation of mining activities)	Portion 1 of Beesthoek Farm 448	194 948 m ³ /a	28° 16' 11.519"S 23° 00' 03.795"E
In –pit dewatering at Village Pit	mine processing and associated activities (Safe continuation of mining activities)	Portion 0 of Beesthoek Farm 448	420 000 m ³ /a	28° 17' 29.13"S 22° 59' 21.88"E
Abstraction of groundwater through Village Pit borehole WG12	dewatering purposes (Safe continuation of mining activities)	Portion 0 of Beesthoek Farm 448	343 360 m ³ /a	28° 17' 42.449"S 22° 59' 30.702"E
Village pit dewatering from borehole WG73	Safe continuation of mining activities	Portion 0 of Beesthoek Farm 448	1 900 000 m ³ /a	28° 17' 58.41"S 22° 59' 32.17"E

- 1.2 The Licensee must provide any water user whose water supply is impacted by the water use with domestic water.
- 1.3 The quantity of water removed underground must be metered and recorded on a daily basis.
- 1.4 The groundwater levels shall be monitored every month and reports submitted on a quarterly basis.]
- 1.5 No more water shall be removed for dewatering than the minimum required for effective dewatering.
- 1.6 Self registering flow metres must be installed in the delivery lines at easily accessible positions near the points of abstraction/dewatering.

- 1.7 The Licensee must routinely check if the pumps are in a working order. A contingency plan should be in place in cases of failure of pumps.
- 1.8 The Responsible Authority 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:
 - 1.8.1 Nature of incident (e.g. operating malfunctions, mechanical failures, environmental factors, loss of supply services, etc)
 - 1.8.2 Actions taken to rectify the situation and to prevent pollution or any other damage to the environment and
 - 1.8.3 Measures to be taken to prevent re-occurrence of any similar incident.
- 1.9 The Licensee must follow acceptable construction, maintenance and operational practices to ensure the consistent, effective and safe performance of the groundwater removal system.
- 1.10 Reasonable measure must be taken to provide for mechanical, electrical or operation failures and malfunctions of the underground water removal system.

[END OF LICENCE]

