APPENDIX 4(A)

HERNIC Water Procurement Contract

10.7 Authorisation to Abstract Water from the Hartbeespoort Government Water Scheme Canal

DEPARTEMENT VAN WATERWESE EN BOSBOU
DEPARTMENT OF WATER AFFAIRS AND FORESTRY
REPUBLIEK VAN SUID-AFRIKA • REPUBLIC OF SOUTH AFRICA

DW 0/1

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KANTOOR VAN DIE • OFFICE OF THE

GEBIEDSBESTUURDER
HARTBEESPOORT SWS
PRIVAAT SAK X352
HARTBEESPOORT
0216

16 JANUARIE 1995

Hernic Chrome (Pty) Ltd
Posbus 469
MOOINOOI
0325

MAGTIGING VIR DIE ONTTREKKING VAN WATER INGEVOLGE ARTIKEL 56(3) VAN DIE WATERWET, 1956

Hierby aangeheg vind u toestemming vir die onttrekking van water ingevolge Artikel 56(3) van die Waterwet.

U is geregtig om 'n totaal van 876 000 m^3 ongesuiwerde water uit die kanaal te onttrek vir industriële- en huishoudelike gebruik.

Die water mag slegs op gedeelte 47 van die plaas De Kroon 444 JQ aangewend word.

GEBIEDSBESTUURDER: BRITS

avn/es/0008Q/49

ANNEXURE A

B159/1/2

HARTBEESPOORT GOVERNMENT WATER SCHEME

1. The constant availibility of water cannot be guaranteed and water restrictions during draught periods will also be impose on the applicant.

2. The applicant must provide for reservoir facilities for at least two weeks, should an emergency occurs.

3. The supply of water should coincide with scheme's operational process and should be arrange in close colaberation with the Local Area Manager, Brits.

4. The present scheduling of all water allocations for mining and industrial use, will be scraped.

5. Water must be re-used if at all possible.

6. The provision as set out in sections 12 and 21 of the Water Act, 1956, must be complied with.

06811/0003A DW 206

DEPARTMENT OF WATER AFFAIRS

CONDITIONS UNDER WHICH THE ABSTRACTION OF WATER IS AUTHORISED

1. Any water work used for the abstraction of water in terms of this authority, requires the prior approval of the Department's local representative and such approval will not be given unless the abstraction capacity of the water work is in reasonable proportion to the quantity of water authorised. For this purpose full particulars of the proposed water work must be furnished to the said representative.

2. The water work must be fitted with an effective self-registering meter at the consumer's expense, and the meter must be maintained in a satisfactory working condition by the consumer at his expense.

3. Officers of the Department will at all times have free access to the property and water work for supervision and control purposes.

4. The Department's local representative will issue the necessary instructions to the consumer with regard to the keeping of proper registers of water abstractions, and the owner must at all times comply with such instructions.

5. Accounts for water abstracted will be rendered monthly and must be paid within the period specified. Interest at the applicable rate is payable on any outstanding amount.

6. Such servitudes as may be necessary must be acquired by the consumer at his expense.

7. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of -

   (a) a shortage of water;

   (b) inundation or flood;

   (c) siltation of the river or dam basin; and

   (d) the shifting of the water work in the event of a rise or drop in the water level of the river or dam.

8. The quality or suitability of the water for any purpose is not guaranteed.

9. The water abstracted in terms of this authority may be used for the authorised purposes only.

10. This authority is not a permanent, lawful right and is not transferable from one consumer to another or from one property to another.

11. This authority is subject to review and may at any time be withdrawn or replaced at the discretion of the Minister of Water Affairs after reasonable prior notice.

12. The abstraction of water in terms of this authority is subject to any such regulations or abatements as may at any time be published in respect of the Government Water Control Area concerned.

13. The consumer must take every possible precaution to the satisfaction of the Department, to prevent pollution of water.

14. The Department reserves the right to cancel this authority at short notice in the event of failure to comply with any of the said conditions or provisions.

avn/aa/0008Q/47

Ref. no. B159/1/2$_{81}$/172892 (Z 28)

05 JAN 1995

REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF WATER AFFAIRS AND FORESTRY

AUTHORITY FOR THE ABSTRACTION OF WATER

Authority no.: 68/2/94

Scheme: Hartbeespoort Government Water Scheme

Consumer: Hernie Chrome (Pty) Ltd

Address: P.O. Box 469, Mooinooi, 0325

is hereby authorised in terms of section 56(3) of the Water Act 1956, (Act 54 of 1956) to abstract a maximum of 876 000 cubic metres of unpurified water per annum from the canal for industrial and household purposes for use on Portion 47 of the farm De Kroon 444 JQ in the district of Brits.

A tariff in terms of section 66(1)(a) of the Water Act, 1956, and a levy in terms of section 11 of the Water Research Act, 1971 (Act 34 of 1971), as determined by the Minister from time to time will be imposed on the water abstracted.

A minimum tariff per metered water per month, as determined by the Minister from time to time will be imposed.

This authority is subject to the conditions as set out in the attached form DW 206 as well as the conditions as set out in Annexure A.

The local representative mentioned in the conditions is: Area Manager: Hartbeespoort Government Water Scheme, Private Bag X352, Hartbeespoort, 0216.

DIRECTOR-GENERAL

APPENDIX 4(B)

HERNIC Water Use License

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, ***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 authorise the following water uses in respect of this Licence.

SIGNED: _____

DATE: 18 DECEMBER 2015

LICENCE NO: 03/A21J/ABGJ/4196
FILE NO: 27/2/2/A921/18/1

1. Licensee :
Postal Address:

Hernic Ferrochrome Mine : Maroelabult Section
P.O. Box 4534
Brits
0250

2. Water uses

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

2.2 Section 21(b) of the Act: Storing water, subject to the conditions set out in Appendices I and III.

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

2.4 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, subject to the conditions set out in Appendices I and V

3. Properties in respect of which this licence is issued

Property	Title deed number
Portions 44, 105, 135	T17161/2004
Portion 47; 104;165	T24244/1995
Remainder of portion 103	T13996/1997
Portion 191	T162627/2007
Portion 303	T21864/2010
Portion 296	T133619/2005

B 06406

Remainder of portion 46	T65796/2001
Remainder of portion 200	T127417/1999
Remaining portion of 102	T135237/1999
Reminder of portion151,169	T152593/2007
Portion 132, 199.	T63200/2010
Portion 173,	T42667/2009
Portion 49; 50	T64689/2004
Portion 331	T13674/2006
Portion 267	T21864/2010
Portion 216	T30417/2003

4. Registered owner of the Properties

4.1 Hernic Ferrochrome Pty Ltd

5. Licence and Review Period

This licence is valid for a period of twenty (20) years from the date of issuance and it may be reviewed at an 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."

"Department mean" Department of Water and Sanitation.

"The Provincial Head" means the Head of Provincial Operations: North West, Department of Water and Sanitation, Private Bag X357, Hartbeespoort, 0216.

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

"Report" refers to the report entitled:

i. Hydrological Report by Raison Grounter Consulting cc, dated December 2010;
ii. Environmental Impact Assessment Report by Environmental Assurance (Pty) Ltd dated April2011;
iii. Environmental Managment Plan by Metago Environmental Engineers (Pty) Ltd dated October 2010;
iv. Civil design drawings by C.V. Niekerk, dated February Hernic Ferrochrome Pty Ltd 2013;
v. Integrated Water Management Plan by Environmental Hydrogoelogical Consultants (Pty) Ltd dated April 2004.
vi. Groundwater Monitoring Report by Consult and Contracting Environmental Hydrogeologits, dated May 2011 and
vii. Groundwater Remediation Plan by Aqua Earth Consulting cc, dated July 2012 as well as all other related documentations and communication (emails, letters, verbal, etc) related thereto. .

7. Description of the activity

The licence authorises water use activities for taking of water, storing of water, disposing waste or wastewater and removing water found underground at Hernic Ferrochrome Mine (Pty) Ltd: Maroelabult Section located on different properties mentioned in item 3. Mineral deposit at Maroelabult Section consists of Middle Group 1 and Middle Group 2 ore seams using underground down dip mining methods. The run of mine produced at the mine is processed through the ore beneficiation (OB) plant to separate waste from the product. Lumpy chrome ore and chrome ore concentrate/fines are produced from the plant.

The chrome ore concentrate or fine ore is processed through the pelletising and sintering plant to produce sintered pellets. The pellets, lumpy ore and other raw materials reductants and fluxes are fed into the furnace to produce ferrochrome. The ferrochrome is then crushed and screened at the finished product for the correct sizing and specification, which is then shipped and transported by rail to customers for stainless steel making. The water uses activities fall within A21J Quaternary Catchment of Crocodile West and Marico 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 or Responsible Authority 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 or Responsible Authority of the Department within 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 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 or Responsible Authority within one month of the finalisation of the audit.

11. The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. The first audit must be conducted within 3 (three) months of the date this licence and a report on the audit shall be submitted to the Provincial Head or Responsible Authority within one month of finalisation of the report.

12. Any incident that causes or may cause water pollution shall be reported to the Provincial Head or Responsible Authority or his/her designated representative within 24 hours.

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

14. If the Licensee is not the end user/beneficiary of the water use related infrastructure and will not be responsible for long term maintenance and management of the infrastructure, the Licensee must provide a programme for hand over to the successor-in-title including a brief management/maintenance plan and the agreement for infrastructure along with allocation of responsibilities, within three (3) months of the date of issuing of this licence.

15. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of:

    15.1 shortage of water
    15.2 inundations or flood
    15.3 siltation of the resource; and
    15.4 required reserve releases.

16. The Licensee shall 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, 4 June 1999).

17. The licensee shall submit motivation for using waste rock to backfilling open pits within six (6) months of the issuance of the licence. This shall be accompanied by pollution potential assessment Report of the waste rock.

APPENDIX II

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

1. The Licensee is authorised to take a maximum quantity of water per annum from a borehole as detailed in Table 1.

Table 1: Section 21 (a) water use activity

Water Use Activity	Properties	Purpose	Volume(m^3/a)	Coordinates
Section 21(a)				
Taking water from water found underground	Portion 104 of the farm De Kroon 444 JQ	For reuse in the mining processes / operations	436 175 m^3/a	S 25°39´24.10 E 27°51´17.85
Taking water from Haartbeespoort Irrigation canal	Portion 303 of the farm De Kroon 444 JQ	For domestic, mining and industrial purposes at the mine industrial use as well as drinking water use	870 000 m^3/a	S 25°39´24.67 E 27°49´55.38
Taking water from the borehole HER-BH 1	Remaining Extent (R/E) of Portion 46 of the farm De Kroon 444 JQ	Treating of contaminated groundwater for groundwater remediation purposes and dust suppression	21 902.92 m^3/a	S 25°39´45.90 E 27°50´22.23
Taking water from borehole HER- MA	Portion 46 of the farm De Kroon 444 JQ	Treating of contaminated groundwater for groundwater remediation purposes and dust suppression	18 249.27 m^3/a	S 25°39´53.41 E 27°50´15.02
Taking water from borehole HER- MB	Portion 46of the farm De Kroon 444 JQ	Treating of contaminated groundwater for groundwater remediation purposes and dust suppression	7 297.81 m^3/a	S 25°39´52.21 E 27°50´15.00

2. The quantity of water authorised to be taken in terms of this licence may not be exceeded without prior authorisation by the Department.

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 Licensee shall 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.

5. All water taken from the resource shall be measured as follows:

   5.1 The daily quantity of water taken must be metered or gauged and the total recorded at

the last day of each month; and

5.2 The Licensee shall keep record of all water taken and a copy of the records shall be forwarded to the Provincial Head or Responsible Authority each year with the annual water balance.

6. No water taken may be pumped, stored, diverted, or alienated for purposes other than intended in this licence, without written approval by the Department.

7. The Licensee shall install and monitor appropriate water measuring devices to measure the amount of water abstracted, received and/or consumed, as applicable to the infrastructure.

8. 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.

9. The Licensee shall be responsible for any water use charges or levies, which may be imposed from time to time by the Department or responsible authority in terms of the Department's Raw Water Pricing Strategy.

APPENDIX III

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

1. Storing of water

1.1. The Licensee is authorised to store water into the dams located on the properties and geographic location indicated in Table 2.

Table 2: Authorised water use activities

Water Use Activity	Properties	Purpose	Capacity(m^3)	Volume(m^3/a)	Coordinates
S21 (b)					
Storing water in drinking water dam	R/E of Portion 46 of the farm De Kroon 444 JQ	For domestic purposes	30 000 m^3	608 455 m^3/a	S 25°39'38.37 E 27°50'11.50

1.2. No additional storage works by means of which water can be impounded may be constructed on the property without the prior without prior authorisation by the Department.

2. Monitoring Requirements

2.1. Suitable measuring structures must be constructed to measure the flows entering and leaving the dam and this information must be available to the Provincial Head or Responsible Authority on request.

2.2. The Licensee shall establish a monitoring programme where in the date and time of monitoring in respect of each sample taken and shall be recorded together with the results of the analysis as well as other significant information (low flow, flooding, pollution incident, etc).

2.3. The water level in the dam and the quantity of water stored shall be recorded at the last day of each month.

3. Dam Safety Requirements

3.1 The operation and maintenance of all dam facilities classified as a dam with a safety risk, must be carried out under supervision of a Professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990).

3.2 All dams with a safety risk must be registered with the Department Dam Safety Office.

3.3 The Licensee shall supply any information, drawings, specifications, design assumptions, calculations, documents and test results when requested by the Provincial Head or Responsible Authority.

3.4 An approved professional person must be appointed to carry out a dam safety evaluation annually and must:

3.4.1 Consider whether the safety norms pertaining to the design, construction, monitoring, operation, performance and maintenance of the dam satisfy acceptable dam engineering practices.

3.4.2 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.

3.5 The Licensee is not exempted from compliance with the provisions of the Regulations published under Government Notice R. 139 of 24 February 2012, read with Chapter 12 of the Act.

4. Operation of Dams

4.1. The as-built drawing and specifications of all dams must be submitted to the Provincial Head or Responsible Authority for his/her records, after six months after completion of construction.

4.2. The Government reserves the right to construct storage works at any time in any stream and to store all surplus water reaching the dams and to control the allocation of such water.

4.3. The Licensee shall follow acceptable construction, maintenance and operational practices to ensure the consistent, effective and safe performance of the storage of water in the dam(s).

APPENDIX IV

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

1. CONSTRUCTION AND OPERATION

1.1 The Licensee shall carry out and complete all the activities, including the construction and operation of the facilities listed in Table 3, according to the Report and according to the final plans submitted with the Integrated Water Use Licence Application as approved by the Provincial Head or Responsible Authority.

Table 3: Waste water management facilities

Water Use Activity	Properties	Purpose	Capacity (m^3)/ Tonnages (p/a)/ Footprint Area	Volume (m^3/a [3])	Coordinates
S21 (g)					
Disposing of water found underground into Marula Dewatering Dam	R/E of Portion 103 of the farm De Kroon 444 JQ	For re-use in mining processes	12 000 m^3	580 685m^3/a	S 25°39´48.62 E 27°50´12.42
Disposing of waste water from ore beneficiation plant into ore beneficiation plant Return Water Dam	R/E of Portion 165 of the farm De Kroon 444 JQ	For reuse at the mine	25 000 m^3	420 115 m^3/a	S 25°39´21.29 E 27°50´20.15
Disposing of waste water from the processing plant into Process Water Dam	R/E of Portion 173 of the farm De Kroon 444 JQ	For reuse at the mine when required	76 000 m^3	1 840 450 m^3/a	S 25°39´28.24 E 27°50´10.81
Disposing of storm water into the Storm Water Pollution Dam	R/E of Portion 173 of the farm De Kroon 444 JQ	For re-use at the mine	38 000 m^3	150 380 m^3/a	S 25°39´23.81 E 27°50´13.89
Disposing of waste water from the tailing storage facility in the Return Water Dam	Portion 267 of the farm De Kroon 444 JQ	For re-use at the OB plant	24 000 m^3	2 058 235 m^3/a	S 25°39´11.15 E 27°50´52.14
Disposing of waste water from the chrome recovery plant into Chrome Recovery Plant Dam	Portion 216 of the farm De Kroon 444 JQ	For reuse at the chrome recovery plant	9 000 m^3	92 710 m^3/a	S 25°39´45.76 E 27°50´32.65

Water Use Activity	Properties	Purpose	Capacity (m^3)/ Tonnages (p/a)/ Footprint Area	Volume (m^3/a ³)	Coordinates
Disposing of return water from the new slimes dam into Slimes Return Water Dam	Portion 296 of the farm De Kroon 444 JQ	For evaporation	0.3ha	6 130 m^3/a	S 25°39´15.20 E 27°50´43.06
Disposing of slimes from bag filter plant into old slimes dam	R/E of Portion 46 of the farm De Kroon 444 JQ	Recovery of water and disposal of fines	0.36 ha	15 512m^3/a	S 25°39´45.96 E 27°50´24.12
Disposing of slimes from the bag filter plant into new slimes dam	Portion 296 of the farm De Kroon 444 JQ	Recovery of water and disposal of fines	4 ha	37 777m^3/a	S 25°39´18.44 E 27°50´46.78
Disposing of slag in the slag dump area	Portion 103 of the farm De Kroon 444 JQ	For recovery of metals at chrome recovery plant	4 ha	488 262.6 4m^3/a	S 25°39´52.69 E 27°50´58.23
Disposing of tailings in the Tailings Storage Facility from ore beneficiation plant	R/E of Portion 104 of the farm De Kroon 444 JQ	Storage of tailings	29.16 ha	5 303 627 m^3/a	S 25°39´13.08 E 27°51.13.38
Disposing of waste rock into Waste Rock Dump	R/E of Portion 104 of the farm De Kroon 444 JQ	For reuse-backfilling of the open pit void	0.3 ha	30 000 t/a	S 25°39´42.07 E 27°51´18.43
Disposing of coarse waste into Coarse Waste Dump	Portion 169 & 296 of the farm De Kroon 444 JQ	Temporary storage of coarse waste from the ore beneficiation plant	10 ha	523 871m^3/a	S 25°39´21.06 E 27°50´39.55
Backfilling of Open Pits with waste rock	R/E of Portion 103, 104 & 105, and Portion 135 of the farm De Kroon 444 JQ	For rehabilitation of the open pit	56 ha	680 000 m^3/a	S 25°39´24.10 E 27°51´17.85
Using purified waste water from	Portion 44 of the farm	For dust suppression		47 450.00 m^3/a	S: 25°65'96.7" E: 27°80'40.1"

Water Use Activity	Properties	Purpose	Capacity (m^3)/ Tonnages (p/a)/ Footprint Area	Volume (m^3/a ^{3})	Coordinates
contaminated boreholes	De Kroon 444 JQ	on the mine road			

1.2 The construction of the dam listed in Table 3 of must be carried out under the supervision of a professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as approved by the designer.

1.3 Within 30 days after the completion of the activities referred here in accordance with the relevant provisions of this licence, the Licensee shall in writing, under reference 27/2/2/A921/18/1, inform the Provincial Head or Responsible Authority thereof. This shall be accompanied by a signature of approval from the designer referred in Condition 1.2 that the construction was done according to the design plans referred to in the Report.

1.4 The Licensee must ensure that the disposal of the waste water and the operation and maintenance of the system are done according to the provisions in the Report.

1.5 The Licensee shall as well submit a set of as-built drawings to the Provincial Head or Responsible Authority of the waste facilities listed in Table 3.

1.6 The waste facilities listed in Table 3 shall be operated and maintained to have a minimum freeboard of 0.8 metres above full supply level and all other water systems related thereto shall be operated in such a manner that it is at all times capable of handling the 1:50 year flood-event on top of its mean operating level.

1.7 All the Pollution Control Dams (PCD) shall be lined with a composite (1,5 mm geo-membrane over 300 mm thick compacted clay) liner with a ballast layer on top of the geo-membrane which could be either by way of sand bags or a 200 mm thick soil layer.

2. QUALITY OF WATER CONTAINING WASTE TO BE DISPOSED

2.1 The Licensee shall submit the nature and the quality of the waste or water containing waste disposed off into all dirty water containment facilities as listed in Table 3.

3. MONITORING

3.1 The Licensee shall conduct ground water monitoring at the frequency and variables shown in Table 4 at the monitoring points shown in Table 5 and the results must be submitted to the Provincial Head or Responsible Authority on an annual basis.

3.2 Monitoring network shall be set up as an early warning system to detect any polluted seepage that might occur from the wastewater system.

3.3 If ground water pollution has occurred or may possibly occur, the licensee must conduct necessary investigations and implement additional monitoring and rehabilitation measures which must be to the satisfaction of the Provincial Head or Responsible Authority.

3.4 Monitoring boreholes shall 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.

Table 4: Groundwater monitoring variables and frequency

Variables/ Parameter	Frequency
pH	Quarterly
EC	Quarterly
TDS	Quarterly
Ca	Quarterly
Mg	Quarterly
Na	Quarterly
K	Quarterly
Cl	Quarterly
SO4	Quarterly
NO3asN	Quarterly
F	Quarterly
Al	Quarterly
Fe	Quarterly
Mn	Quarterly
Cr	Quarterly

Table 5: Ground water monitoring points

Locality	Description	X co-ordinate	Y co-ordinate
B1	North of mining	27°51´05.22	25°38´17.77
B2	West of mining	27°51´02.01	25°38´05.49
B3	East of mining	27°50´19.75	25°38´15.28
B4	East of mining	27°50´12.98	25°39´59.04
B5	At pan south of mining	27°49´54.01	25°39´50.04
B36	DWAF	27°49´53.00	25°39´51.98
B37	RAS SCHOOL old BH veld BH1	27°49´54.98	25°39´54.00
B38	Slimes dam BH1	27°50´24.00	25°39´45.00
B39	Slimes dam BH2	27°50´22.99	25°39´43.99
B40	Slimes dam BH3	27°50´21.01	25°39´48.99
41	Slimes dam BH4 (Hernic)	27°50´05.82	25°39´53.64

3.5 Licensee shall remove source of pollution within the three years that had been suggested by the Groundwater remediation plan report.

3.6 Licensee shall investigate source of nitrate pollution and if it is mine related activity at Maroelabult Section, Licensee shall start with clean up and preventative measures.

3.7 A yearly update of the phase approach remediation plan together with the surface and groundwater results must be reported to the Department.

3.8 The pollutant borehole should be closed for drinking purposes but should still operate as a monitoring borehole.

3.9 The mine must continue to provide the Ras School with potable drinking water until such a time that the Department declare the water potable and clean for drinking.

3.10 The Licensee shall conduct surface water monitoring on a monthly basis for water quality variables listed and frequency in Table 6 at the monitoring points shown in Table 7. The results must be submitted to the Provincial Head or Responsible Authority on a quarterly basis.

Table 6: Surface water monitoring variables and frequency

Surface water Variables	Frequency
Electrical Conductivity (mS/m)	Monthly
Sodium (mg/l)	Monthly
Magnesium (mg/l)	Monthly
Calcium (mg/l)	Monthly
Chloride (mg/l)	Monthly
Sulphate (mg/l)	Monthly
Nitrate (mg/l)	Monthly
Fluoride (mg/l)	Monthly
Iron mg/l)	Monthly
pH	Monthly
Total dissolved solids(mg/l)	Monthly
Potassium(mg/l)	Monthly
Chrome (IV) (mg/l)	Monthly

Table 7: Surface water quality sampling points

Locality	Description	X co-ordinate	Y co-ordinate
M1	Monitoring Point A-Upstream De Kroon Road Bridge	27°48'14.43"	25°42'57.0"
M2	Monitoring point B-Downstream Brits Pretoria Road	27°43'41.8"	25°42'49.8"
M3	Gravimax Concentrator RWD	27°44'40.5"	25°42'56.7"
M4	Process Water Dam	27°44'44.9"	25°42'42.5"
M5	Canal Water Dam	27°44'45.6"	25°42'28.2"
M6	Storm Water Containment Dam	27°45'35.10"	25°41'08.8"
M7	Sewage Effluent Pond	27°45'03.20"	25°41'50.22"

3.11 The date, time and monitoring point in respect of each sample taken shall be recorded together with the results of the analysis.

3.12 Monitoring points must not be changed prior to notification to and written approval by the Provincial Head or Responsible Authority.

3.13 Analysis shall be carried out in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), in terms of the Standards Act, 1982 (Act 30 of 1982).

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

4. WATER RESOURCE PROTECTION

4.1 The impact of the activities of the mine on the groundwater shall not exceed baseline groundwater quality as measured prior to mining activities as set out in Table 8.

Table 8: Baseline Groundwater Quality

Substance / Parameter	Maximum quality Baseline
pH	7-9
EC	260
TDS	1200
Ca	150-300
Mg	70-100
Na	200-400
K	50-100
Cl	200-600
SO4	400-600
NO3asN	10-20
F	1.0-1.5
Al	0.3-0.5
Fe	200-2000
Mn	0.1-1
Cr	100-500

6. STORMWATER MANAGEMENT

6.1 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.

6.2 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 storm-water flow.

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

6.4 Increased 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 streams.

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

7. PLANT AREAS AND CONVEYANCES

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

7.2 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.

7.3 Any hazardous substances must be handled according to the relevant legislation relating to the transport, storage and use of the substance.

7.4 Any access roads or temporary crossings must be:

7.4.1 non-erosive, structurally stable and shall not induce any flooding or safety hazard and
7.4.2 be repaired immediately to prevent further damage.

8. ACCESS CONTROL

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

8.2 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.

9. CONTINGENCIES

9.1 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 or Responsible Authority upon request. Such malfunctions shall be tabulated under the following headings with a full explanation of all the contributory circumstances:

9.1.1 operating errors
9.1.2 mechanical failures (including design, installation or maintenance)
9.1.3 environmental factors (e.g. flood)
9.1.4 loss of supply services (e.g. power failure) and
9.1.5 Other causes.

9.2 The Licensee must, within 24 hours, notify the Provincial Head or Responsible Authority 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.

9.3 The Licensee must, within 14 days, or a shorter period of time, as specified by the Provincial Head or Responsible Authority, 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 or Responsible Authority of measures taken to:

9.3.1 correct the impacts resulting from the incident
9.3.2 prevent the incident from causing any further impacts and prevent a recurrence of a similar incident.

10. INTEGRATED WATER AND WASTE MANAGEMENT

10.1 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 or Responsible Authority for approval within one (1) year from the date of issuance of this licence.

10.2 The IWWMP and RSIP shall thereafter be updated and submitted to the Provincial Head or Responsible Authority for approval, annually.

10.3 The Licensee must, at least 180 days prior to the intended closure of any facility, or any portion thereof, notify the Provincial Head or Responsible Authority of such intention and submit any final amendments to the IWWMP and RSIP as well as a final Closure Plan, for approval.

10.4 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.

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

11.1 Licensee shall develop and submit a water conservation and demand management (WC/WDM) plan to the Provincial Head or Responsible Authority, which

11.1.1 quantify the water use efficiency of the activity;
11.1.2 contains the mine water management and water loss strategies and programs;
11.1.3 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;

11.2 Licensee shall update the WC/WDM plan on an annually basis and submit to the Provincial Head or Responsible Authority for approval.

11.3 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.

11.4 The Licensee shall establish and implement a continual process of raising awareness amongst itself, its workers and stakeholders with respect to Water Conservation/Water Demand Management initiatives.

12. REPORTING

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

12.2 The Licensee shall submit the results of analysis for all monitoring requirements to the Provincial Head or Responsible Authority on a quarterly basis under the reference number 27/2/2/A921/18/1.

APPENDIX V

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

1. This licence authorises the removal, discharging or disposing of a maximum volume of water found underground for the efficient continuation of an activity as set out in Table 9.

Table 9: Section 21 (j) water use activities

Water Use Activity	Properties	Purpose	Volume(m^3/a)	Coordinates
S21 (j)				
Removing water from Morula Shaft Dewatering	Portion 104 of the farm De Kroon 444 JQ	For safe continuation of mining operation and re-use at the mine	436 175 m^3/a	S 25°39′24.10 E 27°51′17.85
Removing waste water from Morula Pit Dewatering	Portion 135 of the farm De Kroon 444 JQ	For reuse at the OB Plant	238 345 m^3/a	S 25°39′23.63 E 27°51′17.70

2. The quantity of the water authorised to be removed in terms of this licence may not be exceeded without prior authorisation by the Department.

3. The Licensee shall provide any water user whose water supply is impacted by the water use with potable water.

4. The quantity of water removed from underground must be metered and recorded on a daily basis.

5. Groundwater levels shall be monitored every six months (once in the beginning of the dry season and once in the beginning of the wet season), level measurements shall be reported in tabular and graphical formats indicating trends.

6. Self-registering flow meters must be installed in the delivery lines at easily accessible positions near the dewatering points.

7. The flow metering devices shall 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 Responsible Authority or his/her representative upon request.

8. Calibration certificates in respect of the pumps must be submitted to the Provincial Head or Responsible Authority after installation thereof and thereafter at intervals of two years.

8 The date and time of monitoring in respect of each sample taken shall be recorded together with the results of the analysis.

10. Analysis shall be carried out in accordance with methods prescribed in condition 3.11 and 3.12 of appendix IV of this licence

11. The Provincial Head or Responsible Authority must be informed of any incident that may

lead to groundwater being disposed of contrary to the provisions of this license, by submitting a report containing the following information: -

11.1 Nature of the incident (e.g. operating malfunctions, mechanical failures, environmental factors, loss of supply services, etc)

11.2 Actions taken to rectify the situation and to prevent pollution or any other damage to the environment and

11.3 Measures to be taken to prevent re-occurrence of any similar incident.

12. The Licensee shall follow acceptable construction, maintenance and operational practices to ensure the consistent, effective and safe performance of the groundwater removal system.

13. Reasonable measures must be taken to provide for mechanical, electrical or operational failures and malfunctions of the underground water removal system.

[END OF LICENCE]

APPENDIX 5(A)

HERNIC Enviro-Legal Assessment

PRELIMINARY ENVIRONMENTAL LEGAL REQUIREMENTS FRAMEWORK

HERNIC FERROCHROME (PTY) LTD

DRAFT FOR DISCUSSION

PREPARED FOR:

JMA CONSULTING (PTY) LTD

TABACKS

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1 INTRODUCTION AND BACKGROUND

1.1 Mervyn Taback Incorporated ("**Tabacks**") has been appointed by JMA Consulting (Pty) Ltd ("**JMA**") to compile a project-wide environmental-legal requirements framework in respect of Hernic Ferrochrome (Pty) Ltd's ("**Hernic[s]**") existing mining and smelter operations located in Madibeng, North West Province. This constitutes the environmental-legal requirements framework report ("**the Report**").

1.2 As per the approved scope of work[1] the first phase environmental-legal requirements framework entails the identification and assessment of National, Provincial and Local environmental legislation applicable to Hernic's mining and smelter operations which require that Hernic obtains an environmental authorisation, ("**EA**") permit or licence.

1.3 As part of the second phase of the environmental-legal requirements framework, Tabacks was requested to consider the draft Scoping Report prepared by JMA to consider the state of compliance of plant operations and infrastructure in relation to each of the plant areas described in the Scoping Report. We were also requested to consider new proposed projects that are of immediate concern for Hernic. A report on this phase will follow upon submission of this first phase report.

1.4 We must at the outset emphasise that our scope of work was undertaken on a desktop basis. We did not attend on site and our conclusions and recommendations are therefore based exclusively on observations, descriptions and findings set out in the JMA Report. In what follows, Tabacks provides an introduction to Hernic's operations where after we proceed to consider the prevailing regulatory framework applicable to Hernic's operations.

2 HERNIC'S OPERATIONS

2.1 Hernic commenced its mining operations during or about May **1996** producing ferrochrome in the Madibeng municipal area initially from two semi-enclosed submerged arc furnaces. The operations were expanded with the introduction of a third closed furnace linked to a pelletizing and sintering plant and later a fourth closed furnace and second pelletizing and sintering plant. The operations comprise both mining of chromite ore (initially opencast and later underground), ore beneficiation to yield feedstock chromite concentrate and lumpy ore, followed by pelletizing and sintering of the fine ore and finally ferrochrome smelting which is presently undertaken in four closed furnaces. Several chrome recovery operations from chromite containing slag are also active on the site.

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[1] Cost Proposal and Scope of Work: Project Environmental-Legal Framework for Hernic Ferrochrome (Pty) Ltd dated 19 February 2016.

2.2 Generally, the operations consist of the Maroelabult mining section, which includes the beneficiation plant, and the Bokone mining section. The Bokone opencast mine is operational but the Maroelabult underground mining section is under care and maintenance.

2.3 From the outset, Hernic has at all relevant times operated as a mine. As such, environmental management and in particular waste management, has been undertaken subject to and in accordance with the environmental management obligations imposed by the erstwhile Minerals Act 50 of 1991 ("**MA**") and the Minerals and Petroleum Resources Development Act 28 of 2002 ("**MPRDA**"). Furthermore, we understand that the facilities and operations at Hernic are undertaken within Hernic's mining area and as approved in Hernic's mining right and Environmental Management Programmes ("**EMPRs**").

2.4 We take note of JMA's description of the mining and production processes which is as follows:

2.4.1 Mining of the Middle Group Chromite Seams (MG-0, MG-1, MG-2, MG-3 and MG-4) ("Open-cast and underground");

2.4.2 The sourcing of other ore minerals from neighbouring mines (MG-O, MG-1, MG-2, LG-6 and UG-2 ore);

2.4.3 The procurement of other raw materials (such as dolomite, limestone, quartzite, anthracite, coke);

2.4.4 The beneficiation and concentration of ore (crushing, screening, spiralling and dense medium separation ("**DMS**")) in an Ore Beneficiation Plant ("**OB Plant**");

2.4.5 Pelletizing and sintering of the concentrate ore at two Pelletizing Plants;

2.4.6 Blending of lumpy ore, pellets and other raw materials in two Proportioning Plants;

2.4.7 Smelting of these feed materials in four Closed Submerged Arc Furnaces;

2.4.8 The separation of ferrochrome and slag during tapping at the furnaces;

2.4.9 Breaking-up of the ferrochrome after smelting;

2.4.10 Recovery of ferrochrome from slag at the chrome recovery plant;

2.4.11 Recovery of fine ferrochrome at the Fine Slag Recovery Plant;

2.4.12 Recovery of Platinum Group Minerals ("**PGMs**") from OB Plant Slimes at the PGM Plant;

2.4.13 The final preparation of the product for dispatch to the markets at the Finished Product Area;

2.4.14 The manufacturing of sand from slag and waste rocks at the Fine Slag Recovery Plant;

2.4.15 Manufacturing of aggregate from slag and waste rock at the Aggregate Plants.[2]

3 OVERVIEW OF CURRENT ENVIRONMENTAL AUTHORISATIONS

Environmental Management Programmes

3.1 The following EMPRs have been prepared for Hernic's operations and submitted to the Department of Mineral Resources ("**DMR**") for approval:

3.1.1 Environmental Management Programme Report for the Maroelabult Mining Operation and Ferrochrome Plant dated October 1995 ("**Original EMPR**"). The aforesaid original EMPR was approved by the then Department Mineral and Energy Affairs ("**DME**") on 23 October 1995.

3.1.2 Environmental Management Report for the Extension of the Existing Hernic Ferrochrome Operations dated July 1998 ("**Maroelabult extension EMPR**"). It appears from the date stamp affixed to the aforesaid EMPR that same was approved on 28 July 1998.

3.1.3 Amendment to the EMPR number 6/2/2/549 for Hernic Ferrochrome's Fourth Furnace dated September 2003 ("**Fourth Furnace EMPR**"). The aforesaid Fourth Furnace EMPR was approved by the then DME on 1 April 2004.

3.1.4 Hernic Ferrochrome (Pty) Ltd Environmental Report on Chrome Processes dated September 2005 ("**Chrome Processes EMPR**"). The aforesaid Chrome Processes was approved by the then North West Provincial Department of Agriculture, Conservation and Environment on the 10 November 2006.[3]

3.1.5 Environmental Impact Assessment and Environmental Management Programme for a Railway Siding (Fifth Amendment to Hernic's EMPR Report) prepared by Metago Environmental Engineers (Pty) Ltd and dated March 2007 ("**Siding EMPR**"). The aforesaid railway siding was approved by the then North West Provincial Department of Agriculture, Conservation and Environment on the 23 June 2006 in terms of section 22 of the Environment Conservation Act 73 of 1989 ("**ECA**").

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[2] Scoping Report (JMA Project: JMA / 10462 – Draft Volume 1 of 1 and Version 01 provided to us during May 2016.

[3] The authorisation was granted in terms of section 24G of the NEMA and in respect of the Ferrochrome Smelter (furnace 1, 2 and 3), pelletizing and sintering plant, hazardous chemicals storage area and sewage work. The authorisation rectifies the unlawful commencement of activities listed in terms of the ECA, namely: item 9 as identified in GN 1182 of 5 September 1997.

3.1.6 Maroelabult Mining Operation and Ferrochrome Plant Facility Environmental Impact Assessment and Environmental Management Programme submitted to the DMR on 18 January 2007 (according to the date stamp) ("**Consolidated EMPR**"). The aforesaid Consolidated EMPR was approved by the DMR on 26 June 2012. In this regard, the letter of approval states, amongst others, that Hernic must submit a surveyed plan annually indicating the positions, footprints and volumes of all topsoil stockpiles, overburden dumps, waste rock dumps, slimes dams, positions and depths of all open pits and positions of all rehabilitated areas as well as the status of rehabilitation.[4] We understand that Hernic's operations are currently undertaken in respect of the Consolidated EMPR.

3.1.7 Environmental Process for the Proposed Mining Right Amendment (section 102) for the inclusion of additional minerals at Hernic's Maroelabult Operations prepared by SLR Consulting Africa (Pty) Ltd dated December 2012 ("**PGM EMPR**"). We have been provided with two PGM EMPRs referring to two different mining rights (308 MR and 396 MR). It is Hernic's understanding that the aforesaid PGM EMPRs have been approved by DMR on 24 March 2013 with the approval of the section 102 application. We understand that the PGM Plant is to be constructed at the Mixed Material storage area and, once commissioned, the PGM Plant will be utilised for the reprocessing of the current tailings arising stored in the existing Tailings Storage Facility ("**TSF**") and the coarse waste and tailings previously backfilled into the opencast pit areas.

3.1.8 Section 102 EMPR Amendment to include the TSF on various portions of the farm De Kroon 444 JQ prepared by ENVASS Environmental Assurance (Pty) Ltd (undated copy received) ("**TSF EMPR**"). We understand that the TSF EMPR was submitted to the DMR for approval in 2012 and that approval has been granted in November 2015. We understand that Hernic intends to consolidate the TSF EMPR and the PGM EMPR with the Consolidated EMPR.

Disposal Site Permits and Waste Management Licences

3.2 Hernic does not hold any waste disposal site permits ("**Disposal Site Permits**") granted in terms of section 20 of the ECA or waste management licences ("**WMLs**") granted in terms of the National Environmental Management Waste Act 59 of 2008 ("**NEMWA**"). Historically Hernic operated and continues to operate as a mine. As such, waste management practices have been approved and managed in terms of EMPRs.

Water Use Licences

[4] Letter of approval issued by the DMR on 26 June 2012, paragraph (g).

3.3 With regards to the water uses undertaken by Hernic, an application for a water use licence ("**WUL**") was submitted to the then Department of Water Affairs ("**DWA / the Department**") in 2004. The application was resubmitted in 2006 and again in 2011 as the Department advised that they misplaced the initial applications. Hernic was undertaking water uses in terms of an Exemption 2117B granted in terms of the Water Act 54 of 1956 ("**WA**")(now repealed). On 6 March 2006 the then Department of Water Affairs and Forestry ("**DWAF**") issued a directive in terms of section 53(c)(1) of the National Water Act 36 of 1998 ("**NWA**") which directed Hernic to, amongst others, continue with the water uses as authorised in the Exemption.

3.4 On 18 December 2015 the DWS proceeded to issue the abovementioned WUL. The WUL was issued in terms of Chapter 4 of the NWA for Hernic Ferrochrome Mine: Maroelabult Section.

Record of Decisions and Environmental Authorisations

3.5 With regard to environmental authorisations ("**EAs**") issued in terms of the ECA and the National Environmental Management Act 107 of 1998 ("**NEMA**"), we understand that Hernic is the holder of the following:

3.5.1 EA for the installation of a aboveground diesel storage tank at Hernic Ferrochrome Mine in Brits, on portion 195 of the farm Bokone 448JQ listed activities 1(k), 1(l), 1(m), 1(n) 15 in Government Notice Number R386 and listed activities 1(a), 1(c), 1(e), 1(s), 2,5.

3.5.2 EA for the proposed Bokone concentrator plant and smelter complex on the farm Bokone 448 JQ listed activities 1(k) Government Notice Number 386.

3.5.3 EA in terms of the NEMA GN R 543 and 544: Proposed Hernic Bokone 132kV power line and the new Bokone substation within Madibeng Local Municipality, North West Province.

3.5.4 Authorisation for the fourth ferrochrome closed furnace for Hernic on the remaining extent of portion 103 of the far De Kroon 444JQ, in the District of Brits. Issued in terms of the ECA in relation to the undertaking of listed activity 9 in Schedule 1 of GNR 1182 of September 1997.

3.5.5 Rectification of the unlawful commencement of a listed activity: Scheduled processes listed in the second schedule to the Atmospheric Pollution Prevention Act 45 of 1965. As contemplated in Section 24G of the NEMA.

3.5.6 EA for the construction of a Railway Siding between the Hernic Ferrochrome Plant and Pendora Station on Spoornet's Rosslyn Line on portion 51 Uitkoms 443 JQ,

remaining extent 80 of the farm Elandsfontein 440JQ portions 51,52,231 and remaining extension 1 of De Kroon 444 JQ, Madibeng Local Municipality, North West Province. Listed activity 1 (d) in schedule 1 of GN.R 1182 of 5 September 1997 as amended.

3.5.7 EA for the enclosing of Hernic Ferrochrome's existing open furnaces, on the farm De Kroon 444JQ, listed activity number 25, Government Notice R386m Madibeng Local Municipality, North West Province.

3.5.8 EA for Hernic Electricity Generation on remainder of portion 103 of the farm De Kroon 444 JQ. Listed Activities 1(a)(i), 1(e) and 1(l).

3.5.9 EA for the construction of Hernic Tailings Storage Facility on portions 78, 105, 135, 104, 151, 50,49,132 and 199 of the farm De Kroon 444 JQ, listed activities 1 (k) & 15 in Government Notice Number R. 386 and 2 & 6 in GN No. R387, Madibeng NW Province.

Atmospheric Emission Licences

3.6 Hernic was issued with an Atmospheric Emission Licence ("**AEL**") on the 7th of September 2015. The AEL was issued in order to undertake a listed activity in category: 4.5 and 4.9 of Section 21 of National Environmental Management Air Quality Act 39 of 2004 ("**NEMAQA**").

4 REGULATORY FRAMEWORK

4.1 THE "ONE ENVIRONMENTAL SYSTEM"

4.1.1 As from the 2nd of September 2014 the statutory dispensation regulating environmental management on mines changed with the implementation of the "*One Environmental System"* and the commencement of the National Environmental Management Laws Amendment Act 25 of 2014 ("**the Environmental Laws Amendment Act**"). The commencement of the *"One Environmental System"* resulted in the environmental management functions on mines previously undertaken in terms of the MPRDA and the Mineral and Petroleum Resources Development Regulations ("**MPRDRs**")[5] being transferred, save for certain limited sections and regulations being retained, to the NEMA and its applicable regulations and notices.

4.1.2 In the move by Government towards the implementation of the *"One Environmental System"*, Government embarked on a law reform process which resulted in a complicated and protracted statutory amendment process. In this regard,

[5] GNR 527 of 23 April 2004

Government produced the following range of amendment acts:

4.1.2.1 The National Environmental Management Amendment Act 62 of 2008 which *commenced on 1 May 2009* ("**the National Environmental Management Amendment Act**");

4.1.2.2 The Mineral and Petroleum Resources Development Amendment Act No. 49 of 2008 which *commenced on the 7th of June 2013* save for certain sections to be commenced with at a later date more fully discussed herein below ("**the Mineral and Petroleum Resources Amendment Act**");

4.1.2.3 The National Environmental Management: Waste Amendment Act 26 of 2014 which *commenced on the 2nd of June 2014* ("**the Waste Amendment Act**"); and

4.1.2.4 The Environmental Laws Amendment Act referred to paragraph 4.1.1 above.

4.1.3 Tabacks has considered the abovementioned amendment Acts in identifying the environmental-legal regulatory framework applicable to Hernic's operations.

4.2 MINING LEGAL FRAMEWORK

4.2.1 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 28 OF 2002

4.2.1.1 The MPRDA is the central Act governing mining in South Africa and as was stated above, was amended by the Mineral and Petroleum Resources Amendment Act which came into effect on 7 June 2013.[6] The preamble to the MPRDA affirms the State's obligation to protect the environment for the benefit of present and future generations, to ensure ecologically sustainable development of mineral and petroleum resources and to promote economic and social development.

4.2.1.2 Section 5A(a) of the MPRDA, which commenced on the 7th of December 2014, states that no person may mine for and produce any mineral or commence with any work incidental thereto without an EA granted in terms of the NEMA, *inter alia* a mining right and giving the landowner or lawful occupier of the land in question at least 21 days written notice. An EA is defined in section 1 of the MPRDA to have the meaning ascribed to the term in the NEMA and the NEMA defines the term to mean an authorisation by a competent authority of a listed or specified activity in terms of the NEMA and includes a similar authorisation

[6] The commencement date of the Amendment Act 49 of 2008 was published in Proclamation 14 of 31 May 2013. The aforesaid Proclamation was amended by Government Notice 17 of 6 June 2013 which stated that the Amendment Act 49 of 2008 commenced on 7 June 2013 except for certain sections as identified in the Notice which will commence at a date to be determined by the Minister of Mineral Resources.

contemplated in a specific environmental management Act (**"SEMA"**)[7].

4.2.1.3 In addition to the above, section 25(2)(e) of the MPRDA states that the holder of a mining right must *inter alia* comply with the requirements of its approved EMPR. In terms of section 12(4) of the National Environmental Management Amendment Act, any EMPR approved in terms of the MPRDA immediately before the commencement date of the provisions in the National Environmental Management Amendment Act (i.e. 1 May 2009) dealing with, *inter alia*, prospecting, mining and related activities, must be regarded as having been approved in terms of the NEMA as amended.

4.2.1.4 The transitional provisions in the National Environmental Management Amendment Act, as set out above, presently provides for EMPRs approved in terms of the MPRDA to be approved as EMPRs (and not EAs) in terms of the NEMA. As a result, the substantive and procedural requirements of the NEMA find application to those EMPRs which have been approved in terms of the MPRDA.

4.2.1.5 Section 38B(1) of the MPRDA Amendment Act states as follows:

"*An environmental management plan or environmental management programme approved in terms of this Act before and at the time of the coming into effect of the National Environmental Management Act, 1998, shall be deemed to have been approved and an environmental authorisation been issued in terms of the National Environmental Management Act, 1998*."

4.2.1.6 It is common cause that the MPRDA Amendment Act commenced on the 7th of June 2013 however, the DMR elected not to commence with section 38B(1) referred to above.[8] Accordingly an EMPR approved in terms of the MPRDA before the coming into effect of the NEMA is <u>not</u> deemed to be an EA for purposes of the application of the enforcement provisions in the NEMA.

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[7] Specific Environmental Management Act which by definition in section 1 of the NEMA includes:
(a) the Environment Conservation Act, 1989 (Act No. 73 of 1989);
(b) the National Water Act, 1998 (Act No. 36 of 1998);
(c) the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003);
(d) the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);
(e) the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004);
(f) the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008);
(g) the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008); or
(h) the World Heritage Convention Act, 1999 (Act No. 49 of 1999),
and includes any regulation or other subordinate legislation made in terms of any of those Acts;

[8] Amendment of Proclamation No 14 of 2013 dated 31 May 2013 as published in Proclamation Notice 17 of 6 June 2013.

4.2.1.7 It is to be noted that the National Environmental Management Laws Amendment Bill 2015 ("**NEMLA Bill**")[9] *inter alia* proposes changes to the transitional provisions recorded in section 12 of the National Environmental Management Amendment Act. Subsections 12(4) and 12(6) of the aforementioned amendment Act are substituted with amended subsections which state as follows:

> *"(4) An environmental management plan or programme approved in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002); [immediately before the date on which this Act came into operation] on or before 2 September 2014 shall be deemed to have been approved in terms of the [principal Act] National Environmental Management Act, 1998 and an environmental authorisation issued [by this Act]. (Our emphasis)*

4.2.1.8 The NEMLA Bill 2015 also proposes the insertion of a new subsection 12(4A) which states as follows:

"An environmental management plan or programme approved in terms of the Mineral and Petroleum Resources Development Act, 2002 after 2 September 2014 shall be deemed to have been approved in terms of the National Environmental Management Act, 1998 and an environmental authorisation issued."

4.2.1.9 It is evident that these amendments seek to rectify the transitional gap described above. Accordingly, once the NEMLA Bill 2015 is promulgated, EMPRs approved in terms of the MPRDA will be deemed to be an EA issued in terms of the NEMA. This is however not the legal position at present.

4.2.1.10 With regard to the management of mine residue and other waste types on mines, the following definitions have been retained in the MPRDA notwithstanding the transition of waste management at mines to the NEMWA:

"residue deposit" means any residue stockpile remaining at the termination, cancellation or expiry of a prospecting right, mining right, mining permit, exploration right, production right or and old order right;

"residue stockpile" means any debris, discard, tailings, slimes, screening, slurry, waste rock, foundry sand, beneficiation plant waste, ash or any other product derived from or incidental to a mining operation and which is

[9] On 13 October 2015 the Minister of Environmental Affairs published the National Environmental Management Laws Amendment Bill 2015 ("NEMLA Bill") for public comment. The NEMLA Bill aims to amend, *inter alia*, the NEMA, the NEMWA and the Environmental Laws Amendment Act which commenced on the 2nd of September 2014

stockpiled, stored or accumulated for potential re-use, or which is disposed of, by the holder of a mining right, mining permit, production right or an old order right.

4.2.1.11 Similarly, from a waste management perspective, the NEMWA initially failed to address the issue whether waste management commitments in an approved EMPR can be deemed to be a WML as contemplated in the NEMWA. While the position in relation to EMPRs and EAs under the NEMA remains uncertain, the position in relation to EMPRs and WMLs under the NEMWA has been rectified.

4.2.1.12 On 24 July 2015, GNR 633 introduced transitional provisions that seek to regulate the transition of waste management at mines from an EMPR approved in terms of the MPRDA to a WML in terms of the NEMWA. In this regard the transitional provisions state as follows:

"An environmental management programme or plan approved in terms of the Mineral and Petroleum Resources Development Act, 2002 shall be deemed to have been approved and issued in terms of the NEMWA.

The Minister responsible for mineral resources may direct any holder of a prospecting right, mining permit, mining right, exploration right, or production right, if he or she is of the opinion that the residue stockpile or residue deposit in question is likely to result in significant pollution, degradation or damage to the environment, to take such action to upgrade the environmental management programme or plan to address any deficiency in the environmental management programme or plan.

An environmental management programme or plan submitted in terms of the Mineral and Petroleum Resources Regulations, 2004 and which is pending when the Notice took effect, must despite the repeal of the Mineral and Petroleum Resources Regulations, 2004 be dispensed with in terms of the Mineral and Petroleum Resources Regulations, 2004 as if those regulations were not repealed." (Our Emphasis)

4.2.1.13 Finally, notwithstanding that the NEMA regulates the approval, amendment and compliance assessment of Hernic's EMPRs, the MPRDA retains a section which continues to be applicable to EMPRs. Section 102 of the MPRDA states that an EMPR or an EA issued in terms of the NEMA as the case may be, may not be amended or varied (including by extension of the area covered by it or by the addition of minerals or a shares or seams, mineralised bodies or strata, which are not at the time the subject thereof) without the written consent of the

Minister responsible for mineral resources.

4.2.1.14 It therefore appears to us that any amendment to Hernic's approved EMPRs will have to be subjected to the process prescribed in terms of the NEMA as well as section 102 of the MPRDA. The retention of a reference to EMPRs and EA's in section 102 of the MRPDA is in our view an oversight on the part of the legislature as there is no rationale that justifies the inclusion of an amendment of an EMPR or EA under section 102 of the MPRDA.

4.2.1.15 In practical terms however, we anticipate that substantively and procedurally, the process as prescribed in the NEMA for the amendment of an EMPR will have to be undertaken with due references to the fact that the NEMA amendment is also submitted in terms of section 102 of the MPRDA.

4.3 ENVIRONMENTAL LEGAL FRAMEWORK

4.3.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998 (NEMA)

Historical Perspective – Environment Conservation Act

4.3.1.1 In terms of section 21 of the ECA, the Minister may identify activities that may have a substantial detrimental effect on the environment, whether in general or in respect of certain areas. Such activities were identified during 1997.[10]

4.3.1.2 Section 22 of the ECA *inter alia* states that no person shall undertake an activity identified in terms of section 21(1) of the Act, or cause such an activity to be undertaken except by virtue of a written authorisation issued by the relevant government authority. The erstwhile Minister of Environmental Affairs and Tourism identified the activities which may have a substantial detrimental effect on the environment in terms of section 21 of the ECA and which accordingly required authorisation by government prior to the undertaking of the identified activities. These activities and the prescribed authorisation process were identified in regulations promulgated in terms of the Act and were referred to as the *"listed activities"* and the *"EIA Regulations"* respectively.

4.3.1.3 The listed activities included, amongst others, item 8 which provided for the disposal of waste in terms of section 20 of the ECA, excluding domestic waste, but including the establishment, expansion, upgrading or closure of facilities for all wastes, ashes and building rubble.

[10] GNR 1182 of 5 September 1997, as amended by GNR 448 of 27 March 1998 and GNR 670 of 10 May 2002. It should be noted that there was a question mark surrounding the validity of the latter amendment as the amendments were effected without prior publication for comment in the *Government Gazette* as required by section 32 of the ECA

4.3.1.4 If any one or more of the listed activities were undertaken during the course of a project at any time after 8 September 1997 (note that certain activities commenced on later dates such as item 8 which commenced on 2 March 1998 as indicated in Schedule 2 of GNR 1182), without an EA, an offence was committed which rendered the proponent of the activity liable to a fine and imprisonment in terms of section 29(4) of the ECA.

4.3.1.5 The provisions in the regulations containing the listed activities and the EIA Regulations have all, with the exception of section 22 in the ECA read with section 29(4), been repealed, with the commencement of the listed activities in terms of the NEMA in 2006, as set out below.

4.3.1.6 Having regard to the listed activities in the ECA, it must be emphasised that the Government Notice in which the listed activities were published indicated that: *"…this Notice is not applicable to an activity that was commenced with before the date of commencement fixed in respect of that activity as indicated in the said Schedule"*.

4.3.1.7 At the time, the pre-amble to these listed activities expressly stated that the listed activities do not find retrospective application and accordingly, had construction commenced prior to the commencement of these activities and should a listed activity apply no obligation arose to obtain a Record of Decision ("**RoD**"). As was mentioned above, Hernic operations were commissioned during 1996 and therefore construction of the initial plant infrastructure commenced prior to 1997.

4.3.1.8 In any event, in our experience, at the time, neither the national department concerned with environmental affairs nor the relevant provincial environmental departments enforced the listed activities in GNR 1182 to the mining sector.

<u>Environmental Authorisations – National Environmental Management Act</u>

4.3.1.9 The statutory mechanism of issuing EAs, which follow after the undertaking of an environmental assessment process, is a tool utilised by the relevant authorities to ensure that activities undertaken do not cumulatively have an unacceptable negative impact on the environment.

4.3.1.10 Section 24 of the NEMA, headed *"Environmental Authorisations"* sets out the provisions which are to give effect to the general objectives of Integrated Environmental Management ("**IEM**"), and laid down in Chapter 5 of the NEMA. In terms of section 24(1), the potential impact on the environment of listed activities must be considered, investigated, assessed and reported on to the

competent authority charged by the NEMA with granting of the relevant environmental authorisation. In terms of section 24F(1) of the NEMA no person may commence an activity listed or specified in terms of section 24(2)(a) or (b) unless the competent authority has granted an environmental authorisation for the activity.

4.3.1.11 In 2006, the Department of Environmental Affairs ("**DEA**") published the EIA Regulations and associated notices with listed activities which commenced on 21 April 2006. The following notices comprised the EIA Regulations 2006:

4.3.1.11.1 GNR 385 of 21 April 2006 – EIA Regulations 2006;

4.3.1.11.2 GNR 386 of 21 April 2006 - List of activities which required a Basic Assessment to be undertaken; and

4.3.1.11.3 GNR 387 of 21 April 2006 – List of activities which required a Scoping and EIA process to be undertaken.

4.3.1.12 The listing notices included listed activities that referred to and concerned waste management. With the commencement of the NEMWA and GN 718 of 3 July 2009, the EIA Regulations 2006 and associated listed activities were amended by deleting all references to activities which related to waste management. For example, the listed activities referred to recycling, re-use, handling, temporary storage or treatment of general waste; temporary storage of hazardous waste; treatment of effluent; wastewater or sewage and the expansion of facilities associated with waste disposal. The aforesaid listed activities were concerned with the construction of facilities in order to facilitate the undertaking of the respective waste management actions.

4.3.1.13 The listed activities published in the notices of 2006 did not apply to waste disposal activities undertaken prior to 21 April 2006. However, in the event that any of the abovementioned activities were undertaken after the 21st of April 2006, such activity required an EA prior to the commencement therewith.

4.3.1.14 On 18 June 2010 the EIA Regulations 2006 were repealed and replaced by the EIA Regulations 2010. The aforesaid Regulations commenced on 2 August 2010 save for those activities relating to prospecting, mining etc. The EIA Regulations 2010 were published in different notices, namely:

4.3.1.14.1 Environmental Impact Assessment Regulations, 2010 (EIA Regulations) – GNR 543 of 18 June 2010;

4.3.1.14.2 Listing Notice 1: List of activities for which EA is sought by undertaking the Basic Assessment ("**BA**") Process – GNR 544 of 18 June 2010;

4.3.1.14.3 Listing Notice 2: List of activities for which EA is sought by undertaking the Scoping and Environmental Impact Reporting ("**S&EIR**") process – GNR 545 of 18 June 2010;

4.3.1.14.4 Listing Notice 3: List of activities for which EA is required in specific identified geographical areas only – GNR 546 of 18 June 2010;

4.3.1.15 Those listed activities published in the EIA Regulations 2006 that were concerned with aspects of waste management were not repeated in the EIA Regulations 2010.

4.3.1.16 With effect from 8 December 2014, the EIA Regulations 2010 were repealed and replaced by the EIA Regulations 2014 and associated listing notices, namely:

4.3.1.16.1 EIA Regulations, 2014 – GNR 982 in Government Gazette 38282 dated 4 December 2014;

4.3.1.16.2 EIA Regulations: Listing Notice 1 of 2014 – GNR 983 in Government Gazette 38282 dated 4 December 2014;

4.3.1.16.3 EIA Regulations: Listing Notice 2 of 2014 – GNR 984 in Government Gazette 38282 dated 4 December 2014;

4.3.1.16.4 EIA Regulations: Listing Notice 3 of 2014 – GNR 985 in Government Gazette 38282 dated 4 December 2014.

4.3.1.17 The 2014 Listing Notices do not provide for activities concerned with aspects of waste management

4.3.1.18 Environmental impact assessments must be carried out for listed activities and reported to the competent authority authorised to grant the relevant EA, except in the case of those activities that may commence without having to obtain an EA in terms of NEMA. As of the 8th of December 2014, the 2014 EIA Regulations and listed activities are clearly applicable to all mining and related activities. It will be recalled that section 5A read with section 25 of the MPRDA states that no person may mine or commence with any work incidental thereto on any area without an EA.

4.3.1.19 Within the context of mining and mining related activities the DMR has been designated as the competent authority tasked with the implementation of the NEMA and the NEMWA within the mining sector.

4.3.2 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT 59 OF 2008

Recent amendments to the waste legislation

4.3.2.1 Since its commencement on 1 July 2009, the generation and management of waste have been governed in terms of the NEMWA. In terms of section 4 of the NEMWA, certain waste streams including, amongst others, residue stockpiles and residue deposits as defined in terms of the MPRDA, were excluded from the ambit of the NEMWA. As such, mining companies continued with the generation, storage, recovery and disposal of its mine residue in terms of the MPRDA.

4.3.2.2 As from the 2nd of September 2014 the statutory dispensation regarding environmental management on mines, including waste management, changed with the implementation of the "*One Environmental System*". For purposes of this legal framework we provide a brief overview of the amendments to the waste legislation.

4.3.2.3 The amendment acts which resulted in the amendment of the NEMWA are:

4.3.2.3.1 The National Environmental Management: Waste Amendment Act 26 of 2014 which commenced on the 2nd of June 2014 ("the Waste Amendment Act"); and

4.3.2.3.2 The National Environmental Management Laws Amendment Act 25 of 2014 which commenced on the 2nd of September 2014 ("the Environmental Laws Amendment Act").

4.3.2.4 It is to be noted that despite the commencement of the Environmental Laws Amendment Act on the 2nd of September 2014, Government agreed that the *"One Environmental System"* will only be implemented as from the 8th of December 2014.[11] In what follows we provide a brief overview of the abovementioned amendment acts and the amendments to the NEMWA.

Amendments to the NEMWA

[11] Government agreed that the "one environmental system", brought about by the MPRD Amendment Act which commenced on 7 June 2013 as well as the NEMLAA which commenced on 2 September 2014, will be implemented from **8 December 2014**. The media statement can be viewed at: https://www.environment.gov.za/mediarelease/oneenvironmentalsystem_miningindustry

4.3.2.5 As indicated above, the Waste Amendment Act commenced on the 2nd of June 2014 and amended the definition of waste and introduced new methods by which various types of wastes are to be classified.

4.3.2.6 Upon the commencement of the Environmental Laws Amendment Act on the 2nd of September 2014, residue stockpiles and residue deposits, previously excluded from the ambit of the NEMWA, fall to be regulated in terms of the NEMWA.[12]

4.3.2.7 In addition, the Waste Amendment Act introduces a new waste classification regime in terms whereof types of waste are no longer defined in the definitions section of the NEMWA, but listed and described in a Schedule to the Act as either hazardous or general waste. Residue stockpiles and residue deposits together with wastes from mineral excavation, wastes from physical and chemical processing of metalliferous minerals, wastes from physical and chemical processing of non-metalliferous minerals and wastes from drilling muds and other drilling operations are all listed in Category A of the Schedule and therefore classified as hazardous wastes.

4.3.2.8 It is insightful to note that the inclusion of residue stockpiles and deposits into Category A of Schedule 3 results in such types of waste *prima facie* being classified as hazardous and that Hernic may be faced with the on-going costly task of re-classifying such residue stockpiles and deposits to less hazardous or general types of waste. In addition, the consequence of the inclusion of residue stockpiles and residue deposits into Schedule 3 is that as of the 2nd of September 2014 the undertaking of any listed waste management activity in relation to residue stockpiles and deposits will generally trigger the legal obligation to obtain a WML.

4.3.2.9 Whereas the management of residue stockpiles and residue deposits have been undertaken in accordance with commitments in an approved EMPR under the MPRDA, as from 2 September 2014 (implemented by Government as from 8 December 2014) management of these types of waste must be undertaken in accordance with the provisions in the NEMWA.

4.3.2.10 Finally, the Environmental Laws Amendment Act states the Minister of Mineral Resources is the competent authority to give effect to the provisions of the NEMWA. Furthermore, the Minister of Mineral Resources is the licensing authority where the waste management activity is or is directly related to

[12] The Environmental Laws Amendment Act deleted section 4(1)(b) of the NEMWA which excluded residue stockpiles and deposits from the scope of application of the NEMWA.

prospecting, extraction and primary processing of a mineral or residue deposits and residue stockpiles from prospecting and mining.

Applicability of the NEMWA and the definition of waste

4.3.2.11 As stated above, prior to the amendments to the NEMWA the management of residue stockpiles and residue deposits were undertaken in accordance with commitments in an approved EMPR under the MPRDA. However, as from 2 September 2014 (implemented by Government as from 8 December 2014) management of these types of waste must be undertaken in accordance with the provisions in the NEMWA.

4.3.2.12 In order for the NEMWA to find application to the management and disposal of a waste stream, the waste stream under consideration must qualify as "waste" as defined. In terms of the NEMWA "waste" is defined as follows:

""waste" means -

(a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or

(b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette,

but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste-

(i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered;

(ii) where approval is not required, once a waste is, or has been re-used, recycled or recovered;

(iii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or

(iv) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste." (Emphasis added)

4.3.2.13 Schedule 3 as referred to in the definition of waste provides for categories of hazardous waste (as defined) in Category A to the Schedule which includes, amongst others, residue stockpiles and residue deposits together with wastes from mineral excavation, wastes from physical and chemical processing of metalliferous minerals, wastes from physical and chemical processing of non-metalliferous minerals and wastes from drilling muds and other drilling operations. In this regard, Schedule 3 provides for, amongst others, the following definitions:

*""**residue stockpiles**" means any debris, discard, tailings, slimes, screening, slurry, waste rock, foundry sand, mineral processing plant waste, ash or any other product derived from or incidental to a mining operation and which is stockpiled, stored or accumulated within the mining area for potential re-use, or which is disposed of, by the holder of a mining right, mining permit or, production right or an old order right, including historic mines and dumps created before the implementation of this Act."*

*""**residue deposits**" means any residue stockpile remaining at the termination, cancellation or expiry of a prospecting right, mining right, mining permit, exploration right or production right."*

4.3.2.14 The inclusion of residue stockpiles and residue deposits into Category A of Schedule 3 results in such types of waste *prima facie* being classified as hazardous. Accordingly, in respect of waste types or residue stockpiles which have been considered to be inert or general waste, Hernic will have to consider re-classifying the particular waste type or residue stockpile following the classification process prescribed in terms of the Regulations published in terms of the NEMWA to less hazardous or general types of waste.

4.3.2.15 Following the re-classification, Hernic may consider applying for exemption as contemplated in sub-paragraph (iii) of the definition of waste. Alternatively, once the *Regulations to Exclude a Waste Stream or a Portion of a Waste Stream from the Definition of Waste* have been promulgated, Hernic may consider applying to the Minister of Mineral Resources to exclude its existing residue stockpiles from the definition of waste.

4.3.2.16 The aforesaid *Regulations* are still in draft form and were published for public comment on 14 November 2014. According to regulation 4 of the draft

Regulations the general approach will be that any portion of a waste generated from a source listed in Category A of Schedule 3 of the NEMWA may be excluded from being defined as hazardous on demonstration that such portion of waste is non-hazardous in accordance with the Waste Management and Classification Regulations[13]. Furthermore, any waste or portion of a waste generated from a source listed in Schedule 3 of the Act may be excluded from the definition of waste where such waste will be used in a manner that will not have a significant adverse impact on the environment.

General duty applicable to waste management

4.3.2.17 In line with the objectives of the NEMWA, the general duty in respect of waste management[14] states that the holder of waste must, within its power, take all reasonable measures to, amongst others:

4.3.2.17.1 avoid the generation of waste and where such generation cannot be avoided to minimise the toxicity and amounts of waste that are generated;

4.3.2.17.2 reduce, re-use, recycle and recover waste;

4.3.2.17.3 where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;

4.3.2.17.4 manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;

4.3.2.17.5 prevent any employee or any person under his or her supervision from contravening the NEMWA; and

4.3.2.17.6 prevent the waste from being used for an unauthorised purpose.

Listed Waste Management Activities

4.3.2.18 Section 19 of the NEMWA provides for listed waste management activities and states in sub-section (1) that the Minister may publish a list of waste management activities that have, or are likely to have a detrimental effect on the environment. Such a list was published in GN 718 of 3 July 2009 ("GN 718") but has subsequently been repealed and replaced by GN 921 of 29 November 2013 ("GN 921").

[13] GNR 634 of 23 August 2013
[14] Section 16 of the NEMWA.

4.3.2.19 GN 921 differentiates between Category A, Category B and Category C waste management activities. In accordance with section 19(3), GN 921 provides that a waste management licence is required for those activities listed in Category A and B prior to the commencement, undertaking or conducting of those activities. Category C waste management activities must comply with the Norms and Standards published in terms of the NEMWA.[15]

4.3.2.20 No person may commence, undertake or conduct a waste management activity, except in accordance with the requirements or standards for that activity as determined by the Minister or in accordance with a waste management licence issued in respect of that activity, if a licence is required.[16]

4.3.2.21 With regards to waste management activities undertaken on the date of coming into effect of the GN 921 (and previously GN 718), regulation 7(1) provides that a person who lawfully conducts a waste management activity on the date of coming into effect of the notice, may continue with such activity until such time that the Minister by notice in a Gazette calls upon such person to apply for a waste management licence.

4.3.2.22 There has been an on-going debate as to whether the reference to *lawful* in the transitional arrangements is limited to the waste legislation applicable prior to the commencement of the NEMWA, i.e. the ECA and the section 20 waste permitting system, or whether it includes reference to all legal requirements, whether local, provincial or national. If the latter interpretation is accepted, it must immediately be recognised that the ambit of *lawfulness* is exceptionally broad and that compliance therefore pre-supposes compliance with all laws on national, provincial and local levels applicable to the waste management activity.

4.3.2.23 This includes compliance with each and every condition of every authorisation, permit or licence issued to Hernic in respect of waste management activities. In our view, attainment of such a level of compliance is particularly onerous. However, the transitional arrangements apply to '*lawfully conducted'* waste management activities and Government may therefore require Hernic to show that it at least obtained all the required EAs, permits and licences in respect of the waste management activities undertaken. Whether the waste management activities or facilities are approved in terms of the Consolidated EMPR or later

[15] Norms and Standards for Storage of Waste, 2013 published in GNR 926 in Government Gazette No. 37088 dated 29 November 2013.
Standards for Extraction, Flaring or Recovery of Landfill Gas, 2013 published in GNR 924 in Government Gazette No. 37086 dated 29 November 2013
Standards for Scrapping or Recovery of Motor Vehicles, 2013 published in GNR 925 in Government Gazette No. 37086 dated 29 November 2013

[16] Section 20 of the NEMWA.

EMPRs will also impact on whether the residue facilities and associated waste management activities are regarded as lawful for purposes of the NEMWA.

4.3.2.24 On 24 July 2015 the Minister of Environmental Affairs amended GN 921 by the addition of two listed waste management activities relating to the establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a prospecting right or mining permit in terms of the MPRDA (Category A waste management activity) or the establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right, exploration right or production right in terms of the MPRDA (Category B waste management activity).[17]

Regulations and Norms and Standards

4.3.2.25 Various Regulations and Norms and Standards have been published in terms of the NEMWA and which may find application to the waste generated and managed as a result of Hernic's operations. We have identified the Regulations and Norms and Standards applicable to Hernic's waste streams and the management thereof.

Management of residue stockpiles

4.3.2.26 The provisions in the MPRDA which provided for the management of residue stockpiles were repealed and as from 2 September 2014 residue stockpiles and deposits must be deposited and managed in accordance with the provisions of the NEMWA.[18] Notwithstanding the aforesaid, although the provisions in the MPRDA have been repealed, the MPRDRs have not yet been repealed and are still in force.

4.3.2.27 Section 42A of the NEMWA provides that residue stockpiles and deposits must be managed in the prescribed manner on any site demarcated for that purpose in the EMPR for that mining operation. The word *"prescribed"* as referred to in section 42A means prescribed by regulation.[19] Failure to comply with the aforesaid provision is a criminal offence and upon conviction, a fine not exceeding R10 million or imprisonment for a period not exceeding 10 years may be imposed. In addition, the directors of a company who contravenes the aforesaid provision may be held personally liable in terms of section 34(7) of the NEMA read with Schedule 3 to the NEMA.

4.3.2.28 On 24 July 2015 the Regulations regarding the Planning and Management of

[17] GNR 633 of 24 July 2015
[18] Section 24S of the NEMA.
[19] Section 1 of the NEMWA.

Residue Stockpiles and Residue Deposits from a Prospecting, Mining, Exploration or Production Operation were published in GNR 632 ("GNR 632"). The Regulations came into operation on the date of publication of the notice, i.e. 24 July 2015 and provides, amongst others, that its purpose is to regulate the planning and management of residue stockpiles and residue deposits from prospecting, mining, exploration or production operations.

Summary of Transitional arrangements

4.3.2.29 With regards to the status of waste management facilities including residue stockpiles which were in existence and managed in terms of an EMPR approved in terms of the MPRDA immediately before 2 September 2014 (or 8 December 2014 as referred to in the DEA's media statement), the NEMWA and the MPRDA have been silent until 24 July 2015.

4.3.2.30 Section 12(4) of the NEM Amendment Act states that an EMPR approved in terms of the MPRDA immediately before the commencement of the NEM Amendment Act (i.e. 2 September 2014 but only implemented as from 8 December 2014) must be regarded as having been approved in terms of the NEMA.

4.3.2.31 In addition to the above, GNR 632 which commenced on 24 July 2015 provides for the following transitional arrangements:[20]

4.3.2.31.1 anything done in terms of regulation 73 of the MPRDRs relating to the management of residue stockpiles and residue deposits which can be done in terms of a provision of GNR 632, must be regarded as having been done in terms of the provisions of GNR 632;

4.3.2.31.2 Management measures of residue stockpiles and residue deposits approved in terms of the MPRDRs at the time of coming into operation of GNR 632, must be regarded as having been approved in terms of GNR 632;

4.3.2.31.3 A holder of a right or permit in terms of the MPRDA must continue the management of the residue stockpiles and residue deposits in accordance with the approved management measures.

4.3.2.32 It follows from the above transitional provisions that the Consolidated EMPR as well as the PGM EMPRs is regarded as having been approved in terms of the NEMWA and the management measures identified in the aforesaid approved

[20] Regulation 13 of GNR 632 of 24 July 2015

EMPRs in respect of Hernic's waste management facilities or residue stockpiles are regarded as being approved in terms of GNR 632. In addition, in terms of the transitional provisions Hernic may continue with the management of the residue stockpiles or waste management facilities in accordance with the approved Consolidated EMPR and PGM EMPRs.[21]

4.3.2.32.1 The amendments to GN 921 which commenced on 24 July 2015 also provides for the following transitional arrangements:[22]

4.3.2.32.2 An EMPR approved in terms of the MPRDA shall be deemed to have been approved and issued in terms of "this Act";

4.3.2.32.3 Notwithstanding the above, the Minister of Mineral Resources may direct the holder of, amongst others, a mining right to take such action to upgrade the EMPR to address any deficiency if the Minister is of the opinion that the residue stockpile or residue deposit in question is likely to result in significant pollution, degradation or damage to the environment;

4.3.2.32.4 An EMPR submitted in terms of the MPRDRs and which is pending at the time of commencement of the notice (i.e. 24 July 2015) must be dispensed with in terms of the MPRDRs as if those regulations were not repealed.

4.3.2.33 The abovementioned transitional arrangements create some uncertainty as they do not state that an EMPR approved at the time of commencement of the notice is regarded as being a WML granted in terms of the NEMWA. Furthermore, the reference to "the Act" in regulation 4 of the notice is the NEMWA and the NEMWA does not provide for the approval of EMPRs. As from 2 September 2014 EMPRs are approved in terms of the NEMA.

4.3.2.34 Notwithstanding the aforesaid, we are of the opinion that read with the transitional arrangements in GNR 632, Hernic may continue with the operation and management of its residue stockpiles in terms of the measures identified and approved by the DMR in its EMPRs. Only when the Minister of Mineral Resources is of the opinion that the residue stockpile or residue deposit in question is likely to result in significant pollution, degradation or damage to the

[21] The above transitional provisions are in line with section 12 of the Interpretation Act 33 of 1957 which provides for the effect of repeal of law. Section 12(2)(b) states that where a law repeals any other law, then unless the contrary intention appears, the repeal shall not affect the previous operation of any law so repealed or anything duly done or suffered under the law so repealed. We are therefore of the view that the management of residue stockpiles in accordance with an approved EMP may continue until such time as legislation is promulgated to provide otherwise. This is further in line with the common law presumption against the retrospective application of legislation. It is presumed that a law does not operate retrospectively, unless a contrary intention is indicated either expressly or by clear implication.

[22] Regulations 4, 5 and 6 of GNR 633 of 24 July 2015

environment, he or she may request Hernic to upgrade the EMPR to address any deficiency.

4.3.3 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT 39 OF 2004

Introduction

4.3.3.1 Section 21 read with section 22 of the NEMAQA states that that the Minister responsible for Environmental Affairs may publish a list of activities which result in atmospheric emissions and which the Minister reasonably believes has or may have a significant detrimental effect on the environment. Section 22 of the NEMAQA states that no person may without a provisional atmospheric emission licence or an atmospheric emission licence conduct an activity listed on a national or provincial list published in terms of the Act.

4.3.3.2 The listed activities and associated minimum emission standards identified in terms of section 21 of the NEMAQA was published in GN 893 in Government Gazette 37054 dated 22 November 2013.

4.3.3.3 The National Ambient Air Quality Standards were published on 24 December 2009 and provide *inter alia* for national ambient air quality standards for PM10.[23] In addition to the above, the National Ambient Air Quality Standards for PM2.5 came into effect on 29 June 2012.[24] The aforesaid Standards do not provide for the reporting of exceedances.

4.3.3.4 While the NEMAQA does not require industry or mining companies to comply with the standards as published, Provincial and Local Authorities have the authority to ensure compliance with the standards. As such, we are of the opinion that by implication all persons are required to ensure compliance with the standards as published.

4.3.3.5 National Dust Control Regulations have also been published.[25] The purpose of the regulations is to prescribe general measures for the control of dust in all areas.

4.3.3.6 In terms of regulation 3, the standard for the acceptable dust fall rate is set out in Table 1 of the regulations for both residential and non-residential areas. In respect of non-residential areas the acceptable dust fall rate is D <600 and the permitted frequency of exceeding the dust fall rate is twice a year, non-

[23] National Ambient Air Quality Standards – GNR 1210 of 24 December 2009.
[24] National Ambient Air Quality Standard for particulate matter with aerodynamic diameter less than 2.5 micron metres (pm 2.5) – GNR 486 of 29 June 2012.
[25] National Dust Control Regulations – GNR 827 in Government Gazette 36974 dated 1 November 2013.

sequential months. If an air quality officer reasonably suspects that a person is contravening the standard for acceptable dust fall, he may require the person to undertake a dust fall monitoring programme.

4.3.3.7 Section 19 and 20 of the NEMAQA provides for the management of priority areas. The national air quality officer, after consulting with the provincial and local air quality officer, must prepare an air quality management plan ("**AQMP**") in respect of a priority area. The AQMP must be submitted to the Minister for approval within 6 months after the declaration of the area as a priority area. Prior to approval of an AQMP the Minister must follow a consultative process as prescribed in section 56 and 57 of the NEMAQA. The Minister may prescribe regulations necessary for implementing and enforcing approved AQMPs, including:

4.3.3.7.1 funding arrangements;

4.3.3.7.2 measures to facilitate compliance with such plans;

4.3.3.7.3 penalties for any contravention of or any failure to comply with such plans; and

4.3.3.7.4 regular review of such plans

4.3.3.8 The Minister of Environmental Affairs declared the Waterberg Bojanala National Priority Area in terms of section 18 of the NEMAQA.[26] In terms of the notice, the ambient air quality within the Waterberg District Municipality in the Limpopo Province may exceed the national ambient air quality standards in the near future; and that a trans-boundary situation exists between the Waterberg District Municipality and the Bojanala Platinum District Municipality in the North West Province which may cause a significant negative impact on air quality in both areas. The area therefore requires specific national air quality management action to ensure that air pollution levels remain within the national ambient air quality standards. The areas affected include the Madibeng Local Municipality in the North West Province.

4.3.3.9 No person shall make, produce or cause a disturbing noise, or allow it to be made, produced or caused by any person, machine, device or apparatus or any combination thereof. For purposes of the abovementioned regulation "disturbing noise" means "a noise level which exceeds the zone sound level or,

[26] Declaration of the Waterberg National Priority Area – GNR 495 of 15 June 2012. See also Correction Notice: Waterberg-Bojanala National Priority Area – GNR 154 in Government Gazette No. 36207 dated 8 March 2013.

if no zone sound level has been designated, a noise level which exceeds the ambient sound level at the same measuring point by 7 dBA or more. The Minister may prescribe essential national standards for the control of noise, either in general or by specified machinery or activities or in specified places or areas; or for determining -

4.3.3.9.1 a definition of noise; and

4.3.3.9.2 the maximum levels of noise.

4.3.3.10 When controlling noise the provincial and local spheres of government are bound by any prescribed national standards. To date the Minister has not prescribed national standards pertaining to the control of noise. Accordingly the regulations promulgated in terms of the ECA still remain in force.

4.3.4 NATIONAL WATER ACT 36 OF 1998

Introduction

4.3.4.1 The purpose of the NWA, as set out in section 2 thereof, is to ensure that the country's water resources are protected, used, developed, conserved, managed and controlled, in a way which, *inter alia,* takes into account the reduction and prevention of pollution and degradation of water resources.[27] The NWA states, in section 3 thereof, that the National Government is the public trustee of the Nation's water resources. The National Government must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner for the benefit of all persons and in accordance with its constitutional mandate.

4.3.4.2 Section 22 of the NWA states that a person may only use water without a licence if such water use is permissible under Schedule 1,[28] if that water use constitutes a continuation of an existing lawful water use,[29] or if that water use is permissible in terms of a general authorisation issued under section 39.[30] Permissible water use furthermore includes water use authorised by a license issued in terms of the NWA[31] or, alternatively, without a license if the responsible authority dispensed with a licensing requirement under section 22(3).[32]

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27 Section 2.
28 Section 22 (1) (a) (i).
29 Section 22 (1) (a) (ii).
30 Section 22 (1) (a) (iii).
31 Section 22 (1) (b).
32 Section 22 (1) (c).

Water Use and Licensing

4.3.4.3 Section 21 of the NWA indicates that "water use includes":[33]

- taking water from a water resource (section 21(a));
- storing water (section 21(b));
- impeding or diverting the flow of water in a water course (section 21(c));
- engaging in a stream flow reduction activity contemplated in section 36[34] (section 21(d));
- engaging in a controlled activity which has either been declared as such or is identified in section 37(1)[35] (section 21(e));
- discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit (section 21(f));
- disposing of waste in a manner which may detrimentally impact on a water resource (section 21(g));
- disposing in any manner of water which contains waste from, or which has heated in, any industrial or power generation process (section 21 (h));
- altering the bed, banks, course or characteristics of a water course (section 21(i));
- 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 (section 21(j)); and
- using water for recreational purposes (section 21(k)). [Emphasis added]

4.3.4.4 The following definitions contained in the NWA are important in the context of the aforementioned water uses:

"***water resource***" includes "*a watercourse, surface water, estuary, or aquifer*";

[33] The list is therefore in addition to other uses of water, and should not be viewed as exhaustive.
[34] The only stream flow reduction activity thus far is the use of land for afforestation which has been or is being established for commercial purposes.
[35] The irrigation of any land with waste or water containing waste generated through any industrial activity or by a water work, an activity aimed at the modification of atmospheric precipitation, a power generation activity which alters the flow regime of a water resource, and the intentional recharging of an aquifer with any waste or water containing waste have thus far been identified as controlled activities.

*"**watercourse**"* means -

"(a) a river or spring;

(b) a natural channel in which water flows regularly or intermittently;

(c) a wetland, lake or dam into which, or from which, water flows; and

(d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse,

and a reference to a watercourse includes, where relevant, its bed and banks."

*"**waste**"* includes *"any solid material or material that is suspended, dissolved or transported in water (including sediment) and which is spilled or deposited on land or into a water resource in such volume, composition or manner as to cause, or to be reasonably likely to cause, the water resource to be polluted."*

General Authorisations (GNR 398 and 399 of 26 March 2004 (as revised))

4.3.4.5 The General Authorisations replace the need for a water user to apply for a license for the undertaking of specified water uses in terms of a water use licence required in accordance with the NWA provided that the use is within the conditions stipulated in these Authorisations. These include, *inter alia*, taking or storage of water from a water resource, engaging in a controlled activity such as irrigation of any land with waste or water containing waste generated through any industrial activity or by a waterwork, discharging of waste or water containing waste into a water resource through a pipe, canal, sewer or other conduit, disposing in any manner of water which contained waste from, or which has been heated in any industrial or power generation process, disposing of waste in a manner which may detrimentally impact on a water resource, impeding or diverting the flow of water in a watercourse.

Use of water for mining and related activities

4.3.4.6 Hernic must ensure compliance with the regulations promulgated for use of water for mining and related activities in GNR 704 of 4 June 1999 (GNR 704).[36] In order to consider the regulations brief reference should be made to certain definitions:

"***activity***", means-

[36] It is to be noted that these Regulations are currently being reviewed and have been submitted to the public for comments in GN 53 of 5 February 2010.

(a) *any **mining related process** on the mine including the operation of **washing plants**, **mineral processing facilities**, mineral refineries and extraction plants, and*

(b) *the operation and the use of mineral loading and off-loading zones, transport facilities and mineral storage yards, whether situated at the mine or not,*

(i) *in which any substance is stockpiled, stored, accumulated or transported for use in such process; or*

(ii) *out of which process any residue is derived, stored, stockpiled, accumulated, dumped, disposed of or transported;*

*"**clean water system**",* includes *"any dam, other form of impoundment, canal, works, pipeline and any other structure or facility constructed for the retention or conveyance of unpolluted water";*

*"**dam**"*, includes *"any settling dam, slurry dam, evaporation dam, catchment or barrier dam and any other form of impoundment used for the storage of unpolluted water or water containing waste";*

*"**dirty area**",* means *"any area at a mine or activity which causes, has caused or is likely to cause pollution of a water resource";*

*"**dirty water system**"*, includes *"any dam, other form of impoundment, canal, works, pipeline, residue deposit and any other structure or facility constructed for the retention or conveyance of water containing waste";*

*"**person in control of a mine or activity**"*, in relation to a particular mine or activity, includes "*the owner of such mine or activity, the lessee and any other lawful occupier of the mine, activity or any part thereof; a tributer for the working of the mine, activity or any part thereof; the holder of a mining authorisation or prospecting permit and if such authorisation or permit does not exist, the last person who worked the mine or his or her successors-in-title or the owner of such mine or activity; and if such person is not resident in or not a citizen of the Republic of South Africa, an agent or representative other than the manager of such a mine or activity must be appointed to be responsible on behalf of the person in control of such a mine or activity";*

*"**residue**",* includes *"any debris, discard, tailings, slimes, screenings, slurry, waste rock, foundry sand, beneficiation plant waste, ash and any other waste product derived from or incidental to the operation of a mine or activity and*

which is stockpiled, stored or accumulated for potential re-use or recycling or which is disposed of";

*"**residue deposit**",* includes *"any dump, tailings dam, slimes dam, ash dump, waste rock dump, in-pit deposit and any other heap, pile or accumulation of residue";*

*"**stockpile**",* includes *"any heap, pile, slurry pond and accumulation of any substance where such substance is stored as a product or stored for use at any mine or activity";*

*"**water system**"*, includes *"any dam, any other form of impoundment, canal, works, pipeline and any other structure or facility constructed for the retention or conveyance of water".*

4.3.4.7 In terms of the regulations, certain legal obligations arise with respect to the management of water resources in respect of the proposed Hernic Project. We will not refer to all the regulations save to mention the provisions in regulations 2, 3, 4 and 6.

4.3.4.8 Regulation 2 concerns information and notification provisions and states that any person intending to operate a new mine or conduct any new activity must notify the DWS of such intention not less than 14 days before the start of such operation or activity.

4.3.4.9 Regulation 3 pertains to exemptions and states that the Minister may, in writing, authorise an exemption from the requirements of regulations 4, 5, 6, 7, 8, 10 or 11 on his or her own initiative or on application, subject to such conditions as the Minister may determine.

4.3.4.10 Regulation 4 concerns restrictions on locality regarding infrastructure and states that no person in control of a mine or activity may—

- "*locate or <u>place</u> any <u>residue deposit</u>, dam, reservoir, together with any associated structure or any other facility within the 1:100 year flood-line or within a horizontal distance of 100 metres from any watercourse or estuary, borehole or well, <u>excluding</u> boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked*;
- *except in relation to a matter contemplated in regulation 10, carry on any underground or opencast mining, prospecting or any other operation or activity under or within the 1:50 year flood-line or within a horizontal*

distance of 100 metres from any watercourse or estuary, whichever is the greatest;

- *place or dispose of any residue or substance which causes or is likely to cause pollution of a water resource, in the workings of any underground or opencast mine excavation, prospecting diggings, pit or any other excavation;*

- *use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood-line of any watercourse or estuary."* (Emphasis added)

4.3.4.11 Regulation 5 restricts the use of material in certain circumstances and states that a person may not use any residue or substance which causes or is likely to cause pollution of a water resource for the construction of any dam or other impoundment or any embankment, road or railway, or for any other purpose which is likely to cause pollution of a water resource.

4.3.4.12 Regulation 6 provides for the capacity requirements of clean and dirty water systems. Hernic Mine must ensure that all dirty water systems (pollution control dams, storm water dams etc.) comply with the aforesaid requirements.

4.3.5 WATER SERVICES ACT 108 of 1997 (WSA)

Introduction

4.3.5.1 The main objects of the WSA are to, *inter alia*, provide for the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or wellbeing.

4.3.5.2 Section 7 pertains to the industrial use[37] of water and section 7(1) states that subject to subsection (3),[38] no person may obtain water for industrial use from any source other than the distribution system of a water services provider nominated by the water services authority having jurisdiction in the area in question, without the approval of that water services authority. Subsection (2) states that subject to subsection (3), no person may dispose of industrial effluent in any manner other than that approved by the water services provider nominated by the water services authority having jurisdiction in the area in

[37] In terms of section 1 of the WSA ***"industrial use"*** means *"the use of water for mining, manufacturing, generating electricity, landbased transport, construction or any related purpose"*

[38] Subsection (3) of section 7 pertains to industrial use of water or disposal thereof from a source or in a manner requiring the approval of the water services authority at the commencement of the Act and is also not applicable to the present circumstances.

question. Subsection (4) states that no approval given by a water services authority under this section relieves anyone from complying with any other law relating to the use and conservation of water and water resources or the disposal of effluent.

4.3.5.3 In addition to the above, section 22(1) of the WSA provides that no person may operate as a water services provider without the approval of the water services authority having jurisdiction in the area in question. In this regard a **"**water services provider**"** is defined in section 1 of the WSA and means "*any person who provides water services to consumers or to another water services institution, but does not include a water services intermediary."* In addition, the WSA provides for the following definitions:

- **"water services"** which means "*water supply services and sanitation services*."
- **"water supply services"** which means "*the abstraction, conveyance, treatment and distribution of potable water, water intended to be converted to potable water or water for commercial use but not water for industrial use*."
- **"sanitation services"** which means *"the collection, removal, disposal or purification of human excreta, domestic wastewater, sewage and effluent resulting from the use of water for commercial purposes."*

4.4 STATUTORY DUTY OF CARE AND ENFORCEMENT

Enforcement

4.4.1 Provisions in the NEMA, NEMWA and the NWA that concern the application, processing and granting of EAs[39], WMLs [40] and WULs [41] in circumstances where a person undertakes one or more activities listed in listing notices published in terms of the NEMA, waste management activities listed in the NEMWA and water uses referred to in the NWA.

4.4.2 The listed activities in the NEMA and water uses in the NWA have been identified by the DEA and the DWS respectively as activities and uses that may have a

[39] Section 24F(1) of the NEMA states that notwithstanding any other Act, no person may commence with an activity listed or specified in terms of section 24(2)(a) or (b) unless the competent authority or the Minister responsible for mineral resources, as the case may be, has granted an environmental authorisation for the activity.

[40] Section 20 of the NEMWA states that no person may commence undertake or conduct a waste management activity, except in accordance with WML or where the listed waste management activity is undertaken in accordance with norms and standards prescribed in the NEMWA.

[41] Section 22(1)(b) of the NWA states that a person may only use water if the water use is authorised by a licence issued under the Act.

detrimental effect on the environment and water resources. As was mentioned above, the undertaking of these activities require an EA, WML and WUL as the case may be and such an EA, WML and WUL is typically granted upon the finalisation of an environmental assessment of the impacts associated with the listed activities, listed waste management activities and water uses.

4.4.3 In terms of sections 49A and 49B of the NEMA, failure by a corporate such as Hernic to obtain an EA prior to the commencement of the activities could render such a corporate guilty of an offence and upon conviction of such an offence, also exposed to criminal fines of up to R10 million or where applicable and appropriate imprisonment of up to 10 years or both such fine or imprisonment.

4.4.4 Sections 67 and 68 of the NEMWA state that a person commits an offence if that person undertakes a listed waste management activity without a WML. Section 67(1)(h) states that it is a criminal offence for a person to contravene or fail to comply with a condition or requirement of a WML. Section 68(1) states that a person convicted of an offence referred to in section 67(1)(a) or (h) is liable to a fine not exceeding R 10 million or to imprisonment for a period not exceeding 10 years, or to both such a fine and such imprisonment, in addition to any other penalty or award that may be imposed or made in terms of the NEMA.

4.4.5 Furthermore section 68(4) of the NEMWA states that a person who is convicted of an offence in terms of the NEMWA and who persists after conviction in the act or omission that constituted the offence commits a continuing offence and is liable on conviction to a fine not exceeding R1 000 or to imprisonment for a period not exceeding 20 days, or to both such fine and such imprisonment, in respect of each day that person persists with that act or omission.

4.4.6 With regard to the NWA, section 151(1)(a) states that no person may use water otherwise than as permitted under the NWA (i.e. without a WUL) and no person may fail to comply with any condition attached to permitted water use under the NWA. Section 151(2) states that any person who contravenes any provision of subsection (1) is guilty of an offence and liable, on the first conviction, to a fine or imprisonment for a period not exceeding five years, or to both a fine and such imprisonment and, in the case of a second or subsequent conviction, to a fine or imprisonment for a period not exceeding ten years or to both a fine and such imprisonment.

4.4.7 In addition to the criminal sanctions referred to above, the NEMA also provides for administrative enforcement action in relation to the contravention of provisions in the NEMA and in SEMAs such as the NEMWA and the NWA. The administrative enforcement provisions in the NEMA transcend the boundaries between the NEMA,

NEMWA and the NWA by virtue of the inclusions of these bodies of law into Schedule 3 which is attached to the NEMA.

4.4.8 The NEMA establishes the enforcement inspectorate which represents the enforcement arm of the DEA. The enforcement inspectorate has extensive statutory powers to enforce the NEMA and the SEMAs. The powers of the enforcement inspectorate include access to property; the undertaking of inspections; interrogation of persons and the search and seizure of property, vehicles or objects used in the process of the commission of a criminal offence.

4.4.9 Departmental officials may also elect to institute compliance notices where there are reasonable grounds to believe that a person fails to comply with a provision of environmental law and/or with a term or condition of a permit, authorisation or licence. Failure to comply with a compliance notice may result in the revocation of the relevant permit or authorisation. Government may take the measures to address the unlawful conduct and may claim the costs from a corporate or potentially a corporate officer in his or her personal capacity. Failure to comply with a compliance notice also attracts criminal liability exposure for a corporate as well as a corporate office bearer, which upon conviction of such an offence carries a penalty of R 5 million or imprisonment for a period not exceeding 5 years.

Statutory Duty of Care

4.4.10 The NEMA[42], NEMWA[43] and the NWA[44] incorporates the statutory duty of care. The statutory duty of care generally holds that every person who causes has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent pollution or degradation from occurring, continuing or recurring. This is an ongoing duty that applies in addition to any specific legal obligation associated with the requirement to obtain an EA for the undertaking of a listed activity.

4.4.11 Non-compliance with the statutory duty of care can result in Hernic being issued with a directive to undertake costly rehabilitation of environmental damage and damage to

[42] The statutory duty of care states that every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

[43] The statutory duty of care states that a holder of waste must, within the holder's power, take all reasonable measures to avoid the generation of waste and where such generation cannot be avoided to minimise the toxicity and amounts of waste that are generated; reduce, re-use, recycle and recover waste; where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner; manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts; prevent any employee or any person under his supervision from contravening this Act; and prevent the waste from being used for an unauthorised purpose.

[44] The statutory duty of care states that an owner of land, a person in control of land or a person who occupies or uses the land on which any activity or process is or was performed or undertaken; or any other situation exists, which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

water resources. The relevant authorities such as the DEA and DWS including provincial and regional offices respectively may also undertake the rehabilitation measures and claim the costs of such measures from the person responsible for or who directly or indirectly contributed to the degradation of the environment and the water resources.

4.4.12 Failure to comply with a directive in terms of the statutory duty of care in the NEMA is a criminal offence which upon conviction exposes a corporate and potentially a corporate office bearer in his or her personal capacity to a fine not exceeding R10 million or to imprisonment not exceeding 10 years or to both such fine and imprisonment. Failure to comply with the statutory duty of care in the NWA is a criminal offence in terms of section 151(1)(d) of the Act and failure to comply with the statutory duty of care in the NEMWA is a criminal offence attracting a fine not exceeding R 10 million or imprisonment for a period not exceeding 10 years or both.

Personal Liability in terms of the NEMA

4.4.13 The NEMA provides for personal liability of an employer, including a director of a company at the time of commissioning of that company of an offence under any provision listed in terms of Schedule 3 to the NEMA. Section 34(5) to (7) of the NEMA applies to a contravention of certain provisions of the NEMA but also finds application to statutes listed in Schedule 3 to the NEMA.

4.4.14 Schedule 3 contains a list of offences in terms of various national and provincial environmental legislation including, *inter alia* the provisions of the NEMA, NEMWA and the NWA referred to above. Schedule 3 of the NEMA serves as the central link or conduit whereby the flow of corporate and personal criminal liability exposure is directed between the NEMA and the various bodies of legislation listed in Schedule 3.

4.4.15 Accordingly, over and above the penalties that may be imposed for the failure to comply with the provisions of the specific aforesaid Acts as listed in Schedule 3, as referred to above, a director of a company may be held personally liable for the same offence in terms of section 34 of the NEMA.

4.4.16 Section 34(5) provides that the employer shall be guilty of an offence in the event that a manager, agent or employee does or omits to do an act which it had been his task to do or to refrain from doing on behalf of the employer. The act or omission must be an offence listed in Schedule 3 and the act or omission had to occur because the employer failed to take all reasonable steps to prevent the act or omission in question.

4.4.17 Under these circumstances, the employer may, on conviction, be liable to the penalty specified in the relevant law (i.e. being a body of legislation listed in Schedule 3 to the NEMA), including an order under sections 34(2), (3) and (4)[45] of the NEMA. For purposes of the aforesaid section, proof of such act or omission by a manager, agent or employee shall constitute *prima facie* evidence that the employer is guilty under this subsection.

4.4.18 In addition to the above, section 34(6) also provides for the liability of a manager, agent or employee who acts or omits to do an act which it had been his task to do or to refrain from doing on behalf of an employer, and which would be an offence under any provisions listed in Schedule 3. In terms of the aforesaid sub-section the manager, agent or employee may also be convicted and sentenced in respect of the offence as if he was the employer.

4.4.19 Finally, section 34(7) provides for the personal liability of a director of a company at the time of the commissioning of that company of an offence under any provision listed in Schedule 3. Such a director shall himself or herself be guilty of the said offence and liable on conviction to the penalty specified in the relevant law, including an order for damages under section 34(2), (3) and (4), if the offence in question resulted from the failure of the director to take all reasonable steps that were necessary under the circumstances to prevent the commission of the offence; provided that proof of the said offence by the firm shall constitute *prima facie* evidence that the director is guilty under this subsection.

4.5 ADDITIONAL ENVIRONMENTAL-LEGAL REQUIREMENTS

4.5.1 The National Environmental Management: Biodiversity Act 10 of 2004

4.5.1.1 National Environmental Legislation imposes various obligations on a person that must be considered and adhered to during, *inter alia,* the construction, operational and decommissioning phase of a project. However, our scope of work requires the consideration of those provisions in National Environmental and Mining Legislation that impose an obligation on Hernic to procure permits, authorisations and/or licences. Accordingly, we have not included all possible environmental-legal requirements that may find application during the construction, operational and decommissioning phase of the proposed Project but only those that impose an obligation on the applicant to procure permits, authorisations, licences and/or consents.

4.5.1.2 The National Environmental Management: Biodiversity Act ("**NEMBA**") was

[45] These subsections provide for the awarding of damages in certain circumstances.

promulgated in June 2004 and most of its provisions came into effect on 1 September 2004. The purpose of the NEMBA is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA so as to protect species and ecosystems that warrant national protection. The NEMBA gives effect to ratified international agreements affecting biodiversity to which South Africa is a party, and which bind the Republic. The NEMBA must be read together with the NEMA and in particular, must be guided by the principles set out in Section 2 of the NEMA, as set out above.

4.5.1.3 It is important to note that the NEMBA will find applicability throughout the lifetime of a project, from the commencement of operations to the decommissioning.

4.5.1.4 The NEMBA provides for the publishing of various lists of species and ecosystems by the Minister of Environmental Affairs as well as by the Member of an Executive Council ("**MEC**") responsible for the conservation of biodiversity of a province in relation to which certain activities may not be undertaken without a permit.

4.5.1.5 In terms of Section 57 of the NEMBA, no person may carry out any restricted activity involving any species which has been identified by the Minister as *"critically endangered species"*, *"endangered species"*, *"vulnerable species*" or *"protected species"*[46] without a permit. The NEMBA defines *"restricted activity"* in relation to such identified species so as to include, but not limited to, hunting, catching, capturing, killing, gathering, collecting, plucking, picking parts of, cutting, chopping off, uprooting, damaging, destroying, having in possession, exercising physical control over, moving or translocating.

4.5.1.6 The Minister has published a list of *"Threatened and Protected Species Regulations, 2007".*[47] Should a particular activity undertaken involve a restricted activity, as defined in the NEMBA, in respect of a species identified in terms of Section 56 thereof, such as the cutting, chopping off, uprooting or damaging of an endangered fauna species, a permit in terms of Section 57 will be required. The publication of lists of critically endangered, endangered, vulnerable and protected species has also been undertaken.[48]

4.5.2 **Conservation of Agricultural Resources Act 43 of 1983**

[46] Section 56 of the NEMBA.
[47] GNR 152 in Government Gazette No. 29657 of 23 February 2007 (as amended).
[48] GNR 151 in Government Gazette 29657 of 23 February 2007 (as amended).

4.5.2.1 The purpose of the Conservation of Agricultural Resources Act ("**CARA**") is to provide for the control over the utilisation of the natural agricultural resources of the Republic so as to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants. Regulations were promulgated in terms of the CARA and published under GNR 1048 of 25 May 1984 (GNR 1048). Part II of GNR 1048 provides for the regulations pertaining to weeds and invader plants.

4.5.2.2 Regulation 15 of GNR 1048 provides for the declaration of weeds and invader plants, and these are set out in Table 3 of GNR 1048. Weeds are described as category 1 plants, while invader plants are described as category 2 and category 3 plants.

4.5.2.3 In terms of Regulation 15A of GNR 1048, no category 1 plants may occur on any land other than in biological control reserves,[49] unless a written exemption has been granted by the executive officer.[50] If category 1 plants do occur on any land, the person in control of such land must control such plants by means of the methods set out in regulation 15E of GNR 1048, discussed below. Category 1 plants will, in terms of the regulations only be condoned in biological control reserves unless exemption is sought and granted from the executive officer in terms of regulation 15A(4).

4.5.2.4 In terms of regulation 15B, no category 2 plants may occur on any land other than a biological control reserve or a demarcated area,[51] and no category 3 plants may occur on any land other than a biological control reserve, unless a written exemption has been granted by the executive officer.[52] If category 2 or category 3 plants do occur on any land, the person in control of such land must control such plants by means of the methods set out in Regulation 15E of GNR 1048, discussed below unless otherwise provided for.

4.5.2.5 In terms of Regulation 15E of GNR 1048, the methods for the control of the occurrence of category 1, 2 or 3 plants includes the uprooting, felling, cutting or burning, treatment with weed killer registered for use in connection with such plants, biological control in accordance with legislation, or a combination of the aforementioned methods. Such methods must also be aimed at the propagating material and the re-growth of such plants. This would be especially relevant to such category 1, 2 or 3 plants that are already located on

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[49] Biological control reserve is defined in GNR1048 as "*an area designated by the executive officer in terms of regulation 15D of the regulations for the breeding of biological control agents*".

[50] An executive officer is defined in the CARA as the officer of the Department of Agriculture, designated as executive officer by the Minister of Agriculture in terms of Section 4 of the CARA.

[51] Demarcated area is defined in GNR1048 as "*an area of land approved by the executive officer in terms of regulation 15B of the regulations for the occurrence, establishment and maintenance of category 2 plants*".

[52] Regulation15B and 15C of GNR1048 respectively.

the areas on which the Project is to be undertaken and which are required to be controlled as provided for in these regulations.

4.5.3 **National Forests Act 84 of 1998**

4.5.3.1 In terms of section 15(3) of the National Forests Act ("**NFA**") four lists of protected trees belonging to a particular species under section 12(1)(d)[53] of the Act have been published with the most recent list published on 13 September 2013[54].

4.5.3.2 The effect of declaring these trees as protected is that in terms of section 15(1) of the NFA no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or forest product derived from a protected tree, except under a licence granted by the Minister to an applicant and subject to such period and conditions as may be stipulated.

4.5.3.3 Hernic must ensure that there are no protected trees present before commencing with the clearing of areas associated with the Project; otherwise a licence will be required as provided for in the NFA.

4.5.4 **National Heritage Resources Act 25 of 1999**

4.5.4.1 The NHRA aims to, *inter alia,* promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so it may be bequeathed to future generations. The preamble to the NHRA states that our heritage is unique and precious and it cannot be renewed.

4.5.4.2 The national estate means the "*national estate*" defined in section 3 of the NHRA. This section states that those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered as part of the national estate and fall within the sphere of operations of heritage resources authorities.[55]

[53] Pertaining to the declaration of protected trees belonging to a particular species
[54] GNR 677 in Government Gazette No. 36826 dated 13 September 2013
[55] The national estate may,*inter alia*, include:
- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological or paleontological sites;
- graves and burial grounds; …; and
- Movable objects.

4.5.4.3 Section 3 (3) read with section 2 provides that cultural significance, for purposes of the NHRA, means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance.

4.5.4.4 Section 34 of the NHRA provides for a mechanism for protecting immovable property by providing for an outright prohibition on altering or demolishing any structure or part of any structure, which is older than 60 years, without a permit issued by the relevant provincial heritage resources authority. If a permit is refused, consideration must be given to designating the place concerned as a heritage site, or protected area or heritage area within three months of such refusal.

4.5.4.5 An important provision in the NHRA is section 38 of the Act which states that any person who intends to undertake developments categorised in the section must at the very earliest stages of initiating such development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. The developments referred to in the section include:

- *"the construction of a road, wall, power-line, pipeline, canal or other similar form of linear development or barrier exceeding 300 metres in length;*
- *the construction of a bridge or similar structure exceeding 50 metres in length;*
- *any development or other activity which will change the character of a site:*
    - *exceeding 5000m² in extent; or*
    - *involving three or more existing erven or subdivisions thereof; or*
    - *involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
    - *the costs of which will exceed a sum set in terms of regulations by SAHRA or the provincial heritage resources authority;*
- *the rezoning of the site exceeding 10 000m² in extent; or*
- *any other category of development provided for in regulations by SAHRA or the provincial heritage resources authority."* (Emphasis added)

4.5.4.6 The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1), if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. The responsible heritage resource authority must specify the information to be included in the report.

4.5.4.7 The responsible heritage resources authority must consider the report timeously and is empowered to decide whether the development may proceed, any limitations or conditions to be applied to the development, the application of general protections in terms of the NHRA to such heritage resources, whether compensatory action is required in respect of any heritage resources which are damaged or destroyed as a result of the development and whether the appointment of specialists is required as a condition of approval of the proposal.

4.5.4.8 These provisions do not, however, apply to developments which are subject to the environmental impact assessment procedures required under, *inter alia,* the NEMA.[56] In this regard, where activities associated with the construction of, *inter alia*, pipelines or roads, as discussed under the NEMA hereinabove, are triggered based on the size and capacity requirements associated therewith, the provisions of section 38 of the NHRA as outlined above will not find application and notification will not have to be given to the responsible heritage resources authority.

4.5.4.9 However, should the NEMA activities in respect hereof not be triggered, notification of pipelines, roads, and other infrastructure such as conveyor systems as provided for in section 38 of the NHRA will have to be given to the responsible heritage resources authority at the very earliest stages of initiating such development.

5 PROVINCIAL REGULATORY FRAMEWORK

5.1 The Transvaal Nature Conservation Ordinance, 12 of 1983

5.1.1 Section 22 concerns certain prohibited acts with certain devices or means and states that no person shall on land on which any wild animal is found or is likely to be found undertake certain acts. These include bringing or being in possession of a snare, trap, gin, net, bird-line, trap-cage or other device or means intended or suitable for the hunting or catching of a wild animal or constructing a pitfall or holding pen.

[56] Section 38(8).

5.1.2 Section 39 states that no person shall keep or convey live game, unless he is the holder of a permit which authorizes him to do so. Section 87 states that no person shall pick a protected plant, unless he is the holder of a permit which authorises him to do so. However, the owner of land or the occupier may pick the flower of a protected plant or a protected plant for *bona fide* purposes (i.e. farming and cultivation). The protected plants are set out in a schedule to the Ordinance. Section 90 states that subject to the provisions of the Ordinance, no person shall pick an indigenous plant which is not a protected plant or specially protected plant on land of which he is not the owner or occupier unless he is a relative of the owner or occupier or has obtained the written permission of the owner or occupier beforehand and carries it with him.

5.1.3 Section 96 states that no person shall possess, pick, sell, purchase, donate or receive as a donation, import into or convey within the Province, export or remove from the Province a specially protected plant without a permit. A person may however possess a specially protected plant which grows in its natural habitat but which was not planted.

6 LOCAL AUTHORITY REGULATORY FRAMEWORK

6.1 Madibeng Local Municipality

6.1.1 Air Quality Management By-Law published in LAN 95 in the North West Provincial Gazette 7308 of 4 July 2014

6.1.1.1 Section 3(1) of the bylaw states that it must be read with any applicable provisions of the NEMAQA, National Framework for Air Quality Management and the Bojanala Platinum District Municipality Bylaws. Section 3(2) states that in the event of any conflict with any other by-laws which directly or indirectly, within the jurisdiction of the municipality, regulates air pollution, the provisions of this by-law shall prevail to the extent of inconsistency. Section 4 refers to an air pollution duty of care and states that every person who is wholly or partially responsible for causing air pollution or creating a risk of air pollution occurring must take all reasonable measures to prevent any potential air pollution from occurring and mitigate, as far as is reasonably possible, any air pollution that may occur.

6.1.1.2 Regulation 4(6) states that no person may unlawfully and intentionally or negligently commit any act or omission which causes or is likely to cause air pollution or refuse to comply with a directive. The bylaw also provides for the designation of an Air Quality Officer and Environmental Management Inspectors. Section 7 enables the municipality to identify substances or mixture

of substances in ambient air which, through ambient concentrations, bioaccumulation, and deposition or in any other way presents a threat to health or well-being to people within the municipality or which the municipality reasonably believes to present a threat.

6.1.1.3 Section 10 states that no person may drive a vehicle on a public road if it emits smoke at a level of 20% or more in terms of the Ringelmann smoke chart. A person commits an offence if he or she contravenes section 10. Section 11 concerns small boilers, small furnaces and small incinerators and places a prohibition on the installation of this infrastructure without the prior written authorisation of the Municipality. A “small boiler” means any boiler with a design capacity equal to 10 MW but less than 50 MW net heat input, capable of burning biomass, solid, liquid and/or gaseous fuels or a combination thereof. A “small furnace and incinerator” is defined to mean for the purposes of this by-law, any small furnace and small incinerator not contemplated under section 21 of the NEMAQA.

6.1.1.4 With regard to dust emissions, any person conducting any activities which ordinarily produce emissions of dust, offensive fumes / odours / and or unacceptable levels of dark smoke that may be harmful or toxic to public health, well-being and or cause a nuisance must take control measures to prevent such emissions into the atmosphere. The measures to be taken by such a person are referred to in section 12(2) of the bylaws.

6.1.1.5 The bylaws also concern emissions caused by burning of industrial waste, domestic waste and garden waste, emissions caused by tyre burning and burning of rubber products and cables in open spaces. Section 20 concerns noise pollution management and prohibition of a disturbing noise. In terms of section 22 of the bylaws, an Air Quality Officer may serve an abatement notice to any person whom the authorised person reasonably believed is likely to commit or has committed an offence in terms of the by-law.

6.1.2 Water and Sanitation By-Law published in LAN 17 of the North West Provincial Gazette 7602 of 2 February 2016

6.1.2.1 The purpose of this bylaw is to regulate the provision and management of water and sanitation services in the municipal area of jurisdiction and to provide for matters incidental thereto. We are advised that Hernic obtains its supply of raw water from the Hartebeespoort Irrigation Canal via a canal from the Hartebeestpoort Dam. This water use has been licensed in the WUL for Hernic. Chapter 3 of the bylaws concern the sanitation services. We take note

that Hernic operates its own sewage treatment plant. Regulation 60 states that no person may construct, install, maintain or operate any septic tank or other plant for the treatment, disposal or storage of sewage, without the prior written permission of the municipality. Hernic may therefore have to obtain the local municipality's approval for the continued operation of the sewage treatment plant.

6.1.3 Madibeng Local Municipality Waste Management By-Law 1 of 2008 (LAN 23 of 6 February 2009)

6.1.3.1 Section 13 concerns the Notification of Generation of Objectionable or Special Industrial Refuse. In terms of the aforesaid bylaw an owner or occupier of premises on which objectionable or special industrial refuse is generated, shall inform the Municipality of the composition thereof, the quantity generated, how it is stored and how and when it will be removed. The Municipality may require the owner or occupier of premises to submit an analysis of its composition certified by a qualified chemist together with the required notification. The Municipality has the right to enter the premises at any reasonable time to ascertain whether objectionable or special industrial refuse is generated on such premises and may take samples and test any refuse found on the premises to ascertain its composition.

6.1.3.2 The owner or occupier of premises on which objectionable or special industrial refuse is generated, shall notify the Municipality of any changes in the composition and quantity of the objectionable refuse occurring thereafter. Hernic must ensure that the objectionable refuse generated on the premises shall be kept and stored as prescribed in the bylaws and until it is removed from the premises.

6.1.3.3 The bylaws require objectionable refuse to be stored in such a manner that it does not cause a nuisance or pollute the environment. No person shall remove or dispose of objectionable refuse from the premises on which it was generated without, or otherwise than in terms of the written consent of the Municipality. The Municipality may give its consent in terms of subsection (1) subject to such conditions as it may deem fit: Provided that in laying down conditions the Municipality shall have regard to:

6.1.3.3.1 the composition of the objectionable or special industrial refuse;

6.1.3.3.2 the suitability of the vehicle and container to be used;

6.1.3.3.3 the place where the refuse shall be deposited;

6.1.3.3.4 proof to the Municipality of such depositing.

6.1.3.4 Unless it is satisfied that the person applying for consent is competent and has the equipment to remove the objectionable or special industrial refuse and to comply with the conditions laid down by it, the Municipality shall not give its consent.

6.1.3.5 In addition, Hernic must inform the Municipality, at such intervals as the Municipality may determine, of the removal of objectionable refuse, the identity of the remover, the date of such removal, the quantity and the composition of the objectionable refuse removed.

6.1.3.6 Section 14 concerns the storage of objectionable refuse. Hernic must ensure that the objectionable refuse generated on the premises shall be kept and stored as prescribed in the bylaws and until it is removed from the premises. The bylaws require objectionable refuse to be stored in such a manner that it does not cause a nuisance or pollute the environment.

6.1.3.7 Section 15 concerns the removal of objectionable waste. No person shall remove or dispose of objectionable refuse from the premises on which it was generated without, or otherwise than in terms of the written consent of the Municipality. The Municipality may give its consent in terms of subsection (1) subject to such conditions as it may deem fit: Provided that in laying down conditions the Municipality shall have regard to:

6.1.3.7.1 the composition of the objectionable or special industrial refuse;

6.1.3.7.2 the suitability of the vehicle and container to be used;

6.1.3.7.3 the place where the refuse shall be deposited;

6.1.3.7.4 proof to the Municipality of such depositing.

6.1.3.8 Unless it is satisfied that the person applying for consent is competent and has the equipment to remove the objectionable or special industrial refuse and to comply with the conditions laid down by it, the Municipality shall not give its consent. In addition, Hernic must inform the Municipality, at such intervals as the Municipality may determine, of the removal of objectionable refuse, the identity of the remover, the date of such removal, the quantity and the composition of the objectionable refuse removed.

6.1.3.9 Section 23 refers to the consent to operate as a waste removal contractor and states that notwithstanding anything to the contrary contained within these

bylaws, no person shall operate as a waste removal contractor, as defined in Chapter 1 of these by-laws, unless written authority to operate as such has been obtained from the Municipality.

6.1.3.10 Section 25 of the bylaws states that notwithstanding anything to the contrary within these by-laws, no person shall use the services of a waste removal contractor unless written authority to use such a waste removal contractor has been obtained from the Municipality.

6.2 **Bojanala Platinum District Municipality**

6.2.1 Air Quality Management By-Law LAN 230 of 15 November 2013

6.2.1.1 Section 3 of the AQMB by-law applies to the whole area of jurisdiction of the Bojanala Platinum District which includes Madibeng Municipality. In terms of section 4 a person who is wholly or partially responsible for causing air pollution or creating a risk of air pollution occurring must take all reasonable measures to: Prevent any potential air pollution from occurring; and to mitigate, as far as reasonably possible, any air pollution that may occur. The Bojanala Platinum District Municipality may issue a directive to a person who fails to take the reasonable measures as required.

6.2.1.2 In terms of section 5 the Bojanala Platinum District Municipality must prepare an Air Quality Management Plan which must be included in its Integrated Development Plan and which will be binding on the Municipality. In terms of sections 8 and 9, The Bojanala Platinum District Municipality may identify substances or mixtures of substances in ambient air which, through ambient concentrations, bioaccumulation, deposition or in any other way, present a threat to health, well-being of the people in the municipality or which the municipality reasonably believes present such a threat. Schedule 2 to the AQMB provides for the criteria which the Municipality may apply when identifying the substances. Any person emitting the substances or mixture of substances so identified, must comply with the emission standards established Municipality.

6.2.1.3 Section 11 states that the Bojanala Platinum District Municipality may declare any area within its jurisdiction an air pollution control zone. The Municipality may further prohibit, inter alia, the emission of one or more air pollutants, the combustion of certain types of fuels, declare smokeless zones etc. With regard to vehicle emissions section 12 prohibits the use of a compressed ignition powered vehicle including construction vehicles on a public road that emits unacceptable level of dark smoke. Please refer to the section for the definition

of “unacceptable level of dark smoke”, the authority of authorised persons to stop any vehicle and to test the vehicle. If a vehicle does emit an unacceptable level of dark smoke following the testing thereof, a repair notice may be issued by the authorised person.

6.2.1.4 With regard to dust emission activities, A person who conducts an activity which produces dust emissions that may be harmful or toxic to public health, well-being or cause a nuisance, shall take control measures to prevent such emissions into the atmosphere. One or more of the following control measures must be implemented: (i) Use dust palliatives or dust suppressants; (ii) Apply and maintain surface gravel; (iii) Erect physical barriers and signs to prohibit access to the disturbed areas; (iv) Use ground covers; (v) Re-vegetation similar to adjacent undisturbed conditions; (vi) Alternative measures approved by the Municipality’s air quality officer.

7 GENERAL OBSERVATIONS ON EMPR AMENDMENTS AND WAY FORWARD

7.1 As concluded above, with the commencement of the “*One Environmental System*” the NEMA regulates the approval, amendment and compliance assessment of Hernic’s Consolidated, TSF and PGM EMPRs. As was mentioned above, any amendment to a Hernic EMPR will have to be subjected to the amendment process prescribed in terms of the NEMA as well as section 102 of the MPRDA. Our observations regarding the manner by which Hernic’s approved EMPRs will have to be amended in order to give effect to the Masterplan objectives must be read with the transitional provisions more fully set out herein above.

7.2 The provisions in the NEMA that are relevant to an approved EMPR and any amendment thereof are sections 24N(6) which states that the Minister responsible for mineral resources may at any time after he or she has approved an application for an EA approve an amended EMPR and the 2014 EIA Regulations. Section 24N(7) of the NEMA states that a holder must manage all environmental impacts in accordance with an approved EMPR and as an integral part of the mining operations. A holder must also monitor compliance with the requirements of the EMPR. Section 49A(c) of the NEMA states that failure to comply with an approved EMPR is an offence.

7.3 The 2014 EIA Regulations regulate procedures and criteria for the submission, processing, consideration and decision of applications for EA of activities and for matters pertaining thereto as well as the amendment of EMPRs. The transitional provisions in the NEMA are central to the identification of the appropriate procedure by which an EMPR should be amended.

7.4 Chapter 5 of the EIA Regulations 2014 concerns the amendment, suspension, withdrawal and auditing of compliance with an EA and an EMPR. In addition, regulation 54(2) of the transitional provisions in the 2014 EIA Regulations states as follows:

"An application submitted after the commencement of these Regulations for an amendment of an Environmental Management Programme, issued in terms of the Mineral and Petroleum Resources Development Act, 2002, must be dealt with in terms of Part 1 or Part 2 of Chapter 5 of these Regulations."

7.5 It follows that any amendments to the abovementioned Hernic EMPRs must be dealt with in accordance with Part 1 or Part 2 of Chapter 5 of the EIA Regulations 2014. Part 1 in Chapter 5 concerns amendments to an EMPR where no scope change or a change of ownership occurs. Part 2 in Chapter 5 of the 2014 EIA Regulations concerns amendments where a change in scope occurs. While these regulations refer to an EA throughout we submit that a reference to an EA should, for present purposes, be read as a reference to an EMPR.

7.6 In terms of regulation 31 of the 2014 EIA Regulations, a change in scope of an EMPR will occur in circumstances where such change will result in an increased level or nature of impact where such level or nature of impact was not (a) assessed and included in the initial application for an EMPR; or (b) taken into consideration in the initial EMPR and the change does not, on its own, constitute a listed or specified activity.

7.7 Having regard to the Draft Scoping Report and the scope of work for the implementation of the Masterplan and in particular the new projects to be implemented we are of the view that a substantive amendment of the Consolidated, PGM and TSF as the case may be will be required.

7.8 In the circumstances, we anticipated that an application to amend any approved EMPR held by Hernic (deemed to be a WML in terms of the transitional provisions) will be three fold. Firstly, by virtue of the transitional provisions referred to above, such an EMPR is deemed to be issued as a WML in terms of the NEMWA and therefore such an EMPR (as a WML) will have to be also be amended in accordance with section 54(1)(e) of the NEMWA. Secondly, by virtue of the transitional provisions in the 2014 EIA Regulations which state that an application submitted after the commencement of the 2014 EIA Regulations for an amendment of an EMPR issued in terms of the MPRDA, must be dealt with in terms of Part 1 or Part 2 of Chapter 5 of those Regulations. Thirdly, as was indicated above, the MPRDA retains a section which continues to be applicable to EMPRs. Section 102 of the MPRDA states that an EMPR may not be amended or varied without the written consent of the Minister responsible for mineral resources.