



# 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, **Sifiso Mkhize**, 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: [Signature]

DATE: 26/07/2016

LICENCE NO: 03/B11H/AG/4647  
FILE NO: 27/2/2/B811/11/1

1. Licensee: **IPC Beneficiation (Pty) Ltd: Coal Washing Plant**

Postal Address: Private Bag X7297  
EMALAHLENI  
1035

2. Water Uses

2.1 Section 21(a) of the Act: Taking water from a water resource, subject to the conditions as set out in Appendices I and II.

2.2 Section 21(g) of the Act: Disposing of waste in a manner which may detrimentally impact on a water resource, subject to conditions as set out in Appendices I and III.

3. Properties on which the use will be exercised

Table 1: Properties on which the use will be exercised

Water uses	Properties	Property Owner
Section 21(a), and (g) of the Act	Portion 67, 68 and 69 of the Farm Elandspruit 291	IPC Beneficiation (Pty) Ltd

B 07303

#### 4. Licence and Review Period

- 4.1 This licence is valid for a period of Fifteen (15) years from the date of issuance and it may be reviewed on interval of not more than 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 Provincial Head: Mpumalanga, Department of Water and Sanitation, Private Bag X11259, NELSPRUIT, 1200.

"Department" means Department of Water and Sanitation.

"Report" refers to the following reports:

- i. Geohydrological Report prepared by Geovincon Environmental Consultant dated May 2014;
- ii. Salt and Waterbalance prepared by Alan Robinson Consulting Civil and Geotechnical Engineers dated July 2014;
- iii. Conceptual Design Report for PCD prepared by Alan Robinson Consulting Civil and Geotechnical Engineers dated June 2014;
- iv. IWWMP prepared by Geovincon Environmental (Pty) Ltd dated May 2014; and as well as all other related documentations and communications (emails, letters, verbal, etc) related thereto.

#### 6. Description of the activity

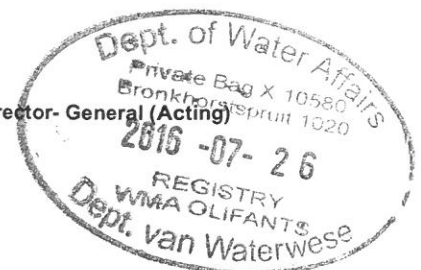
This licence authorises IPC Beneficiation (Pty) Ltd to undertake water uses associated with coal washing activities on Portion 67, 68, and 69 of the Farm Elandspruit 291 JS, in the Olifants water management area, Mpumalanga.



## 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 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. 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.
7. 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.
8. 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.
9. 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.
10. 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 of licence issuance and a report on the audit shall be submitted to the Provincial Head within one (1) month of finalisation of the report.
11. Flow metering, recording and integrating devices shall 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 shall be available for inspection by the Provincial Head or his/ her representative upon request.
12. Any incident that causes or may cause water pollution must be reported to the Provincial Head or his/her designated representative within 24 hours.



**APPENDIX II**

**Section 21 (a): Taking water from a water resource**

1. This licence authorises the abstraction of a maximum quantity of groundwater from property for the purpose as indicated in Table 2.

**Table 2: Section 21(a) Water use activities**

Purpose/ Description	Property	Volume (m <sup>3</sup> /a)	Co-ordinates
Re-use of underground water from PCD for mineral processing	Portion 69 of Elandspruit 291 JS	12 410 m <sup>3</sup> /a	S 25°49' 24.8" E 29°22' 50.7"
Taking of groundwater through borehole for domestic use		3 650 m <sup>3</sup> /a	S 25°49' 03.7" E 29°22' 47.9"

2. The quantity of water authorised to be taken in terms of this licence may not be exceeded without prior authorisation by the responsible authority.
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 shall be responsible for any water use charges or levies, which may be imposed from time to time by the Responsible Authority in terms of the Department's Raw Water Pricing Strategy.
6. The Licensee shall continually investigate new and emerging technologies and put into practice water use efficient devices or in an endeavour to conserve water at all times.
7. The Licensee shall install appropriate water measuring devices to measure the volume of water abstracted. The Licensee shall ensure that all measuring devices are properly maintained and in good working order and must be easily accessible. This shall include a programme of checking, calibration, and/ or renewal of measuring devices. All water taken from the resource shall be measured, recorded and reported as follows:
  - 7.1 The daily quantity of water taken must be metered or gauged and the total recorded at the last day of each month; and
  - 7.2 The Licensee shall 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.
8. 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.



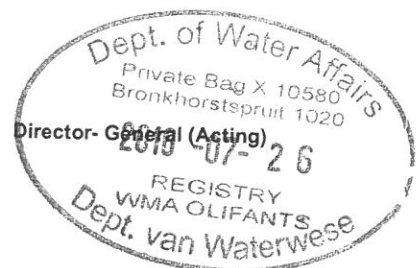
9. Notices prohibiting unauthorised persons from entering certain areas, as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.
10. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of:
  - 10.1 shortage of water;
  - 10.2 inundations or flood;
  - 10.3 siltation of the resource; and
  - 10.4 required Reserve releases.
11. The Licensee must establish a programme of formal Information Management System, which maintains a database on water supply, distribution and delivery infrastructure.
12. The Licensee shall 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(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 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 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 shall use acknowledged methods for sampling and the date, time and sampler must be indicated for each sample.
  - 1.4 The Licensee must ensure that all construction activities must be overseen by a registered civil engineering professional.
  - 1.5 Within 30 days after the completion of the activities referred here in accordance with the relevant provisions of this licence, the Licensee shall in writing, under reference **27/2/2/B811/11/1**, inform the Provincial Head thereof. This shall be accompanied by a signature of approval from the designer referred to above that the construction was done according to the design plans referred to in the Report.
  - 1.6 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.
  - 1.7 Classifications of all contaminated risk stockpiles and dumps must be done within 12 months commencement of mining operations and appropriate action taken (incompliance with Section 19 of the Water Act, 1998 with regard to pollution prevention), if barrier system installed at such facilities differ from the requirements of regulation 635 and 636 of **August 2013**.
  - 1.8 The Licensee must submit a copy of agreement with duly licensed contractor who will remove sewage sludge from the mine within 12 months of the commencement of washing coal operations.
2. **DISPOSAL/ STORAGE OF WATER CONTAINING WASTE**
  - 2.1 The Licensee is authorised to dispose of a maximum quantity in cubic metres (m<sup>3</sup>) or tons of waste or water containing waste into the waste management facility on the properties as indicated in Table 3.



**Table 3: Volumes of waste to be disposed at the waste disposal facilities**

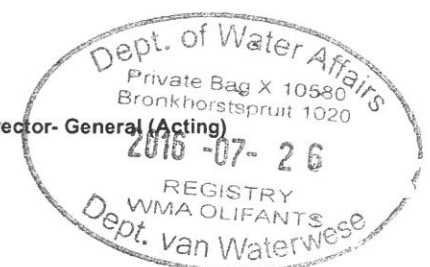
Facility	Volume (m <sup>3</sup> /a)	Capacity/Area	Co-ordinates	Properties
Disposal of wastewater and silt settling into Emergency Slurry Water Ponds.	1 825 m <sup>3</sup> /a	2000 m <sup>3</sup>	Portion 69 of Elandspruit 291	S 25°49'12.9" E29°22'50.2"
Disposal of waste water from underground, ROM stockpile, Slurry pond and washing plant into PCD	37 595 m <sup>3</sup> /a	17 000 m <sup>3</sup>	Portion 69 of Elandspruit 291	
Run of Mine Coal (ROM) Stockpile	1 440 000 t/a	1 ha	Portion 68 of Elandspruit 291 JS IS	S 25°49'04.9" E29°22'55.1"
Disposal of coal discarded materials into Discard Dump	273 600 t/a	10.8 ha	Portion 67 and 68 of Elandspruit 291 JS	S 25°49'13.0" E 29°23'01.7"
Disposal of domestic sewage effluent into Septic Tank	12 330 m <sup>3</sup> /a	90 m <sup>3</sup>	Portion 69 of Elandspruit 291 JS	S 25°49'23.0" E 29°22'49.5"
Final Product Stockpile	1 166 400 t/a	6 ha	Portion 67 and 68 of Elandspruit 291 JS	S 25°49'08.4" E 29°22'49.0"
Dust suppression with contaminated water from PCD	17 520 m <sup>3</sup> /a	N/A	Portion 67,68 and 69 of Elandspruit 291 JS	Various areas

### 3. MONITORING

- 3.1 The Licensee shall monitor on quarterly basis the water resources at monitoring points to determine the impact of the facilities on the water quality by taking samples at the monitoring points as indicated in Table 4 and Table 5.

**Table 4: Surface monitoring point for IPC Beneficiation Colliery**

Locality	Description	Co-ordinates
ELS 1	Within a non-potential tributary of the Olifants River, adjacent to Elandspruit Colliery	S 25°48.47.7" E 29°22'57.8"
ELS 2	Within Elandspruit Colliery above PCD	S25°49'27.8" E 29°22'55.8"





Locality	Description	Co-ordinates
ELS 3	Within the Spookspruit, downstream of ELS 4	S 25°49'45.0" E 29°21'11.8"
ELS 4	Within the Spookspruit, upstream of ELS 4	S 25°49'57.2" E 29°21'39.6"
PCD	Pollution Control Dam on Elandspruit Colliery, to the left of ELS 2	S 25°49'24.8" E 29°22'50.7"

**Table 5: Groundwater monitoring points for IPC Beneficiation Colliery**

Locality	Description	Co-ordinates
ELG 1	Within the Elandspruit Colliery, South of ELG 2 – North of PCD	S 25°49'23.2" E 29°22'57.8"
ELG 2	Within the Elandspruit Colliery, North of ELG 1	S 25°49'23.2" E 29°22'47.1"
ELG 3	Within the Elandspruit Colliery, South of the R555	S 25°49'03.6" E 29°22'45.8"

- 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. Analysis shall be carried out in accordance with methods prescribed by and obtainable from the South African National of Standards (SANS), in terms of the Standards Act, 1982 (Act 30 of 1982).
- 3.5. The methods of analysis shall not be changed without prior notification to and written approval by the Responsible Authority.
- 3.6. The Licensee must ensure that the proposed groundwater management plan in terms of quality quantity be implemented.
- 3.7. The Licensee must ensure that Pollution Control Dams facility be lined in an effort to minimize the seepage of poor quality leachate into the groundwater resources.
- 3.8. The Licensee must ensure that all monitoring boreholes should be cased to prevent the boreholes from collapsing.
- 3.9. The Licensee must ensure that groundwater monitoring must take place on a monthly basis for water level for water quality.





**4. INCIDENT MONITORING**

- 4.1. Emergency incidents shall 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 shall monitor the water quality and the incident report shall be submitted to the Provincial Head within fourteen (14) days.

**5. WATER RESOURCE PROTECTION**

- 5.1 The impact of the activities of the mine on the groundwater must not exceed the quality limits as indicated in Table 6.

**Table 6: Quality of water to be disposed into Dirty Facilities**

Parameters/ Substances	PCD	Emergency Slurry Pond
pH	4.8	4.81
Alkalinity (mg/l)	< 10	5
Aluminium (mg/l)	1.20	1.20
Calcium (mg/l)	211.00	211
Chloride (mg/l)	3.99	3.99
Iron (mg/l)	0.06	0.06
Manganese (mg/l)	6.07	6.07
Magnesium (mg/l)	60.30	60.30
Fluoride b(mg/l)	0.57	0.57
Potassium (mg/l)	10.30	10.3
Sodium (mg/l)	8.63	8.63
Sulphate (mg/l)	817.00	817
TDS (mg/l)	1264.00	1264

**6. REPORTING**

- 6.1 The Licensee must update the water balance annually and calculate the loads of waste emanating from the activities. The Licensee shall determine the contribution of their activities to the mass balance for the water resource and must furthermore co-operate with other water users in the catchment to determine the mass balance for the water resource reserve compliance point.
- 6.2 The Licensee must submit the results of analysis for the monitoring requirements to the Provincial Head on a quarterly basis under Reference number 27/2/2/B511/8/4.



## 7. STORMWATER 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.

## 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 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 legislations relating to the transport, storage and use of the substance.
- 8.4 Any access roads or temporary crossings must be:
- 8.4.1 non-erosive, structurally stable and shall not induce any flooding or safety hazard and
- 8.4.2 be repaired immediately to prevent further damage.

## 9. ACCESS CONTROL

- 9.1 Strict access procedures must be followed in order to gain access to the property. Access to waste or water containing waste facilities must be limited to authorised employees of the Licensee and their Contractors only.



- 9.2 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 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. INTEGRATED WATER AND WASTE MANAGEMENT

- 11.1. 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.
- 11.2. The IWWMP and RSIP shall thereafter be updated and submitted to the Provincial Head for approval, annually.
- 11.3. The Licensee must, at least 180 days prior to the intended closure of any facility, or any portion thereof, notify the Provincial Head of such intention and submit any final amendments to the IWWMP and RSIP as well as a final *Closure Plan*, for approval.
- 11.4. 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 WATER DEMAND MANAGEMENT

- 12.1 The Licensee must use all water on the mine efficiently and must:
- 13.1.1 minimise the total water intake;
  - 13.1.2 avoid the use of water where possible;
  - 13.1.3 maximise the reuse of contaminated water.
- 12.2 The Licensee must develop a water conservation and water demand management plan, which:
- 12.2.1 quantifies the water use efficiency of the activity;
  - 12.2.2 contains the mine water management and water loss strategies and programmes;
  - 12.2.3 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;
  - 12.2.4 reports on the implementation of more efficient processes, equipment designs, and other on-site measures to enable the mine to avoid and reduce water consumption; and
  - 12.2.5 reports on the implementation and reduction of total water demand including water use efficiency benchmarks and targets where these have been set.
- 12.3 The Licensee must:
- 12.3.1 update the water conservation and water demand management plan annually;
  - 12.3.2 execute the water conservation and water demand management plan; and
  - 12.3.2 submit the water conservation and water demand management plan to the Provincial Head as part of the IWWMP, unless directed otherwise.

[END OF LICENCE]

