



**DEPARTMENT: MINERALS AND ENERGY
REPUBLIC OF SOUTH AFRICA**

Mineral Regulation: Northern Cape Region
Private Bag X6093, Kimberley, 8300, Tel: (053) 8300 800, Fax: (053) 8325 631

Enquiries: MR. R Mudau E-mail: rudzani.mudau@dme.gov.za

Ref: NC 6/2/2/118 & 119

REGISTERED MAIL

The Manager
Samancor Limited
P.O. Box 61075
MARSHALLTOWN
2107

Sir / Madam

**APPROVAL OF AN ENVIRONMENTAL MANAGEMENT PROGRAMME
(EMPs) IN TERMS OF SECTION 39 (1 – 4) OF THE MINERAL AND
PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002):
SAMANCOR LIMITED: MAMATWAN AND WESSELS MINES**

The above refers

This letter serves to inform you that your EMPs had been approved and we hope that your mining operations will conform to the undertakings as per these approved EMPs.

In addition to the above, the following conditions need to be considered and adhered to:

1. This approval does not purport to absolve Samancor Limited from its obligations towards any other affected individual affected including the communities around this operations
2. The approval provides no relief from the provisions of any other relevant statutory or contractual obligations.
3. In cases where the dump (rock / tailing) is left, the slope angle should be kept at minimal height of less than 18°

Approval of an environmental management programme in terms of section 39 (5) (a) of MPRDA.

20 Minerals and Energy for Development and Prosperity

THE REGIONAL MANAGER

4. Dust control measures must be developed and practiced on a daily bases in order to prevent dust fall-out,
5. Dumping of industrial and domestic wastes should be done inline with the requirements of the National Environmental Management Act, 1998 (Act 107 of 1998),
6. All storm water result from the beneficiation plant or processing plant area should be managed in an environmental manner,
7. Identification and assignment of materials that can potentially be used to in-fill the opencast pits should be assigned and mapped in a mining plan and updated on a continuous bases
8. Monitoring and performance assessment to the approved EMP must be conducted and submitted to this office on an annual bases,

All enquiries regarding this letter can be directed to Rudzani Mudau at the particulars above.

Regards,



M J Mndaweni
Regional Manager: Mineral Development
Northern Cape Region

Date: 04/11/2005



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Private Bag X6102, Kimberley, 8300, Metlife Towers, T-Floor, Tel: 053 807 7300, Fax: 053 807 7328

Enquiries: Bryan Fisher Tel: (053) 8077503 Fax: (053) 831 3530 Email: bfisher@ncpg.gov.co.za.

AIR QUALITY MANAGEMENT SUB- DIRECTORATE

Hotazel Manganese Mines
1 Peperboom Avenue
Hotazel
8490

09/03/2015

Attention: Mr Rudzani Mudau

PERMISSION TO REFURBISH ABATEMENT EQUIPMENT: PROVISIONAL ATMOSPHERIC EMISSION LICENCE AS CONTEMPLATED IN CHAPTER 5 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004, (ACT NO. 39 OF 2004). License number NC/AEL/JTG/MAM01/2012

Listed Activity: Category 4 Metallurgical Industry; Sub-category 4.5, Sinter Plant

Approval is hereby granted by the Department of Environment and Nature Conservation (DENC) to Hotazel Manganese Mines Mamatwan for the refurbishment of baghouse 2 (PDD2) effective from 1 April 2015 until 30th September 2015.

Permission is granted based on the following conditions

1. All conditions of the license are adhered at all times with emphases on section 4.1 & 4.2 of the license.
2. Progress reports on the refurbishment and commissioning of the baghouse is communicated to DENC.
3. All emissions are treated before release & all other abatement equipment functions optimally at all times.
4. An updated and signed AEL application to be forwarded to DENC to amend the changes.
5. You will supply this department with new monitoring data once refurbishment process is complete.

The department welcomes this effort to refurbish the baghouse; this will lead to cleaner emissions and enable the mine to meet their obligation with regards to the existing standard and with the new standards as per section 21 of the NEM Air Quality Act 39 of 2004.

Yours sincerely



Mr Bryan Fisher
ACTING DIRECTOR: ENVIRONMENT QUALITY MANAGEMENT
DATE: 09 March 2015



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Private Bag X6102, Kimberley, 8300, Metlife Towers, T-Floor, Tel: 053 807 7300, Fax: 053 807 7328

Enquiries: Bryan Fisher Tel: (053) 8077503 Fax: (053) 831 3530 Email: bfisher@ncpg.gov.co.za.

AIR QUALITY MANAGEMENT SUB- DIRECTORATE

Hotazel Manganese Mines
1 Peperboom Avenue
Hotazel
8490

Attention: Mr Rudzani Mudau

PERMISSION TO REFURBISH ABATEMENT EQUIPMENT: PROVISIONAL ATMOSPHERIC EMISSION LICENCE AS CONTEMPLATED IN CHAPTER 5 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004, (ACT NO. 39 OF 2004)

Listed Activity: Category 4 Metallurgical Industry; Sub-category 4.5, Sinter Plant

Approval is hereby granted by the Department of Environment and Nature Conservation (DENC) to Hotazel Manganese Mines Mamatwan for the refurbishment of baghouse 1 (PDD1) effective from 1 August 2013.

Permission is granted based on the following conditions

1. All conditions of the license are adhered to at all times with emphases on section 4.1 & 4.2 of the license.
2. Progress reports on the refurbishment and commissioning of the baghouse is communicated to DENC.
3. All emissions are treated before release & all other abatement equipment functions optimally at all times.
4. An updated and signed AEL application to be forwarded to DENC to amend the changes.

The department welcomes this effort to refurbish the baghouse; this will lead to cleaner emissions and enable the mine to meet their obligation with regards to the existing standard and with the new standards as per section 21 of the NEM Air Quality Act 39 of 2004..

Yours sincerely

Mr J.J. MÜTYORAUTA
DIRECTOR: ENVIRONMENT QUALITY MANAGEMENT

DATE: 13th August 2013



DEPARTMENT OF TOURISM,
ENVIRONMENT AND CONSERVATION

ISEBE LEZOKHENKETHO, INDALO
NOLONDOLOZO

LEFAPHA LA BOJANALA, TIKOLOGO
LE TSHOMARELO

DEPARTEMENT VAN TOERISME,
OMGEWING EN BEWARING

224 Du Toitspan Road
Private Bag X6102
KIMBERLEY
8320

224 Du Toitspan Road
Kgatsanoposa X6102
KIMBERLEY
8300

224 Du Toitspan Road
Inqwa yase X6102
KIMBERLEY
8300

Du Toitspanweg 224
Privatebag X6102
KIMBERLEY
8300

Tel: (053) 907-4800

Fax (053) 831-3530

Enquiries
Dipatliso
Iribuzo
Ngwen
Reference
Tshupiso
Isaletho
Verwysings

S.Mbanjwa

NNO 25/19
NC/KGA/HOT3/07

Date :
Litha :
Umlah :
Datum :
10 July 2007


Masana Petroleum Solutions
Miss S. Mdalose
P.O. Box 1554
Johannesburg
2000
FAX: 011 486 0080

Dear Sir

**APPLICATION FOR ENVIRONMENTAL AUTHORISATION/ ACTIVITY 7,
INSTALLATION OF BULK FUEL STORAGE FOR HOTAZEL MANGANESE MINES
LOCATED IN MAMATHAWAN 331 AND WESSELS 227 KGALAGADI DISTRICT
MUNICIPALITY, NORTHERN CAPE PROVINCE.**

By virtue of the powers conferred to me by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Regulations, 2006, the Department hereby grants authorisation to/for **APPLICATION FOR ENVIRONMENTAL AUTHORISATION/ ACTIVITY 7, INSTALLATION OF BULK FUEL STORAGE FOR HOTAZEL MANGANESE MINES LOCATED IN MAMATHAWAN 331 AND WESSELS 227 KGALAGADI DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.** Schedule of Government Notice No. R. 386: Item *Activity 7* a detailed description of the activity is given in the *basic assessment report* dated *April 2007*, subject to the conditions listed in the environmental authorisation. The environmental authorisation and reasons for the decision are attached herewith.

In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2006, you are instructed to notify all registered interested and affected parties, in writing and within seven (7) calendar days of receiving of this letter, of the Department's decision in respect of your application as well as the provisions regarding the making of appeals that are provided for in the regulations.

FAX TO: Sifiso Vazi
COMPANY: Umbelle PAGE: 1 OF: 11
FAX NO: 031-3047843 DATE: 24/7/2007
FROM: Marcie Bello
COMPANY: Mills & Otten PHONE NO: 011-486 0082
FAX NO: 011-486 0088  FAX PAD 7551

Permit No. 30/2007



A DESTINATION IN HARMONY WITH NATURE

DEFINITIONS

- **Activity** – means an activity identified in Government Notice No. R.386 and No. R387 of 2006 as a listed activity.
- **Applicant** – means a person who has submitted or intends to submit an application.
- **Application** – means an application for an environmental authorisation in terms of Chapter 3 of the Environmental Impact Assessment Regulations of 2006
- **Basic Assessment** – means a process contemplated in regulation 22 of the Environmental Impact Assessment Regulations of 2006.
- **Basic Assessment Report** – means a report contemplated in regulation 23 of the Environmental Impact Assessment Regulations of 2006.
- **EAP** – means an environmental assessment practitioner as identified in the Environmental Impact Assessment Regulations of 2006
- **EIA** – Environmental Impact Assessment means an environmental plan in relation to identified or specified activities envisaged in chapter 5 of the Act and described in regulation 34 of the Environmental Impact Assessment Regulation of 2006.
- **Interested and Affected party** – means any group of persons or organisation interested or affected by an activity and
 - Any organ of state that may have jurisdiction over any aspect of the activity.
- **Public Participation Process** – means a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to specific matters.
- **The Act** – means the National Environmental Management Act, 1998 (Act No. 107 of 1998).

DECISION

The Department is satisfied, on the basis of information available to it and subject to compliance with conditions of this environmental authorisation, that the applicant should be authorised to undertake the activity specified below.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

ACTIVITIES AUTHORISED

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2006 the Department hereby authorises –

Masana Petroleum Solutions (PTY) Ltd

with the following contact details –

Miss Sanelisiwe Mdlalose
10 Junction Avenue, Parktown 2193, P.O Box 1554 Johannesburg, 2000
Tel: (011) 544 6301/42
Cell: 083 634 1342
Fax: 011 544 6303
Email: sanelisiwe.Mdlalose@masana.biz

to undertake the following activity: Installation of bulk fuel storage for Hotazel Manganese Mines located in Mamathwan and Wessels

at the Hotazel Manganese Mines, Mamathwan 331 and Wessels 227, at Hotazel in the Northern Cape, which falls within the jurisdiction of Moshaweng Local Municipality of the Kgalagadi District Municipality hereafter referred to as "the property".

The aboveground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1000 cubic metres at any one location or site, Activity No. 7 of *GN 38 of 19 Regulations, 2006*.

The granting of this environmental authorisation is subject to the conditions set out below.

CONDITIONS

Scope of authorisation:

1. Authorisation of the activity is subject to the conditions contained in this authorisation, which conditions form part of the environmental authorisation and are binding on the holder of the authorisation.
2. The holder of the authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorisation.
3. The activity(s) which is authorised may only be carried out at the property indicated above.
4. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
5. This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

General conditions:

6. A copy of this authorisation must be kept at the property where the activity will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
7. Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.
8. In all cases, the holder of the authorisation must notify the Department, in writing, within seven (7) if a condition of this authorisation is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.
9. Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.
10. This authorization is subject to the approval by the relevant local authorities i.e. in terms of any relevant legislation administered by those local authorities.

11. The activity may not commence without the necessary permits/licenses/approvals and/or service agreements, where it is relevant, from or with the relevant regulatory authorities whether national, provincial or local (these include but are not limited to National Department of Environmental Affairs & Tourism, National Department of Agriculture, Department of Housing & Local Government, Department of Water Affairs & Forestry, Department of Minerals and Energy, Department of Transport, Roads & Public Works, Department Arts, Sports & Culture, South African Heritage Resources Agency, South African Civil Aviation Authority).
12. The activity, including site preparation, may not commence before the thirty (30) day appeal period expires or until such time as the Department has considered any appeals that have been lodged.
 - a. One week's written notice must be given to the Department before commencement with the activity.
 - b. Such notice shall make clear reference to the site location details and the reference number given above.
 - c. The said notice must also include proof of compliance with the following conditions described herein:
 - i. Conditions: 23
13. The applicable conditions of this authorization must form part of all contractors' and sub-contractors' conditions of contract. A performance-based requirement with regard to environmental impact management must be included in all contracts related to any aspect of this authorization.
14. The applicant must carry out regular environmental audits to establish compliance with the conditions of this authorization and contracts.
15. Records relating to the compliance/non-compliance with the conditions of the authorization and contracts must be kept in good order. Such records must be made available to the Department within 7 (seven) days of receipt of a written request by the Department for such records.
16. Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept up to date for inspection by the Department.
17. Officials in the employ of the Department shall be given access to the property as described above (see detailed description of the activity) for the purposes of assessing and/or monitoring compliance with the conditions contained in this Record of Decision. Where the activity is located on a third party's property the applicant shall be responsible to arrange access for departmental officials.
18. This Department may add to, change and/or amend any of the conditions in this authorization if, in the opinion of the Department, the addition, change of amendment is environmentally justified. In event that such impacts exceed its significance as predicted in the independent consultant's environmental scoping report and supporting documentation, the authorization may be withdrawn after proper procedures were followed.
19. In the event of any dispute concerning the significance of a particular impact, the opinion of this department in respect of its significance will prevail.
20. This Department and any national department, provincial department, local authorities or committees appointed in terms of the conditions of this application or any other public authority or organization shall not be held responsible for any damage or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of approval.

21. The applicant shall be responsible for all costs necessary to comply with the above conditions unless otherwise specified.
22. The applicant must apply the principle of best practicable environmental option for all technologies used/ implemented during construction.

Appeal of authorisation:

23. The holder of the authorisation must notify every registered interested and affected party, in writing and within 7 (SEVEN) calendar days, of receiving notice of the Department's decision to authorise the activity.
24. The notification referred to in 23 must –
 - specify the date on which the authorisation was issued;
 - inform the interested and affected party of the appeal procedure provided for in Chapter 8 of the regulations; and
 - advise the interested and affected party that a copy of the authorisation and reasons for the decision will be furnished on request.
25. If the applicant should appeal against this record of decision, he/she must inform all Interested and affected persons that such an appeal is being lodged with the MEC and if requested, the applicant/appellant must provide those persons with reasonable access to a full copy of the appeal within a reasonable time before expiry of the thirty day appeal period.

Management of activity:

26. All the mitigation measures as outlined in the EMP, dated April 2007, must be strictly adhered to during the construction and operation phases.

Monitoring:

27. The applicant must appoint an Environmental Control Officer (ECO) that will have the responsibility to implement the approved EMP.

Recording and Reporting to the Department:

28. Should the Department require the holder of the authorisation to submit an audit report, it must be submitted and the environmental audit report must be compiled by an independent auditor to avoid biasness.
29. Records relating to compliance or non-compliance with any condition of this authorisation must be kept in good order. Such Records must be made available to the Compliance and Monitoring section of this Department within 7 (seven) days of written request by the officer.

Commissioning of the activity

30. Any waste generated during construction and operation phases must be disposed off at a waste disposal site licensed for such waste.
31. Hazardous waste must be removed to a permitted landfill site (this would include used oils, paints and thinners etc.)
32. No cooking to be done on the property.
33. Chemical toilets to be installed if needed during construction only.

34. Access to the construction site must be limited off the existing road network only.
35. Dust control must be exercised by using a dedicated water hose on a regular basis, prior to starting in the morning and as needed during the day.
36. Dust control must be exercised whilst site clearance and earthworks are undertaken, on a regular basis, throughout the construction phase.
37. The working area to be demarcated with hazard tape and the site must be fenced.
38. No construction material to be stored outside the fenced area on the site.
39. The storage of plant and material must be kept orderly and tidy throughout the day and at the end of each day.
40. Hours of operation must be restricted to 07:00am and 17:30pm from Monday to Friday.
41. All plant machinery must be properly maintained with particular emphasis on engine silencers to minimise any potential additional noise impact.
42. Fuel and other petrochemicals must be stored in receptacles that comply with SANS100-1: 2003 (SABS 089-1:2003) standards.
43. Installation of the tanks must be in line with SABS 089 requirements.
44. Leak detector systems must be installed with the new tanks.
45. Contingency plans to address leakage during the operation of the fuel tanks.
46. This authorisation is subject to approval by the Department of Minerals and Energy (DME).

Operation of the activity:

47. All potential contaminated surface water must be directed through a separator pit that discharges to a water treatment facility.
48. All potential contaminated soil must be treated at the soil treatment plant within the mine.
49. The drainage at all filling points must be on a hard standing area that drains to a separator pit that discharge to the water treatment facility.
50. The separator pit must be inspected and cleaned out regularly.
51. The operator must ensure that storm water management systems are adequate to prevent contamination of the water resources.
52. In the event of the detection of a leakage the tank must be decommissioned and removed until it is repaired, or replaced. A risk based assessment of the contaminated site must be undertaken and soil be remediated.
53. A contingency plan to the approval of this department and DWAF must be available to address any leakages during the operation of the fuel tanks.

Site Closure and Decommissioning:

54. When closing the site, the operator must remove the structure without contaminating the soil.
55. Any area disturbed during construction and operation phases must be rehabilitated for the decommissioning phase.
56. Contaminated water resources must be rehabilitated to the satisfaction of this department and DWAF if and when polluted by the fuels.

DURATION AND PERIOD OF VALIDITY

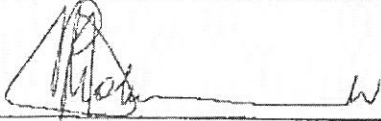
This activity(s) must commence within a period of three (3) years from the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.

APPEAL

In terms of Chapter 7 of Environmental Impact Assessment Regulations, 2006, if the applicant or a person affected by this Decision wishes to appeal this decision, a notice of intention to appeal must be lodged within ten (10) days of being notified of the decision, and an appeal must be lodged within thirty (30) days of lodging of the notice to appeal to:

The Member of the Executive Council
Ministry of Tourism, Environment & Conservation
Private Bag X6102
Kimberley
8300
Fax: (053) 8321032

Appeals must comply with the provisions of Chapter 7 of Environmental Impact Assessment Regulations, 2006 Government Notice No. R. 385 of 21 April 2006.



MRS. P.M.N. MOKHALI
HOD: TOURISM, ENVIRONMENT & CONSERVATION

DATE OF ENVIRONMENTAL AUTHORISATION: 07.07.17

ANNEXURE 1: REASONS FOR DECISION**1. Background**

The applicant, Masana Petroleum Solutions (PTY) Ltd, applied for authorisation to carry on the following activities

The installation of bulk fuel storage facilities for Hotazel Manganese Mines located in Mamathwan and Wessels

The applicant appointed Mills & Otten Environmental Consultants to undertake a screening process.

- I. A Basic Assessment process was followed due to the fact the proposed development falls under that process.

2. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The information contained in the Basic Assessment Report for the proposed installation of bulk storage facilities, at the Mamathwan and Wessels Manganese mines in Hotazel, Northern Cape that was received in May 2007.
- b) The comments received from interested and affected parties as included in the Basic Assessment Report.
- c) Relevant information contained in the Departmental information base including -
 - Public Participation Guideline
 - EIA Regulations, 2006
- d) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998)
- e) The findings of the site visit undertaken by Reabaka Molusi on 16th May 2007.

3. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) The legal and procedural requirements have been complied with and the information contained in the Environmental Impact Report and Appendices is to the satisfaction of this Department.
- b) The Basic Assessment Report's findings, given the nature of the project and the selected site, conclude that the potential impacts associated with the proposed activity are of nature and extent that can be reduced by the introduction of appropriate mitigation measures.

4. Findings

After consideration of the information and factors listed above, the Department made the following findings -

- a) The area has no vegetation.
- b) The area is on the industrial site of the mine.

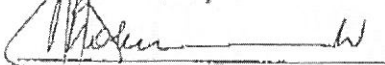
In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The application is accordingly granted.

Your attention is drawn to Chapter 7 of the Regulations which regulates appeal procedures. Should you / any person affected by this decision wish to appeal any aspect of the decision, you or a person affected by this decision must, *inter alia*, lodge a notice of intention to appeal, as prescribed in regulation 62 of Environmental Impact Assessment Regulations, 2006, with the Member of the Executive Council, Ministry of Tourism, Environment and Conservation within 10 days of receiving this letter, by means of one of the following methods:

By facsimile: (053) 832 1026;
By post: Private Bag x 6102, Kimberley, 8300 or
By hand: T-Floor, Metlife Towers, Kimberley, 8300.

Should you decide to appeal, you must serve a copy of your notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where, and for what period, the appeal submission will be available for inspection.

Yours faithfully



Mrs P. M. N. Mokhali

HOD: TOURISM, ENVIRONMENT AND CONSERVATION

DATE OF DECISIONS: 07. 07. 17

cc: MILL AND OTTEN
P.O. BOX 84344
GREENSIDE
2034



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Private Bag X6102, Kimberley, 8300, SASKO Building, Tel: 053-807 7430, Fax: 053-831 3530

REPUBLIC OF SOUTH AFRICA

ATMOSPHERIC EMISSION LICENCE AS CONTEMPLATED IN CHAPTER 5 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004, (ACT NO. 39 OF 2004)

The Atmospheric Emission Licence issued to **Hotazel Manganese Mines- Mamatwan Sinter Plant** in terms of section 40(1)(a) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("the Act"), in respect of Listed Activity **Category No. 4. Metallurgical Industry, subcategory 4.5 Sinter Plants**. The Atmospheric Emission Licence has been issued on the basis of information provided in the company's application dated **12 March 2015** and information that became available during processing of the application.

The Atmospheric Emission Licence is valid until **31 March 2020**.

The reason for the issuance of the current licence is renewal and review.

The Atmospheric Emission Licence is issued subject to the conditions and requirements set out below which form part of the Atmospheric Emission Licence and which are binding on the holder of the Atmospheric Emission Licence ("the holder").

1. ATMOSPHERIC EMISSION LICENCE ADMINISTRATION

Name of the Licensing Authority	Department of Environment and Nature Conservation
Atmospheric Emission Licence Number	NC/AEL/NDM/ZRH01/2014
Atmospheric Emission Licence Issue Date	24th March 2015
Atmospheric Emission Licence Type	Final
Review Date, not later than	01 January 2020

Air Quality Officer Signature: _____

Date: _____

27 March 2015

2. ATMOSPHERIC EMISSION LICENCE HOLDER DETAILS

Enterprise Name	Samancor Manganese (Pty) Ltd
Trading as	Hotazel Manganese Mines
Enterprise Registration Number (Registration Numbers if Joint Venture)	2003/020080/07
Registered Address	6 Hollard Street, Johannesburg
Postal Address	1 Peperboom Ave, Hotazel, 8490, South Africa
Telephone Number (General)	053 742 2286
Industry Sector	Mining
Name of Responsible Officer	Rudzani Mudau
Name of Emission Control Officer	Rudzani Mudau
Telephone Number	053 742 2286
Cell Phone Number	084 916 2179
Fax Number	086 560 8510
Email Address	rudzani.mudau@bhpbilliton.com
After Hours Contact Details	053 742 2303
Land Use Zoning as per Town Planning Scheme	Mining

3. LOCATION AND EXTENT OF PLANT

Physical Address of the Premises	Mamatwan Mine located alongside road R380 in John Taolo Gaetsewe District
Description of Site (Erf)	Farm Sinterfontein 748
Coordinates of Approximate Centre of Operations	North-south: -27. 39048 East-west: 22.99452
Extent (km ²)	142, 4633 ha

Air Quality Officer Signature: 

Date: 27 March 2015

Elevation Above Mean Sea Level (m)	1110 m
Province	Northern Cape
Metropolitan / District Municipality	John Taolo Gaetsewe District Municipality
Local Municipality	Joe Morolong Local Municipality
Designated Priority Area	None

4. GENERAL CONDITIONS

4.1. Process and ownership changes

The holder of the atmospheric emission licence must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.

No building, plant or site of works related to the listed activity or activities used by the licence holder shall be extended, altered or added to the listed activity without an environmental authorisation from the competent authority. The investigation, assessment and communication of potential impact of such an activity must follow the basic assessment procedure as prescribed in the Environmental Impact Assessment Regulations published in terms of section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended.

Any changes in processes or production increases, by the licence holder, will require prior approval by the licensing authority.

Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority.

The licence holder must, in writing, inform the licensing authority of any change of ownership of the enterprise. The licensing authority must be informed within 30 (thirty) days after the change of ownership.

Air Quality Officer Signature: _____



Date: 27 March 2015

The licence holder must immediately on cessation or decommissioning of the listed activity inform, in writing, inform the licensing authority.

4.2. General duty of care

The holder of the licence must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.

The licence holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.

Failure to comply with the above condition is a breach of the duty of care, and the licence holder will be subject to the sanctions set out in section 28 of the NEMA.

4.3. Sampling and or analysis requirements

Measurement, calculation and or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard. A different method may be acceptable to the licensing authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalence of analyses.

The licence holder is responsible for quality assurance of methods and performance. Where the holder of the licence uses external laboratories for sampling or analysis, accredited laboratories shall be used.

4.4. General requirements for licence holder

The licence holder is responsible for ensuring compliance with the conditions of this licence by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering a service to the holder of the licence.

The licence does not relieve the licence holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.

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A copy of the licence must be kept at the premises where the listed activity is undertaken. The licence must be made available to the environmental management inspector representing the licensing authority who requests to see it.

The licence holder must inform, in writing, the licensing authority of any change to its details including the name of the emission control officer, postal address and/or telephonic details.

4.5. Statutory obligations

The licence holder must comply with the obligations as set out in Chapter 5 of the Act.

4.6. Annual payment of atmospheric emission licence processing fee

The licence holder must, for the period of validity of the licence, pay the processing fee annually to the licensing authority.

5. NATURE OF PROCESS

5.1. Process description

Provide a brief description of the processes on the site.

Manganese ore and recycled sinter fines are mixed with Anthracite used as a fuel and reductant and placed in feed silos. The mixture is then placed on a moving grate machine where it is ignited to produce an agglomerated sinter. The sinter product is discharged from the moving grate into a crusher to break the sinter ore into manageable sized clumps and is then air-cooled on the off-strand cooler.

The cooled down and crushed sintered ore is then graded according to size with the material larger than 6 mm placed on the final product stockpile from where it is shipped to markets via rail or road transport. The screened material smaller than 6mm is recycled back into the feed mixer where it is included in the feed ore. Fugitive dust is extracted from the process through a series of extraction ducts with the particulate matter being captured in one of three de-dusting bag-houses.

Dust from baghouse no 1 and 2 are recycled back into the feed mixer to be included into the feed ore. Dust from bag-house no 3 is captured in bulk bags for sale as reduced sinter fines. Off gas and particulate matter from the moving grate machine is extracted and scrubbed through an Electrostatic

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Precipitator. Figure 2 below illustrate the overall balance sheet from of inputs, outputs and emissions at the site of works.

5.2. Listed activity or activities

List of all Listed Activities, as published in terms of Section 21 of the AQA, authorised to be conducted at the premises by the licence holder:

Category of Listed Activity	Sub-category of the Listed Activity	Description of the Listed Activity
Category 4 Metallurgical Industry	Sub-cat 4.5 Sinter Plants	Sinter plants for agglomeration of fine ores using a heating process, including sinter cooling where applicable

5.3. Unit process or processes

List of all unit processes associated with the listed activities to be undertaken at the premises.

Unit Process	Unit Process Function	Batch or Continuous Process
Ore stockpile	Stockpile ore to ensure a continuous feed of raw material into the sinter process	Continuous
Anthracite stockpile	Stockpile anthracite used as a fuel and reductant in the sinter process	Continuous
Anthracite crusher	Size of the anthracite to ensure an effective burn-through and efficient sinter process	Continuous
Conveyor belts	To convoy and transfer raw material and product	Continuous
Feed mix	Combining feed ore with return fines and anthracite in preparation of the sinter process	Continuous
Sinter ignition	Ignite the sinter feed mix with oil burners once feed mix placed on the travelling grate	Continuous

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Moving sinter grade	Agglomeration and upgrading of fine ores using a heating process	Continuous
Electrostatic precipitator	Extracting particulate matter and off- gas from the sinter strand removing the particulate matter for reintroduction in the sinter feed	Continuous
Sinter crusher (product sizing)	Braking up sintered product into the required size	Continuous
Off- strand cooler	Cooling sintered product	Continuous
De- dusting baghouse	Extracting fine dust from transfer points in the sinter process	Continuous
Product screening	Removing particles smaller than 6 mm from the crushed sinter product	Continuous
Product stockpile	Storage of sintered product prior to shipment	Continuous
Load out of sinter product	Loading of sinter product onto trains and or trucks for shipment to customers	Batch

5.4. Hours of operations

Indicate the hours of operation of all unit processes associated with the listed activities at the premises.

Unit Process	Operating Hours	Days of Operation per Year
Sinter Plant	24 hour	365

5.5. Graphical process information

The following diagrams depicting the graphical operation for the entire operation must be attached:

Air Quality Officer Signature:  _____

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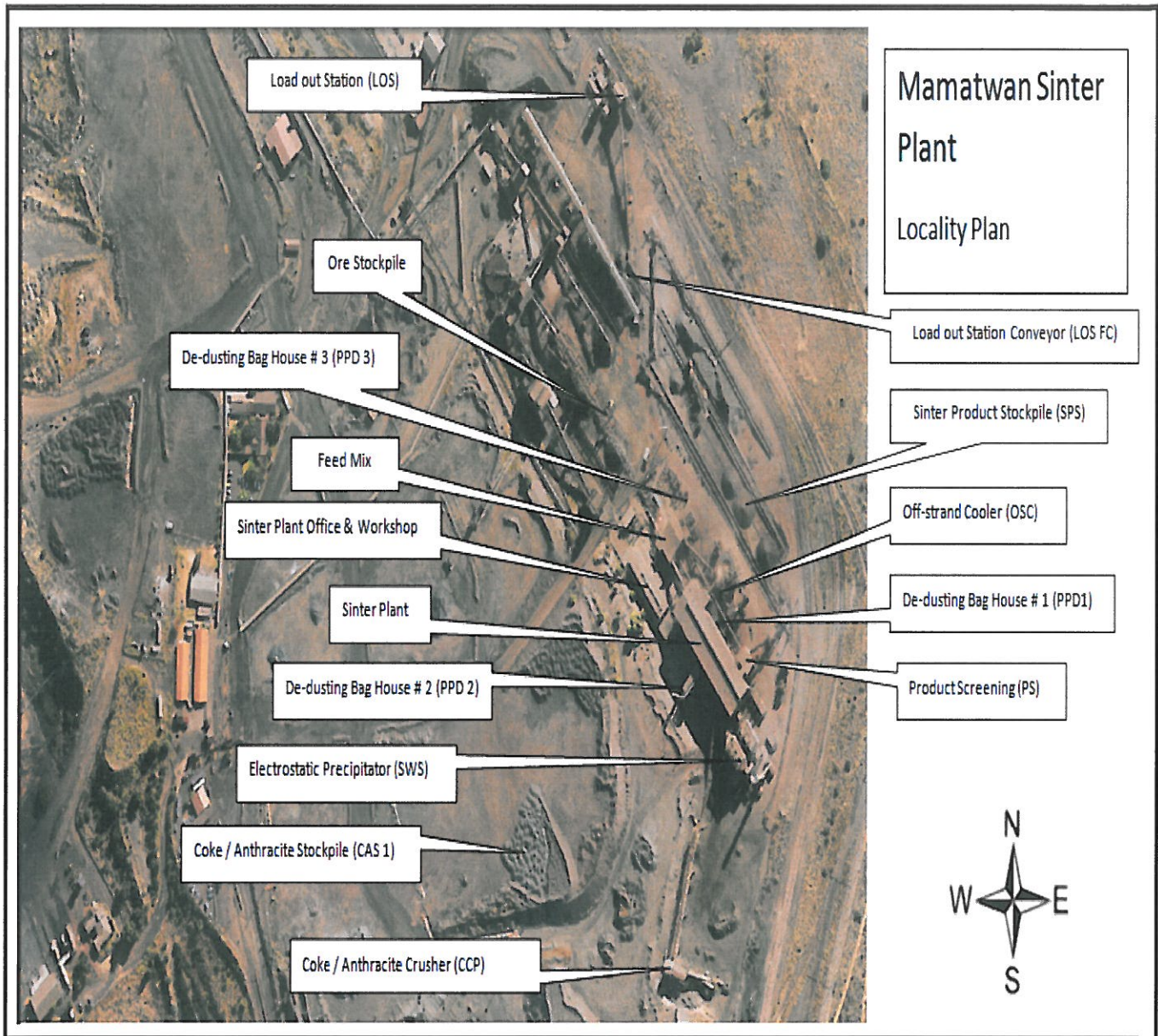


Figure 1: Mamatwan Sinter Plant Site Layout Diagram

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Date: _____

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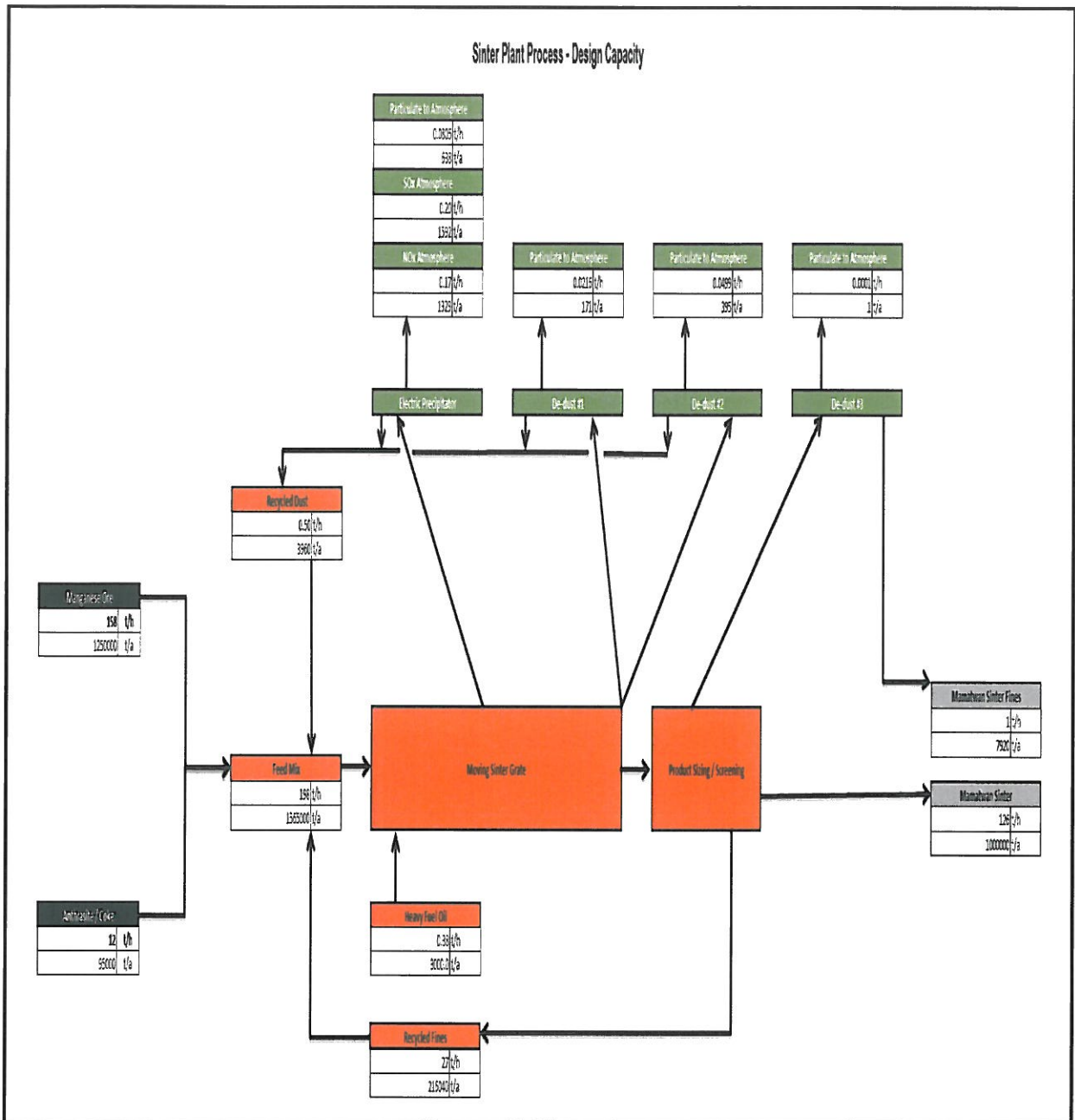



Figure 3: Mamatwan Sinter Plant Process Flow Chart (Design Capacity)

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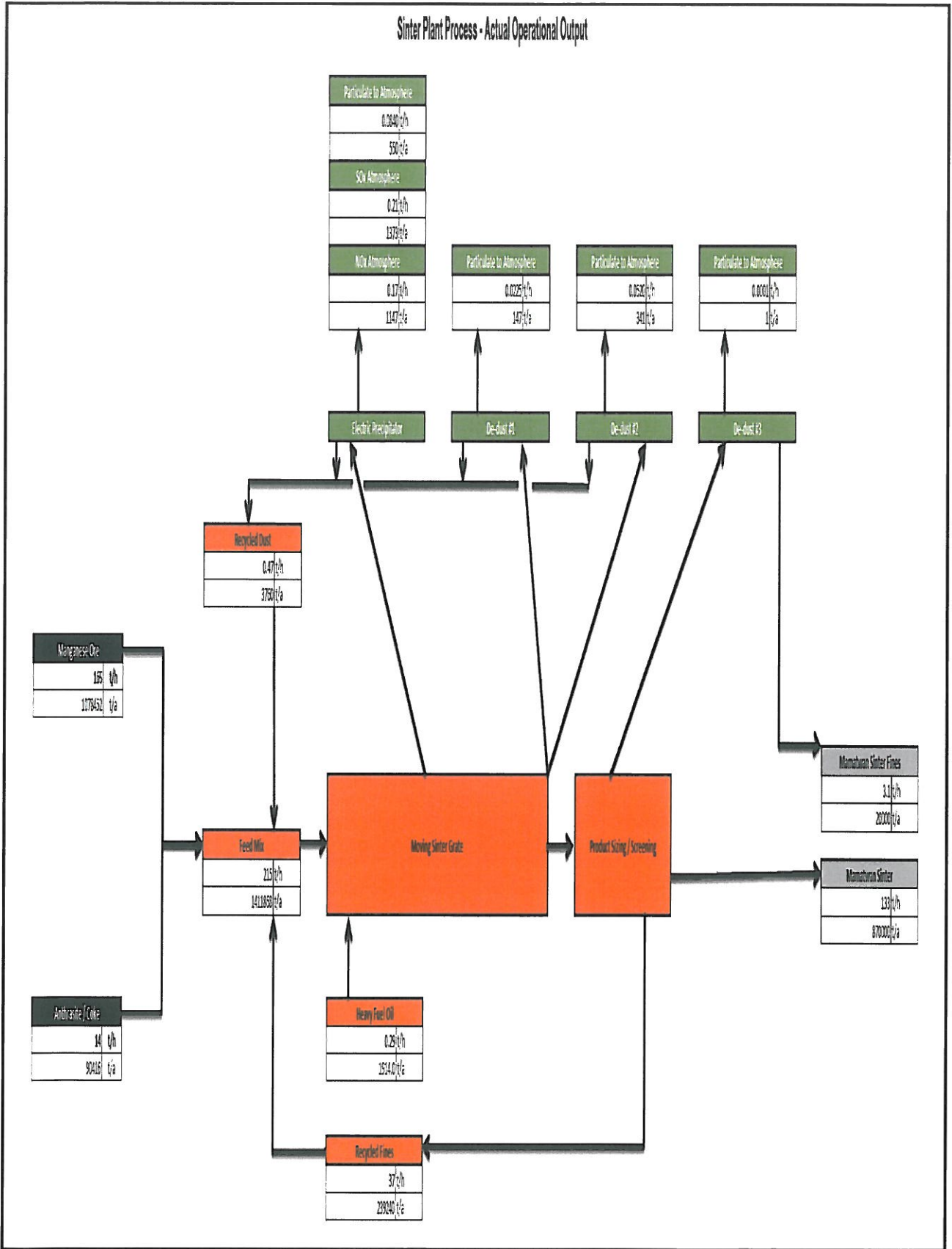


Figure 4: Mamatwan Sinter Plant Process Flow Chart (Actual Production)

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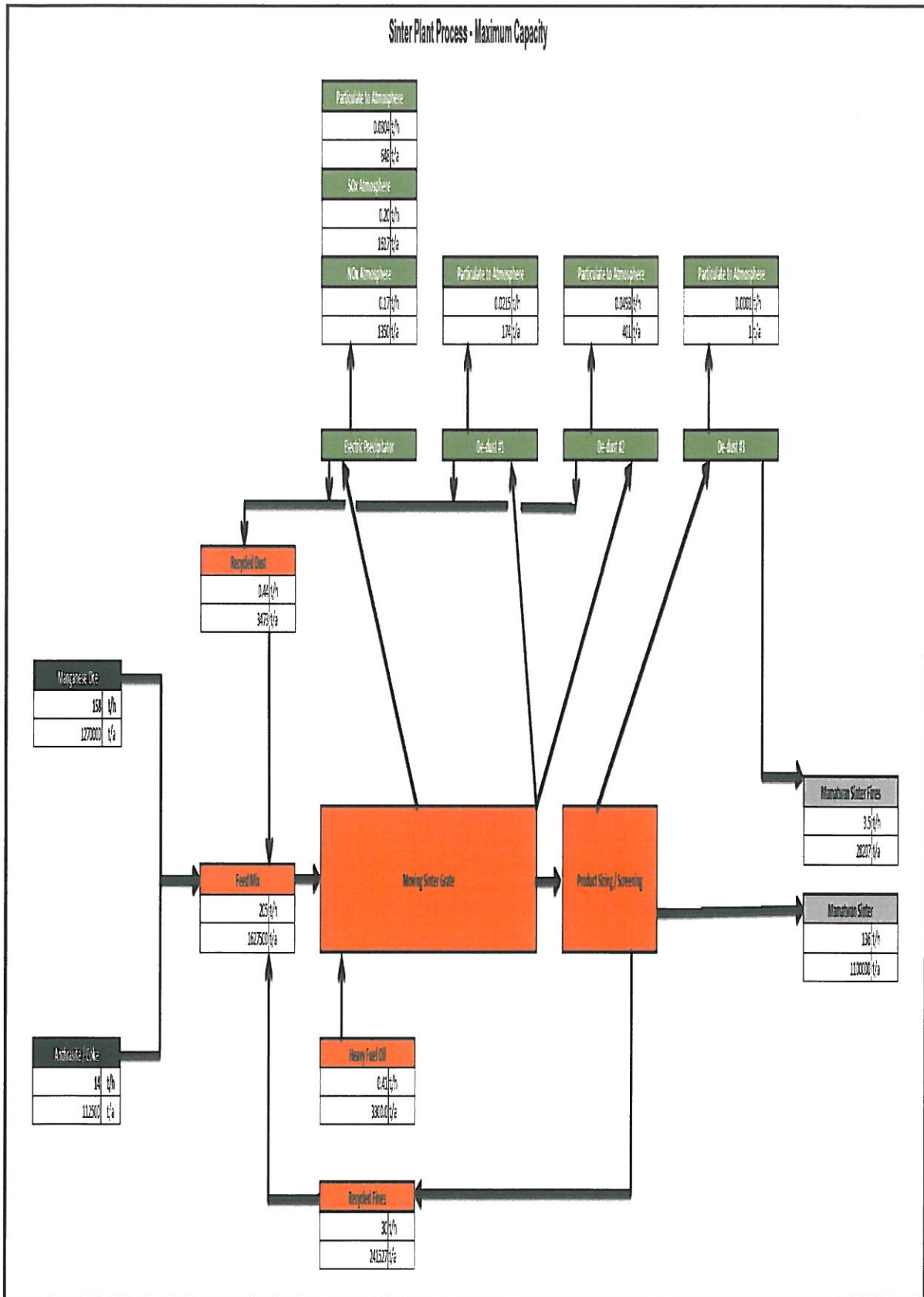


Figure 5: Mamatwan Sinter Plant Process Flow Chart (Maximum Capacity)

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6. RAW MATERIALS AND PRODUCTS

6.1. Raw materials used

Regulated Raw Materials		
Raw Material Type	Maximum Permitted Consumption Rate (Quantity)	Units (quantity/period)
Manganese Ore	1 270 000	Tons/annum
Anthracite	112 500	Tons/annum
Non-regulated Raw Materials		
Raw Material Type	Maximum Permitted Consumption Rate (Quantity)	Units (quantity/period)
-	-	-

* **Regulated raw materials** refers to those materials when increased or decreased may result in the change of air emissions output.

* **Non-regulated raw materials** refers to those materials when increased or decreased may not result in any change of air emissions output.

6.2. Production rates

Product Name	Maximum Permitted Production Capacity (Quantity)	Units (quantity/period)
Manganese Sinter (MHS, MMS and SGS)	1 100 000	Tons per annum
Mamatwan Mine Ultra Fine Sinter MMUFS (-6mm)	273 207	Tons per annum

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6.3. Materials used in energy sources

Materials for Energy Source	Actual Consumption Rate (Quantity)	Units (quantity/period)	Materials Characteristics
Anthracite	103	Kg/tonne sinter	2.8 % Sulphur 16 % Ash
Heavy fuel oil (HFO)	300	Litres/hr	3.5 % Sulphur 0.05 Ash
Electricity	21758	MWh	N/A

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6.4. Sources of atmospheric emission

6.4.1. Point source parameters

Point Source Code	Source Name	Latitude (decimal degrees)		Longitude (decimal degrees)	Height of Release Above Ground (m)	Height Above Nearby Building (m)	Diameter at Stack Tip / Vent Exit (m)	Actual Gas Exit Temperature (°C)	Actual Gas Volumetric Flow (m ³ /hr)	Actual Gas Exit Velocity (m/s)	Emission Hours	Type of Emission (Continuous / Batch)
		South	East									
SWS	Sinter Waste Gas System	27°23'28.565" N	23°00'18.034"E	23°00'18.034"E	41	13	3.29	146	1155600	37.76	24 hours	Continuous
PDD1	Plant De-dusting #1	27°23'25.265" N	23°00'18.768"E	23°00'18.768"E	30	2	1.74	50	34416	4.06	24 hours	Continuous
PDD2	Plant De-dusting #2	27°23'27.078" N	23°00'21.251"E	23°00'21.251"E	30	2	1.87	72	52464	5.32	24 hours	Continuous
PDD3	Plant De-dusting #3	27°23'22.671" N	22°59'38.654"E	22°59'38.654"E	31	13	1.94	61	196668	18.48	24 hours	Continuous



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6.4.2. Area and or line source parameters

Area and or Line Source Code	Source Name	Source Description	Latitude (decimal degrees) of SW corner	Longitude (decimal degrees) of SW corner	Height of Release Above Ground (m)	Length of Area (m)	Width of Area (m)	Emission Hours	Type of Emission (Continuous / Intermittent)
ACP	Anthracite Crushing Plant	Crushing	27°23'23.259"	23°00'21.630"	13	20	8		Intermittent
CAS	Anthracite stockpile	Material Handling	27°23'32.227"	22°59'35.863"	3	220	120		Intermittent
OSC	Off-strand Cooler	Air Cooling Sinter Product	27°23'24.254"	23°00'20.874"	12	22	22		Intermittent
LOS	Load Out Station Feed Conveyor	Loading sinter products on rail wagons	27°23'15.791"	23°00'23.239"	20	12	7		Intermittent
LOS FC	Load Out Station Feed Conveyor	Transfer Sinter from Sinter Product Stockpile to Load Out Station	27°23'15.791"	23°00'23.239"	2-20	325	2		Intermittent
SPS	Sinter Product Stockpile	Stockpile final product prior to shipment by rail	27°23'21.913"	22°59'40.066"	10	150	51		Intermittent

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SC	Stacker Conveyor	Transfer sinter from plant to sinter product stockpile	27°23'20.402"	22°59'37.776"	2	474	2		Intermittent
PS	Product Screening	Sizing of final product	27°23'25.916"	22°59'41.477"	18	16	10		Intermittent
AR	Access Roads	Vehicle movement causing dust	27.39048	22,99452	0	1000	10		Intermittent



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7. APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION

7.1. Appliances and control measures

Associate d Source Code	Appliances		Abatement Equipment Control Technology							
	Appliance / Process Equipment Number	Appliance Type / Description	Abatement Equipment Technology Name and Model	Abatement Equipment Technology Manufacture Date	Commis sion Date	Date of Significant Modificatio n / Upgrade	Technolog y Type	Design Capacity	Minimum Control Efficiency (%)	Minimum Utilisation (%)
SWS	M-MN-HMM- MMT-P-SIN- WGAS- 04520/M-MN-	Waste Gas System	Davy/Batema n	1988	1988	NA	Electrostat ic Precipitator	1160 000 m ³ /hr	98	100
	HMM-MMT-P- SIN-WGAS- 04521			1999	1999					
PDD1	M-MN-HMM- MMT-P-SIN- DSTR-04461	De-Dusting equipment	Davy	1988	1988	2013	Baghouse filter	170 000 m ³ /hr	98	100



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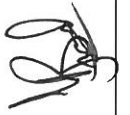
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PDD2	M-MN-HMM- MMT-P-SIN- DSTR-04891	De-Dusting equipment	Air cleaning equipment	2002	2002	2014	Baghouse filter	146 000 m ³ /hr	98	100
PDD3	M-MN-HMM- MMT-P-SIN- DSTR-11625	De-Dusting equipment	Genair	2011	2012	NA	Baghouse filter	182700 m ³ /hr	98	100

7.2. Point source – maximum emission rates (under normal working conditions)

Point Source Code	Pollutant Name	Maximum Release Rate		Duration of Emissions
		(mg/Nm ³)	Average Period	
SWS	Particulate matter (PM)	100	24 hour	Continuous
	Sulphur dioxide (SO ₂)	1000	1 hour	Continuous
	Nitrogen oxide	1200	1 hour	Continuous

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	(NO _x)						
PDD1	Particulate matter (PM)	100	Immediately	24 hour	Continuous		
	Sulphur dioxide (SO ₂)	1000	Immediately	1 hour	Continuous		
	Nitrogen oxide (NO _x)	1200	Immediately	1 hour	Continuous		
PDD2	Particulate matter (PM)	100	Immediately	24 hour	Continuous		
	Sulphur dioxide (SO ₂)	1000	Immediately	1 hour	Continuous		
	Nitrogen oxide (NO _x)	1200	Immediately	1 hour	Continuous		
PDD3	Particulate matter (PM)	100	Immediately	24 hour	Continuous		



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	Sulphur dioxide (SO ₂)	1000	Immediately	1 hour	Continuous
	Nitrogen oxide (NO _x)	1200	Immediately	1 hour	Continuous

Point source – operating requirements

7.3. Point source – maximum emission rates (under start-up, maintenance and shut-down conditions)

Point Source Code	Pollutant Name	Maximum Release Rate		Average Period (Instantaneous, Hourly, Daily, Monthly, Annually)	Maximum Gas Volumetric Flow (m ³ /hr)	Maximum Gas Exit Velocity (m/s)	Emission Hours	Permitted Duration of Emissions
		(mg/Nm ³)	Date to be Achieved By					
-	-	-	-	-	-	-	-	-

Point source – operating requirements

Should normal start-up, maintenance, upset & shut-down conditions exceed a period of 48 hours, section 30 of the National Environmental Management, 1998 (Act no. 107 of 1998) as amended shall apply.

Any abnormalities should be communicated immediately with the licencing authority in writing.



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7.4. Point source – emission monitoring and reporting requirements

Point Source Code	Emission Sampling / Monitoring Method	Sampling Frequency	Sampling Duration	Parameters to be Measured	Parameters to be Reported	Reporting Frequency
SWS,	As per Annexure A General Notice No. 893: 37054	As per Annexure A General Notice No. 893: 37054	Continuous	PM, SO ₂ and NO ₂	PM, SO ₂ and NO ₂	Annually
PDD1	As per Annexure A General Notice No. 893: 37054	As per Annexure A General Notice No. 893: 37054	Continuous	PM, SO ₂ and NO ₂	PM, SO ₂ and NO ₂	Annually
PDD2,	As per Annexure A General Notice No. 893: 37054	As per Annexure A General Notice No. 893: 37054	Continuous	PM, SO ₂ and NO ₂	PM, SO ₂ and NO ₂	Annually
PDD3	As per Annexure A General Notice No. 893: 37054	As per Annexure A General Notice No. 893: 37054	Continuous	PM, SO ₂ and NO ₂	PM, SO ₂ and NO ₂	Annually



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7.5. Area and or line source – management and mitigation measures

Area and or Line Source Code	Source Description	Description of Specific Measures	Timeframe for Achieving Required Control Efficiency	Method of Monitoring Measures Effectiveness	Contingency Measures
-	-	-	-	-	-

All area and or line sources should be managed in accordance to GN R. 827 Government Gazette No 36974 of the National Environmental Management: Air Quality Act 39 of 2004; the National Dust Control Regulations. Dust fall-out results to be submitted to the Department on a quarterly basis



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7.6. Routine reporting and record-keeping

Complaints register

The licence holder must maintain a complaints register at its premises, and such register must be made available for inspections. The complaints register must include the following information on the complainant, namely, the name, physical address, telephone number, date and the time when the complain was registered. The register should also provide space for noise, dust and offensive odours complaints.

Furthermore, the licence holder is to investigate and, monthly, report to the licencing authority in a summarised format on the total number of complaints logged. The complaints must be reported in the following format with each component indicated as may be necessary:

- (a) Source code / name;
- (b) Root cause analysis;
- (c) Calculation of impacts / emissions associated with incidents and dispersion modelling of pollutants, where applicable;
- (d) Measures implemented or to be implemented to prevent recurrence; and
- (e) Date by which measure will be implemented.

The licensing authority must also be provided with a copy of the complaints register. The record of a complaint must be kept for at least 5 (five) years after the complaint was made.

Annual reporting

The licence holder must complete and submit to the licensing authority an annual report. The report must include information for the year under review (i.e. annual year end of the company). The report must be submitted to the licensing authority not later than 60 (sixty) days after the end of each reporting period. The annual report must include, amongst others, the following items:

- (a) Pollutant emissions trend;

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(b) Compliance audit report(s);

(c) Major upgrades projects (i.e. abatement equipment or process equipment); and

(d) Greenhouse gas emissions.

The holder of the licence must keep a copy of the annual report for a period of at least 5 (five) years.

7.7. Investigation

The following investigations are required:

Investigation	Purpose	Completion Date
Complaints Register		Immediately
Emission's Reduction Strategy for all stacks including SWS (PM SO _x , NO _x)	To allow Plant to meet the 2020 MES	March 2016
Report on GHG		March 2016

8. DISPOSAL OF WASTE AND EFFLUENT ARISING FROM ABATEMENT EQUIPMENT CONTROL TECHNOLOGY

The disposal of any waste and effluent arising from the abatement equipment control technology must comply with the relevant legislation and requirements of the relevant authorities.

Source Code / Name	Waste / Effluent Type	Hazardous Components Present	Method of Disposal
PDD1	Ducting socks	None	Disposal at Hazardous Landfill (H:H)
PDD2	Ducting socks	None	Disposal at Hazardous Landfill (H:H)
PDD3	Ducting socks	None	Disposal at Hazardous Landfill (H:H)

All waste must be disposed or handled according to the Waste Act 59/2008 specifications.

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9. PENALTIES FOR NON-COMPLIANCE WITH LICENCE AND STATUTORY CONDITIONS OR REQUIREMENTS

Failure to comply with any of the licence and relevant statutory conditions and/or requirements is an offence, and licence holder, if convicted, will be subjected to those penalties as set out in section 52 of the AQA.

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Date: 27 March 2015

MINING RIGHT

in favour of

SAMANCOR LIMITED

(Mamatwan Mine)

TABACKS

Converted into a Mining right under MPT
 No. 04/2006 by application No. 105/3/2/629
 Date: 16/01 2006
 PP Director-General
 Mineral and Petroleum Titles Registration Office:
 PRETORIA

Registered in the MINERAL & PETROLEUM TITLES
 REGISTRATION OFFICE: PRETORIA
 in the Register of Mining Rights
 on this 16th day of Jan 2006
 under 04/2006 (MR)
 PP DIRECTOR-GENERAL
 DEPT. OF MINERALS AND ENERGY

Cession: 25/2006
SAMANCOR LTD
 in favour of
SAMANCOR MANCANESE (Pty)
LTD
 registered on the 30 day of MAY 2006
 PP DIREKTEUR-GENERAAL: MINERALE EN ENERGIE
 DIRECTOR-GENERAL: MINERALS AND ENERGY

Protocol No. 932

DEPARTMENT: MINERALS AND ENERGY
REPUBLIC OF SOUTH AFRICA

MINING RIGHT
[CONVERTED OLD ORDER MINING RIGHT]

[Converted in terms of item 7(3) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)]

LET IT HEREBY BE MADE KNOWN:

THAT on this the 21 day of November in the year 2005, before me, a notary public, duly sworn and admitted, residing and practising at Kimberley, in the Northern Cape Province of South Africa, and in the presence of the subscribing competent witnesses, personally came and appeared:

WALEVA JERRY
(1) WALEVA JERRY Mndaweni Regional Manager, Northern Cape Region of the Department of Minerals and Energy, and as such in his capacity as the duly authorised representative of:

THE MINISTER OF MINERALS AND ENERGY

(Hereafter together with his or her successors in title and assigns referred to as "the Minister")

li
Waleva Jerry



DEPARTMENT: MINERALS AND ENERGY
REPUBLIC OF SOUTH AFRICA

MINING RIGHT

[Converted in terms of Item 7 of Schedule II of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)]

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Domicilia citandi et executandi	19
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He, the said Regional Manager, being duly authorised thereto under and by virtue of a power of attorney granted to him or her by Jacinto Ferreira dos Santos Rocha in his capacity as Acting Director-General :
Mineral Regulation of the Department of Minerals and Energy of the Republic of South Africa

On the 6th day of, October 2005 acting under and by virtue of the powers conferred upon him in terms of section 103 of the of the Mineral and Petroleum Resources Development Act, 2002(Act no.28 of 2002), by the Minister of Minerals and Energy;

AND

(2) Quintus Roux, an authorised representative of :

SAMANCOR LIMITED
(Registration no. 1926/008883/06)

(Hereinafter together with its successors in title and assigns referred to as" the Holder"), he, the said Appearer, being duly authorised thereto under and by virtue of a resolution of directors of the Holder, passed at Johannesburg on the 11th day November of 2004

which power of attorney and a certified copy of which resolution have this day been exhibited to me, the notary, remain filed of record in my protocol with the minute hereof.

AND THE MINISTER AND HOLDER DECLARED THAT:

WHEREAS the State is the custodian of the National Mineral and Petroleum Resources;

AND WHEREAS the Holder has lodged its old order mining right for conversion in terms of item 7(2) of Schedule II of the Act and it has conducted mining operations in respect of the area which is the subject of the old order mining right conversion;

AND WHEREAS the Minister has converted the old order mining right in terms of item 7(3) of Schedule II of the Act;

NOW THEREFORE THE MINISTER HAS CONVERTED THE OLD ORDER MINING RIGHT SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. Definitions

In this mining right the following words and expressions shall have the meanings assigned to them:

1.1. "Act" means the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and includes the regulations made in terms of this Act;

Handwritten initials and a signature: "L", "TB", and a circled signature.

- 1.2. "Mineral" means manganese ores;
- 1.3. "Mining Work Programme" as indicated in Annexure "A" to this mining right;
- 1.4. "Social and Labour Plan", as indicated in Annexure "B" to this mining right;
- 1.5. "environmental management programme" see definition in section 1 of the Act;
- 1.6. "Minister" means the Minister of Minerals and Energy in her capacity as the representative of the State, in its capacity as the custodian of the nation's mineral resources shall include the successors in title and assigns of the Minister, and wherever appropriate (in particular where the provisions of this mining right require the prior consent of the Minister) the references in this mining right to the Minister shall be as meaning the Minister or any person duly authorised by the Minister to act in the Minister's place and stead;
- 1.7. "Holder" means Samancor Limited, Registration No 1926/008883/06 and shall include the assigns or successors in title of the Holder or any syndicate or juristic or natural person which in any manner takes over or otherwise acquires the rights of the Holder under this Mining Right;
- 1.8. "mining operations" as defined in section 1 of the Act;
- 1.9. "Mining Right Area" means the portion or portions of the land referred to in clause 2;
- 1.10. "Manager" shall mean the Regional Manager for the Northern Cape Region of the Department of Minerals and Energy;
- 1.11. "Effective date" means 6 October 2005.

2. Description of the Mining Right Area

The mining right area shall comprise the following:

Certain: - portions of portion 5 of the farm GOOLD NO. 329, SINTERFONTEIN NO. 748 and PORTION 2 of the farm MAMATWAN 331

Situate: in the Region and Province of the Northern Cape

Measuring: 316,7736 (THREE HUNDRED AND SIXTEEN comma SEVEN SEVEN THREE SIX) hectares in extent.

TO


Which Mining Right Area is depicted by the figure ABCDEFGHJKLMNPQ on the attached Diagram MPT No. OM/2005 (SG 1053/2005) marked Annexure "C" and registered in the Mineral and Petroleum Titles Registration Office on 16-01-2005

3. Conversion to Mining Right


Without detracting from the provisions of section 5 of the Act, the Minister grants to the Holder the sole and exclusive right to continue mining, and recover the Mineral in, on and under the Mining Right Area for the Holder's own benefit and account, and to deal with, remove and sell or otherwise dispose of the Mineral, subject to the terms and conditions of this mining right, the provisions of the Act and any other relevant law in force for the time being.

4. Commencement, duration and renewal

- 4.1 This mining right shall commence on 6 October 2005 and, unless cancelled or suspended in terms of section 47 of the Acts will continue in force for a period of 30 years ending on 5 October 2035.
- 4.2 Any application for renewal shall be submitted to the Minister not later than 90 days prior to the date of expiry of the initial period.

5. Amendment, variation

- 5.1 The provisions of section 102 of the Act applies to this mining right.
- 5.2 With effect from the date the Holder has so abandoned or relinquished a portion or portions of the Mining Right Area, the Minister shall be entitled to grant any prospecting rights or mining rights or any right or permit referred to in the Act in, on, or under the portion or portions, so abandoned or relinquished, to any person or persons.
- 5.3 Upon abandonment or relinquishment of the Mining Right Area or any portion thereof, the Holder will furnish the Minister with all mining results and/or information, as well as its general evaluation of, the geological, geophysical and borehole data in respect of such abandoned area in so far as it applies to the Mineral or any other mineral or minerals referred to in clause 10 such results and/or information may be made available to third parties.

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6. Mining fees and royalties

6.1 The provisions of section 71 of Schedule 3 of the Taxation Laws Amendment Act, 2004 (Act 16 of 2004) apply to this Mining Right.]

6.2 The Holder shall pay to the Minister throughout the duration of this mining right any levy, fee, royalty or consideration payable in terms of any relevant Act of Parliament. All payments required in terms of this Act shall be made by the Holder to the South African Revenue Services (SARS) at the relevant time-periods determined by the said Act.

7. Restrictions and Obligations Imposed on the Holder

7.1 The Holder is entitled to the rights referred to in section 5(2) and (3) or any other relevant provisions of the Act, such other rights as may be contained in this mining right or such other right as may be granted to, acquired by or conferred upon it by any other applicable law.

7.2 Mining operations in the Mining Right Area must be conducted in accordance with the Mining Work Programme.

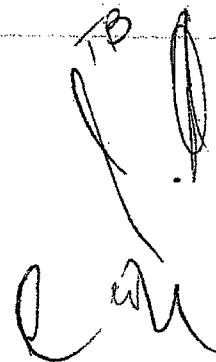
7.3 The Holder shall not trespass or enter into any homestead, house or its curtilage nor interfere with or prejudice the interests of the occupiers and/or owners of the surface of the Mining Right Area except to the extent to which such interference or prejudice is necessary for the purposes of enabling the Holder to properly exercise the Holder's rights under this mining right.

8. Mortgage, Cession, Transfer, Alienation

The provisions of section 11 of the Act apply to any cession, letting, subletting, assignment alienation or disposal of this right or an interest therein.

9. Protection of Boreholes, Shafts, etc.

No boreholes sunk by the Holder during the currency of this mining right shall be sealed or closed up by the Holder without the prior written approval of the Minister, but the Holder shall fence and render safe all boreholes, shafts, openings and excavations in accordance with the provisions of the Act, the Mine Health and Safety Act, 1996 and any other applicable laws and regulations.

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10. Indemnity and Insurance

- 10.1 The Holder, its successors and/or assigns, during the tenure of this mining right will take all such necessary and reasonable steps while carrying out their mining operations in such a manner as will adequately safeguard and protect the environment, the Mining Right Area and any person or persons using or entitled to use the surface of the Mining Right Area from any damage caused by or through or in consequence of the exercise by the Holder of its aforesaid right to conduct mining operations under this mining right, of any activity or activities associated with the Holder's operations in the Mining Right Area, and will in so far as there is a legal liability, compensate such person or persons for any damage or losses, including but not limited to damage to the surface, to any crops or improvements, which such person or persons may suffer as a result of, arising from or in connection with the exercise of his/her rights under this mining right or of any act or omission in connection therewith.
- 10.2 The Minister is not or will not be deemed to be a partner in any mining operations carried out in terms of this mining right.

11. Inspection of Mining Right Area

The Minister and any person duly authorised thereto in writing by the Minister shall be entitled to inspect the Mining Right Area, the Holder's mining operations and the execution of the approved EMP on the Mining Right Area at any time, and any instruction conveyed in writing by the Minister to the Holder requiring the proper performance by the Holder of the Holder's obligations under this mining right shall be put into effect by the Holder in terms of the Act.

12. Cancellation or suspension [section 47 of the Act]

- 12.1 Subject to section 47 of the Act, this mining right may be cancelled or suspended if:
- 12.1.1 the Holder conducts mining operations in contravention of the provisions of the Act;
 - 12.1.2 the Holder breaches any material terms and condition of this mining right;
 - 12.1.3 the Holder contravenes the requirements of the approved Environmental Management Programme; or
 - 12.1.4 the Holder submits inaccurate, incorrect or misleading information with any matter which is required to be submitted under the Act.
- 12.2 Before the Minister acts under section 47(1) of the Act, the Minister shall:

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- 12.2.1. Give written notice to the Holder indicating the intention to suspend or cancel this mining right;
 - 12.2.2 Give reason why the Minister is considering the suspension or cancellation of this mining right;
 - 12.2.3 Give the Holder 30 days to show why the mining right should not be suspended;
 - 12.2.4 Notify, the mortgagor, if any, of this mining right of the Minister's intention to suspend or cancel this mining right; and
 - 12.2.5 Direct the Holder to take specified measures to remedy any contravention, breach or failure to comply.
- 12.3 If the Holder does not comply with the directions referred to in sub-clause 12.2.5, the Minister may act under section 47(1), after:
- 12.3.1 giving the Holder a reasonable opportunity to make representations; and
 - 12.3.2 having considered such representation.

13. Records and Returns

- 13.1. The Holder shall maintain all such books, plans and records in regard to mining on the Mining Right Area as may be required by the Act and shall furnish to the Minister such reports and documents as may be relevant to the rights of the Minister under this mining right.
- 13.2. The Holder shall furnish to the Regional Manager all such returns as may from time to time be required under the Act.
- 13.3. The Holder shall on a quarterly basis, calculated from the commencement of this mining right, furnish the Regional Manager or his or her nominee with a return reflecting the particulars of any geological exploration undertaken by the Holder on the Mining Right Area.
- 13.4. The Holder shall furthermore at the end of each year following commencement of this mining right, inform the Manager in writing of any new developments and of the future prospecting and mining activities planned in connection with the exploitation/mining of the Mineral on the Mining Right Area.

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14. Payment of Compensation

The Minister shall not at any time be liable or responsible for the payment of compensation of whatsoever nature to the Holder, the Holder's successors-in-title or assigns, except for compensation for which the Minister is liable in consequence of the breach by the Minister of any of the provisions of this mining right or on account of any wrongful act or omission by or attributable to the Minister, without derogating from the provisions of item 12 of Schedule II to the Act or section 25 of the Constitution of the Republic of South Africa 1996.

15. Comply with laws of the Republic

The Holder and its successors and/or assigns must comply with all the provisions of the Mine Health and Safety Act, (Act no.29 of 1996) and any other law in force in the republic

16. Preserved terms and conditions of the old order mining right

Notwithstanding the cessation of the old order mining right in terms of item 7 of Schedule II of the Act, the following terms and conditions of the said old order mining right have been preserved, namely :

16.1 the provisions of the Minerals Act, 1991, applicable thereto, including but not limited to :

16.1.1 the provisions of section 5(3) of the Minerals Act, 1991 whereby the Holder may, while mining Minerals, also mine and dispose of any other minerals in respect whereof the Holder is not the holder of the right thereto, but which must of necessity be mined together with Minerals, subject to the proviso to the said section 5(3);

16.1.2 the provisions thereof read with the common law whereby Temporary Mining Authorisation T52/93 also extends to Minerals mined by virtue of the said Temporary Mining Authorisation T52/93 and stockpiled or otherwise retained by the Holder;

16.2 the provisions of Mining Leases No. 622/1966, 4/1968 and 3/1987;

provided that no terms and conditions remain in force if they are contrary to the provisions of the Constitution of the Republic of South Africa, 1996 or the Act.

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17. **Provision relating to section 2(d) and (f) of the Act**

The Holder is required by the provisions of Section 2(d) and (f) of the Act, and has made the undertakings as detailed in Attachment L of its application for the conversion of an Old Order Mining Right dated 3rd December 2004:

17.1 to substantially and meaningfully expand opportunities for historically disadvantaged persons, including women, to enter the mineral industries and to benefit from the exploitation of the nation's mineral resources available to the Holder through:

17.1.1 the transfer of at least 26% ownership to a historically disadvantaged South African owned or controlled entity;

17.1.2 implementation of employee participation schemes;

17.1.3 implementation of community participation schemes;

17.1.4 compliance with the commitments contained in the Mining Charter contemplated in Section 100 of the Act;

17.1.5 providing historically disadvantaged South Africans with preferred supplier status where possible, in all three levels of procurement namely, capital goods, services and consumables. In order to provide historically disadvantaged South Africans with preferred supplier status, the Holder is required to identify levels of procurement and to progress procurement, in accordance with the commitments provided in the Social and Labour Plan;

17.2 to promote employment and advance the social and economic welfare of all South Africans by:

17.2.1 complying with the requirements and principles contained in the Holder's human resource development policy, employment equity policy and plan, skills development plan, mentorship plan, and career progression plan;

17.2.2 complying with the commitments set out in its Housing and Living Conditions Policy and through continued corporate social investment.

18. **Severability**

Notwithstanding anything to the contrary, any provision of this mining right which is contrary to any provision of the Act or which is otherwise ultra vires, void, voidable, or unenforceable, shall be severable from the rest of this Right, such rest thus being and remaining of full force, effect and enforceability.

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W. J. R.

19. Domicilia citandi et executandi

19.1. The parties hereto choose the under mentioned addresses as their *domicilia citandi et executandi* and for all purposes arising from this mining right, in particular for the purposes of serving of any notice in terms of this mining right, and any notice properly addressed to the under mentioned postal addresses of the parties shall be deemed to have been received by the addressee within 5 days if given in writing and posted by prepaid registered post addressed to the addressee at the relevant postal address:

19.1.1. In the case of the Minister

Business Address: 29 Currie Street
KIMBERLEY
8301

Postal Address: Private Bag X6093
KIMBERLEY
8300

Tel: (053) 830-0800
Fax: (053) 832-5631

19.1.2. In the case of the Holder

Business Address: 6 Hollard Street
JOHANNESBURG
2001

Postal Address: P O Box 61075
MARSHALLTOWN
2107

Tel: (011) 376-3504
Fax: (011) 376-2160

19.2. Notwithstanding anything to the contrary herein contained, a written notice or communication actually received by a party at any place other than the chosen *domicilium citandi et executandi* shall constitute adequate notice or communication to the party notwithstanding that it was not sent to or delivered at such party's chosen *domicilium citandi et executandi*.

19.3. Either party shall be entitled from time to time to change the *domicilium citandi et executandi* or postal address furnished above after giving at least 14 days prior written

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notice of such change to the other party, failing which the above mentioned addresses shall remain in force.

19.4. Any written notice or communication contemplated in this clause which is forwarded by one party to the other by registered post will be rebuttably presumed to have been received by the addressee on the fourteenth day following the date of posting from an address within the Republic of South Africa to the addressee at the postal address of the addressee for the time being as determined in accordance with the provisions of this clause.

20. Costs

The Holder shall pay all costs and charges incurred by the Holder in connection with the negotiation, preparation, execution and registration of this mining right.

Thus done and signed at Kimberley on the 21 day of November 2005 in the presence of the undersigned witnesses:

AS WITNESSES:

1. [Signature]
2. _____

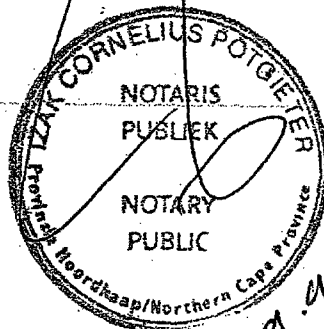
For and on behalf of the Minister

Thus done and signed at Kimberley on the 21 day of November 2005 in the presence of the undersigned witnesses:

AS WITNESSES:

1. [Signature]
2. _____

For and on behalf of the Holder



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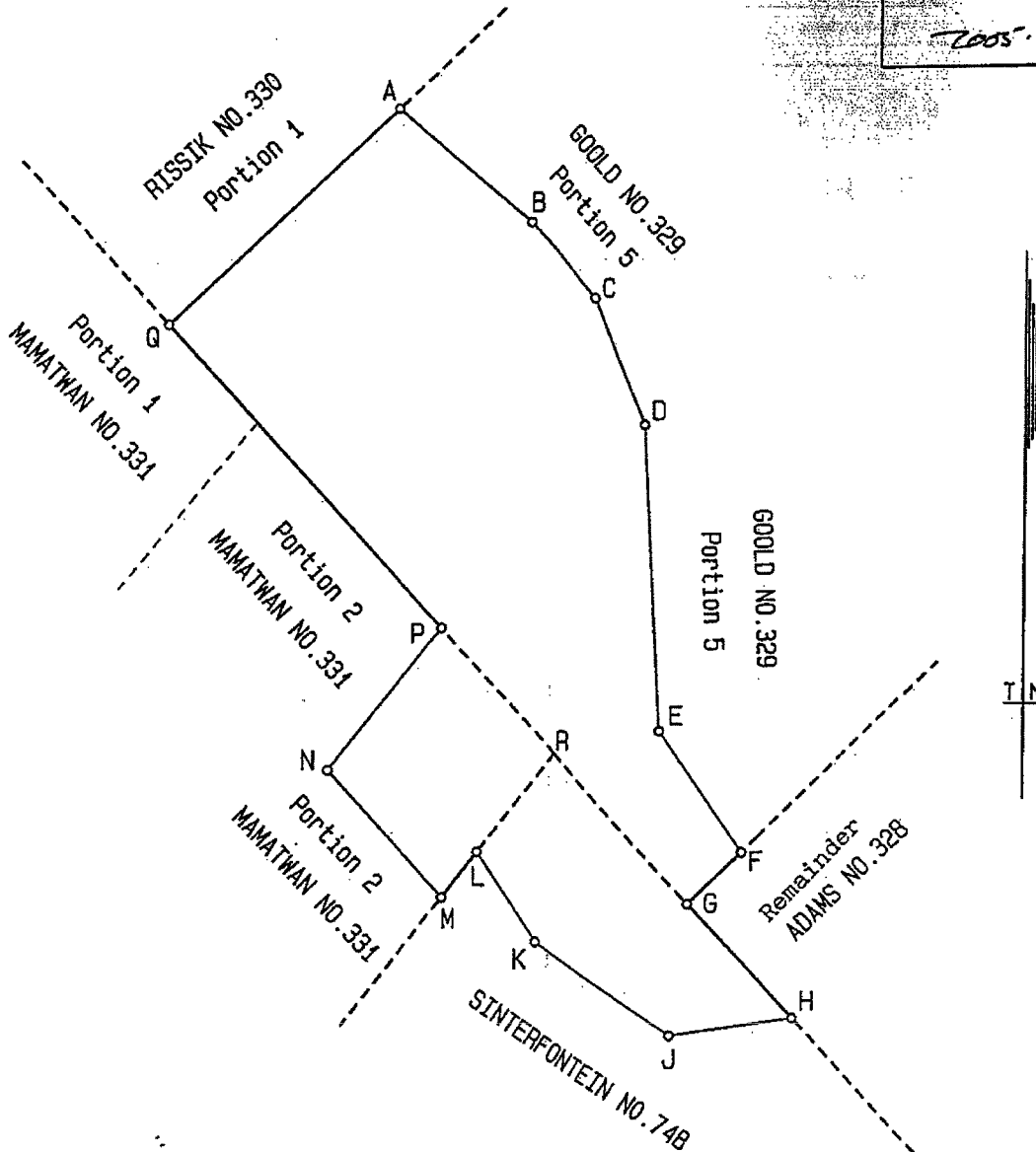
S. G. No.
1053/2005

Approved

TH

for
Surveyor - General

2005.09.22



Scale. 1 : 25 000

Description of Beacons

- A, B, C, D, E, F, H, J, K. : 1,8m Iron standard 500mm high.
- G, L. : 1,8m Iron standard 500mm high with 3 witness marks at 4,72m.
- M, N, P. : 50mm Iron pipe in concrete beacon.
- Q. : Planted stone with 3 witness marks at 4,72m.
- R. : Not beacons.

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TB

SIDES Metres	ANGLES OF DIRECTION	CO-ORDINATES System: WG.23°		
		Y	X	
	Constant	+	0,00	+3000 000,00
(1) The figure A B C D E F G Q represents 231,4893 hectares over Portion 5 of the farm GOULD NO.329				
AB	616,96	309 52 10	A	+ 2 364,37 + 27 071,71
BC	349,73	316 52 00	B	+ 1 890,85 + 27 467,21
CD	472,18	336 52 00	C	+ 1 651,74 + 27 722,44
DE	1 076,40	356 57 50	D	+ 1 466,24 + 28 156,65
EF	513,97	325 43 00	E	+ 1 409,23 + 29 231,54
FG	259,55	45 45 00	F	+ 1 119,72 + 29 656,22
GQ	2 742,72	137 12 30	G	+ 1 305,63 + 29 837,33
QA	1 101,87	226 53 44	Q	+ 3 168,86 + 27 824,65
(2) The figure R G H J K L represents 47,4043 hectares over the farm SINTERFONTEIN NO.748				
RG	717,92	317 12 30	R	+ 1 793,34 + 29 310,50
GH	545,75	317 13 08	G	+ 1 305,63 + 29 837,33
HJ	434,41	82 13 10	H	+ 934,96 + 30 237,89
JK	594,83	124 13 10	J	+ 1 365,37 + 30 296,71
KL	374,64	146 05 40	K	+ 1 857,22 + 29 962,19
LR	436,53	218 41 13	L	+ 2 066,20 + 29 651,25
(3) The figure P R M N represents 37,8800 hectares over Portion 2 of the farm MAMATWAN NO.331				
PR	600,02	317 12 30	P	+ 2 200,95 + 28 870,19
RM	638,38	38 41 13	R	+ 1 793,34 + 29 310,50
MN	600,02	137 12 30	M	+ 2 192,38 + 29 808,81
NP	638,40	218 41 15	N	+ 2 600,00 + 29 368,50
(45) Cobham			Δ	+ 9 497,77 + 32 555,05
(54) Adams			Δ	+ 645,72 + 30 134,69

R230-00

The figure A B C D E F G H J K L M N P Q represents in extent 316,7736 hectares, being a Mining Right to be issued in favour of Samancor Limited No.1926/008883/06 situated on (1) Portion 5 of the farm GOULD NO.329 (2) The farm SINTERFONTEIN NO.748 (3) Portion 2 of the farm MAMATWAN NO.331

Administrative District Kuruman Mining Region Northern-Cape Province Northern-Cape.

Framed by me in September 2005 in terms of Section 16 of the Land Survey Act No.8 of 1997

[Signature]
C.P. Nel.
PLS 0438
Pr. Land Surveyor.

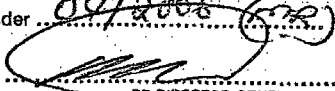
FRAMED FOR THE PURPOSE OF A MINING RIGHT IN TERMS OF THE MINING TITLES REGISTRATION ACT NO.16 OF 1967

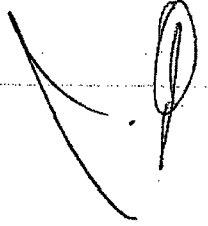
This diagram belongs to No. dated i.f.o Registrar of Mining Titles	The Original Diagram are as quoted above	File No. KURM 329 S.R. No. 592/2005 Comp. HL-4 (5727) HLNU-4(M2034)
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MPT NO. 04/2006

MINERAL & PETROLEUM TITLES
REGISTRATION OFFICE: PRETORIA

Registered in the
in the Register of MINING RIGHTS
on this 16th day of April 2006
under 04/2006 (FR)


P.P. DIRECTOR-GENERAL
DEPT. OF MINERALS AND ENERGY


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**DEPARTMENT: MINERAL RESOURCES
REPUBLIC OF SOUTH AFRICA**

AMENDMENT/VARIATION OF A MINING RIGHT

Granted in terms of section 102 of the Mineral and Petroleum Resources Development Act,
2002
(Act No. 28 of 2002)

MK J
D. J.
M

Protocol No: 1465 /2011
File Ref No NC 252 MR
Application No G05/05/04/002

NOTARIAL DEED OF AMENDMENT/VARIATION OF A MINING RIGHT

BE IT HEREBY MADE KNOWN:

That on this the 21st day of **November** in the year **2011** before me, **Christopher Ian Stevents**, Notary Public, duly sworn and admitted, residing and practising at **Johannesburg**, in the **Gauteng** Province of South Africa, and in the presence of the undersigned witnesses personally came and appeared;

Khotso Mokoatle Acting Regional Manager, **Northern Cape Region** of the Department of Minerals and Energy, and as such in his/her capacity as the duly representative of:

THE MINISTER OF MINERALS AND ENERGY

The said Regional Manager, being duly authorised thereto under and by virtue of a Power of Attorney granted by the Director-General or Deputy Director-General: Mineral Regulation of the Department of Minerals and Energy on the 14th day of the **September** in the year **2011** in terms of the powers delegated by the Minister in terms of section 103 (1) of the Mineral and Petroleum Resources Development Act, No 28 of 2002 ("the Act"),

And

Amendment/ Variation Mining Right: Granted in terms of section 102 of the Mineral and Petroleum Resources Development Act, No 28 of 2002

mk


Mr David Mamphitha in his/her personal capacity or as the company's representative or a Close Corporation's member, and as such, the duly authorised representative of **Hozatel Manganese Mines (Pty) Ltd**, Identification /Registration number:

2	0	0	7	/	0	0	4	8	7	8	/	0	7	
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(hereinafter together with his/her/its successors in title and assigns referred to as "the Holder"), the said representative, being duly authorised thereto under and by virtue of a Power of Attorney/resolution of directors/members of the Holder, signed or passed at **Johannesburg** on the **23rd** day of **June** in the year **2011**, which power of attorney or certified copy of the resolution has this day been exhibited to me, the notary, and remain filed on record in my protocol with the minutes hereof.



THE MINISTER AND THE HOLDER DECLARED THAT:

WHEREAS The State is the custodian of the nation's mineral and petroleum resources in terms of section 3 of the Act,

AND WHEREAS In terms of clause 4 of the principal right, the terms of the right may not be amended/varied without the written consent of the Minister,

AND WHEREAS the Holder has applied for the amendment of the existing mining right by adding Portion of Portion 1 and Portion of Portion 2 of the farm Mamatwan No 331 as well as Portion of the farm Sinterfontein No 748, in extent of 972.7737 hecatres, properties held in terms of prospecting right issued under reference number NC 014 PR on the 4th October 2006 which is now abandoned by the Notarial Deed of abandonment signed on the 21st November 2011 and further include Portion 3 of the farm Moab No 700, Portion 4 of the farm Adams No 328, Portion 6 of the farm Goold No 329 and the Remaining part of the farm Sinterfontein 748 ,

AND WHEREAS The Minister has granted consent for the amendment/variation to the Holder, in terms of section 102 of the Act.

mik



NOW THEREFORE THESE PRESENTS WITNESS:

The Minister hereby grants the variation/amendment of the mining right executed on the 21st day of November in the year 2005, under Protocol 931/2005, registered at the Mineral and Petroleum Titles Registration Office under 04/2006, in respect of;

Certain: Portions of Portion 5 of the farm Goold No 329, Sinterfontein No 748 and Portion 2 of the farm Mamatwan No 331.

Situated: in the Magisterial/Administrative District of Kuruman

Measuring: 316, 7736 hectares

(In case of various farms involved, a list must be attached and referred to as ANNEXURE n/a);

Is hereby amended/ varied by the addition of Portion of Portion 1 and Portion of Portion 2 of the farm Mamatwan No 331 as well as Portion of the farm Sinterfontein No 748, in extent of 972.7737 hecatres, properties held in terms of prospecting right issued under reference number NC 014 PR on the 4th October 2006 which is now abandoned by the Notarial Deed of abandonment signed on the 21st November 2011 and further include Portion 3 of the farm Moab No 700, Portion 4 of the farm Adams No 328, Portion 6 of the farm Goold 329 and the Remaining part of the farm Sinterfontein No 748.

Now the mining right will be comprised of the following properties: Portion 4 of the farm Adams No 328, Portion 5 of the farm Portions 5 and 6 of the farm Goold No 329, Portion of Portion 1 and Portion of Portion 2 of the farm Mamatwan 331, farm Sinterfontein No 748 and Portion 3 of the farm Moab No 700.

Situated: in the Administrative District of Kuruman

Measuring: 1102, 5498 hecatres as depicted on the S.G Diagram No 1131/2009, attached hereto as Annexure C.

Now therefore the Minister grants the amendment/ variation of the principal right.

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Thus done and signed at Kimberley on the 21st day of November in the year 2011 in the presence of the undersigned witnesses:

AS WITNESS:

MK Muthusamy

M. M. M. M.

**For and on behalf of the
Minister**

AS WITNESS:

[Signature]

[Signature]
**For and on behalf of the
Holder**

[Signature]

NOTARY PUBLIC

MK
[Signature]



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



DW

RESIDENSIEGEBOU / BUILDING, SCHOEMANSTRAAT 185 SCHOEMAN STREET

Navrae
Enquiries

J. D. STREIT

Fax: (012) 326-1780
(012) 323-4472

Privaat Sak
Private Bag X313
Pretoria
0001

Verwysing
Reference

(051)30-3134

B33/2/441/21

1995-02-23

PERMITNOMMER: B33/2/441/21/P157

KLAS: G:C:B

AFVALSTORTTERREIN: MAMATWAN

LIGGING: GEDEELTE VAN DIE PLAAS
SINTERFONTEIN 748, DISTRIK KURUMAN.

PERMITHOUER: SAMANCOR BEPERK

ADRES: POSBUS 1, HOTAZEL, 8490.

PERMIT KRAGTENS ARTIKEL 20 VAN DIE WET OP OMGEWINGSBEWARING, 1989 (WET 73 VAN 1989)

Kragtens die bevoegdheid aan my gedelegeer deur die Minister van Waterwese en Bosbou (hierin na verwys as "die Minister"), verleen ek, Wouter van der Merwe, in my hoedanigheid van Bestuurder: Wetenskaplike Dienste van die Departement van Waterwese en Bosbou (hierna genoem "die Departement"), hiermee, kragtens artikel 20 (1) van die Wet op Omgewingsbewaring, 1989 (Wet 73 van 1989), toestemming aan Samancor Beperk vir die bedryf en verdere ontwikkeling van die Mamatwan-afvalstortterrein, onderworpe aan die voorwaardes wat in hierdie Permit uiteengesit is.

PERMITVOORWAARDES

In hierdie Permit beteken "Streekdirekteur" die Streekdirekteur: Vrystaat van die Departement by die volgende adres:

Streekdirekteur: Vrystaat
Departement van Waterwese en Bosbou
Posbus 528
BLOEMFONTEIN
9300

1. LIGGING

1.1 Hierdie Permit magtig die bedryf en verdere ontwikkeling van 'n afvalstortterrein op 'n gedeelte van die plaas Sinterfontein 748, Distrik Kuruman (hierna genoem "die Terrein").

Die ligging van die Terrein sal wees soos aangedui deur die koördinate op die permitaansoekvorm, deur die Permithouer voorgelê.

2. TOELAATBARE AFVAL

- 2.1 Die Terrein mag gebruik word vir die storting van alle tipes afval met uitsondering van afval gelys in Aanhangel I en afval waarvoor spesifieke beheer uitgeoefen word kragtens die Wet op Kernenergie, 1982 (Wet 92 van 1982). Afvaltipes waarvoor beheer uitgeoefen word kragtens die Minerale Wet, 1991 (Wet 50 van 1991) en die Elektrisiteitswet, 1987 (Wet 41 van 1987) is ook uitgesluit van storting op die Terrein, behalwe waar skriftelike toestemming daarvoor deur die Streekdirekteur verleen is.
- 2.2 Die Permithouer moet alle redelike stappe doen om te verseker dat -
- 2.2.1 geen mediese afval op die Terrein gestort word nie; en
- 2.2.2 geen geskeduleerde farmaseutiese produkte kragtens die Wet op die Beheer van Medisyne en Verwante Stowwe, 1965 (Wet 101 van 1965) of geassosieerde houers op die Terrein gestort word nie.

3. KONSTRUKSIE

- 3.1 Die Terrein of enige gedeelte daarvan mag uitsluitlik vir die storting van toelaatbare afval gebruik word indien die konstruksie of verdere ontwikkeling van die Terrein of enige sodanige gedeelte in ooreenstemming met voorwaarde 3 van hierdie Permit geskied.
- 3.2 Die verdere ontwikkeling binne die Terrein moet plaasvind onder die toesig van 'n voldoende gekwalifiseerde persoon soos deur die Permithouer voorgestel en deur die Streekdirekteur goedgekeur. Geen uitbreiding van die Terrein mag in die rigting van die aangrensende woongebiede plaasvind nie.
- 3.3 Sodra 'n nuwe gedeelte binne die Terrein ontwikkel is, moet die Permithouer die Streekdirekteur in kennis stel en die persoon na wie in voorwaarde 3.2 verwys word, moet die Streekdirekteur voorsien van 'n sertifikaat of alternatiewelik 'n brief dat die konstruksie van die betrokke gedeelte van die Terrein soos deur die Permithouer voorgestel en deur die Streekdirekteur goedgekeur, gedoen is ooreenkomstig erkende siviele ingenieurspraktyk voordat enige afval op daardie gedeelte van die Terrein gestort mag word. Die voltooide konstruksiewerk van die betrokke gedeelte van die Terrein sal deur 'n beampste van die Departement en die persoon na wie in voorwaarde 3.2 verwys word, geïnspekteer word. Indien die Streekdirekteur tevrede is met die verdere ontwikkeling binne die Terrein en skriftelike toestemming verleen het, mag die Permithouer daardie gedeelte van die Terrein vir die storting van afval gebruik.

- 3.4 Die Permithouer moet alle redelike maatreëls tref, soos byvoorbeeld geskikte sonering en/of die aangaan van skriftelike ooreenkomste met die omliggende grondeienaars, om die ontwikkeling van verdere woon- en/of ligte nywerheidsgebiede nader aan die Terrein as enige bestaande woongebied gedurende die bedryf van die Terrein te verhoed. Swaar nywerhede of nywerhede wat self 'n oorlas mag veroorsaak, kan kragtens toepaslike wetgewing in die buffersone toegelaat word.
- 3.5 Werke moet deur die Permithouer opgerig en gereeld in stand gehou word om alle afloopwater wat aanliggend tot die Terrein kan ontstaan en wat verwag kan word as gevolg van die beraamde maksimum reënval wat gedurende 'n tydperk van 24 uur mag voorkom met 'n gemiddelde frekwensie van een in vyftig jaar (hierna genoem die "beraamde maksimum reënval"), van die Terrein weg te keer en op 'n wettige manier af te voer. Onder die genoemde maksimum reënval moet die werke 'n minimum vryboord van 'n halwe meter handhaaf.
- 3.6 Werke moet deur die Permithouer opgerig en gereeld in stand gehou word om alle afloopwater wat op die Terrein kan ontstaan en wat as gevolg van die beraamde maksimum reënval verwag kan word, van die werkfront van die Terrein weg te keer en af te voer en te verhoed dat die afloopwater met loog in aanraking kom. Onder die genoemde maksimum reënval moet die werke 'n minimum vryboord van 'n halwe meter handhaaf.
- 3.7 Afloopwater waarna in voorwaarde 3.6 verwys word, moet voldoen aan die gehaltevereistes van die Algemene Standaard, soos voorgeskryf ingevolge artikel 21(1)(a) van die Waterwet, 1956 (Wet 54 van 1956) soos gepubliseer in Algemene Kennisgewing 991 van 18 Mei 1984 of vereistes wat van tyd tot tyd deur die Minister vasgestel mag word en moet op 'n wettige manier afgevoer word.
- 3.8 Afloopwater waarna in voorwaarde 3.6 verwys word, wat nie aan die gehaltevereistes in voorwaarde 3.7 voldoen nie, moet deur middel van werke wat deur die Permithouer opgerig is en deurlopend deur hom in stand gehou word -
- 3.8.1 behandel word om aan bogenoemde standaard te voldoen en op 'n wettige manier afgevoer word; en/of,
- 3.8.2 met die skriftelike toestemming van die Streekdirekteur opgevang en behou word vir verdamping in verdampingspanne en/of verdamp word deur besproeiing slegs op die gedeeltes van die Terrein wat voldoen aan die vereistes in voorwaarde 3.1 gestel.
- 3.9 Die Terrein moet ooreenkomstig erkende siviele ingenieurspraktyk opgerig word om die stabiliteit daarvan te verseker.
- 3.10 Die maksimum hoogte van die Terrein bokant grondvlak mag nie 15 meter oorskry nie.

- 3.11 Die helling van die Terrein moet ontwikkel word dat weinig of geen erosie plaasvind nie.

4. TOEGANGSBEHEER

- 4.1 Weerbestande, duursame en duidelik leesbare kennisgewings, in die amptelike tale soos van toepassing in die gebied, moet by elke toegangspunt tot die Terrein aangebring word. Hierdie kennisgewings moet ongemagtigde toegang verbied en moet die bedryfsure, die naam, adres en telefoonnommer van die Permithouer en van die persoon in beheer van die Terrein aantoon.
- 4.2 Die Terrein moet doeltreffend omhein word met 'n heining van ten minste 1,8 meter hoog en hekke by toegangspunte met dieselfde hoogte ten einde ongemagtigde toegang redelikerwys te voorkom en die rondwaai van papiere en plastiek te beperk.
- 4.3 Die Permithouer moet alle redelike stappe doen om dienspaaie in 'n toestand te onderhou wat onbelemmerde toegang tot die Terrein sal verseker vir voertuie wat afval vervoer en om paaie van afval skoon te hou.
- 4.4 Die Permithouer moet verseker dat alle toegangspunte gedurende bedryfsure beman en na ure gesluit word.
- 4.5 Die Permithouer moet doeltreffende toegangsbeheer toepas.
- 4.6 Die Permithouer moet alle redelike stappe doen om te verseker dat slegs toelaatbare afval waarna in voorwaarde 2 verwys word, op die Terrein gestort word.

5. BEDRYF

- 5.1 Alle afval wat op die Terrein gestort is, moet aan die einde van elke werksdag met 'n laag grond (of ander materiaal wat deur die Streekdirekteur goedgekeur is) van ten minste 150 millimeter dik bedek word.
- 5.2 Die Permithouer moet alle redelike maatreëls tref om te verseker dat die Terrein so bedryf word dat geen oorlas of gesondheidsgevaare ontstaan nie.
- 5.3 Die Permithouer moet verskuifbare heinings gebruik om afval wat deur die wind versprei word, te beheer.
- 5.4 Die Permithouer moet voldoende stofbeheermaatreëls toepas om oorlastoestande en gesondheidsgevaare wat veroorsaak kan word deur stof wat deur die wind versprei word, te voorkom.
- 5.5 Afval wat op die Terrein gestort is, mag herwin word. Die herwinning mag nie die daaglikse bedryfsaktiwiteite van die Terrein belemmer nie.

- 5.6 Die Permithouer moet rekord hou van die volume en aard van die afval wat herwin word en moet dit jaarliks aan die Streekdirekteur rapporteer.

6. MONITERING

- 6.1 Die Permithouer moet rekord hou van alle inligting waarna in Aanhangsel II verwys word en dit jaarliks opdateer.

7. VERSLAGDOENING

- 7.1 Die inligting soos ingevolge voorwaarde 6.1 vereis, moet binne een jaar ná die datum van uitreiking van hierdie Permit aan die Streekdirekteur gestuur word en jaarliks daarna.
- 7.2 Die Permithouer moet die Streekdirekteur binne 24 uur in kennis stel van enige voorval by of gepaardgaande met die bedryf van die Terrein wat waterbesoedeling, besoedeling van die omgewing, gesondheidsgevaare of oorlaste veroorsaak of veroorsaak het.
- 7.3 Die Permithouer moet die Streekdirekteur binne 14 dae skriftelik inlig van maatreëls wat getref is om 'n herhaling van enige voorval waarna in voorwaarde 7.2 verwys word, te herstel en te voorkom.

8. FINALE REHABILITASIE EN SLUITING VAN DIE TERREIN

- 8.1 Die Permithouer moet ten minste 60 dae voor die beoogde sluiting van die Terrein, die Streekdirekteur per geregistreerde pos in kennis stel van die beoogde sluiting en finale, opgedateerde rehabilitasieplanne vir sy goedkeuring indien.
- 8.2 Onmiddellik nadat werkzaamhede by die Terrein gestaak is met die doel om die Terrein te sluit, moet die oppervlak van die Terrein bedek word sodat -
- 8.2.1 geen poelvorming as gevolg van reën kan plaasvind nie;
- 8.2.2 die vrye oppervlakafloop van reënwater verseker word; en
- 8.2.3 geen voorwerpe of materiale op die Terrein voorkom wat die rehabilitasie daarvan kan belemmer nie.
- 8.3 Die Permithouer moet die Terrein ooreenkomstig 'n rehabilitasieplan, wat deur die Permithouer ingedien moet word en wat tot die tevredenheid van die Streekdirekteur moet wees, rehabiliteer.

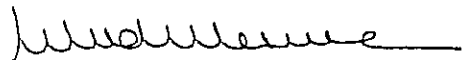
9. VERHURING EN VERVREEMDING VAN DIE TERREIN

9.1 Indien die Permithouer die Terrein aan 'n ander persoon wil verhuur of vervreem, moet die Streekdirekteur ten minste 60 dae voor sodanige transaksie daarvan in kennis gestel word.

10. ALGEMEEN

10.1 Hierdie Permit is nie oordraagbaar nie.

10.2 Hierdie Permit moet nie op so 'n wyse vertolk word dat dit vrystelling verleen van voldoening aan die bepalings van die Wet op Gesondheid, 1977 (Wet 63 van 1977), die Waterwet, 1956 (Wet 54 van 1956) of enige ander toepaslike wet, ordonnansie, regulasie of verordening nie.



BESTUURDER: WETENSKAPLIKE DIENSTE
P.P. MINISTER VAN WATERWESE EN BOSBOU

DATUM: 1995.02.20

AANHANGSEL ILYS VAN GEVAARLIKE EN TOKSIESE STOWWE WAT SLEGS OP 'N KLAS H TERREIN GESTORT MAG WORD

Sure en Alkalië
 Antimoon en antimoonverbindings
 Arseenverbindings
 Asbes (stowwerige asbes en los vesels)
 Bariumverbindings
 Berillium en berilliumverbindings
 Biododers en fitofarmaseutiese stowwe
 Boorverbindings
 Kadmium and kadmiumverbindings
 Chroomverbindings
 Koperverbindings
 Gevaarhoudende heterosikliese organiese verbindings bevattende suurstof, stikstof of swael
 Gevaarhoudende suurstof-, stikstof- en swaelverbindings van koolwaterstowwe
 Anorganiese sianiede
 Anorganiese halogeen-bevattende verbindings
 Anorganiese swael-bevattende verbindings
 Laboratorium chemikalieë
 Loodverbindings
 Mediese afval (weefsels, bloed, deppers, naalde, ens)
 Kwikverbindings
 Nikkel en nikkilverbindings
 Organiese halogeenverbindings, met uitsondering van inerte polimeriese stowwe
 Verwe en verfslik
 Peroksiede, chlorate, perchlorate en asiede
 Plaagdoders en insekdoders
 Farmaseutiese en veeartsenykundige verbindings
 Fosfor en fosforverbindings
 Selenium and seleniumverbindings
 Silwerverbindings
 Teeragtige stowwe van raffinering en teeroorblyfsels van distillering, insluitende petroleum produkte
 Tellurium en telluriumverbindings
 Tallium en talliumverbindings
 Vanadiumverbindings
 Sinkverbindings
 Afval met 'n flitspunt, soos gemeet met die geslote houer metode, laer as 60°C

NAAM VAN TERREIN: _____ DATUM VAN VERSLAG

--	--	--	--	--	--	--	--

1. Geregistreeerde eienaar(s) van eiendom waarop stortterrein geleë is:
 Naam.....
 Posadres..... Telefoonkode & No
 Fakskode & No
 Poskode Teleks No

2. Naam van Operateur in beheer van stortterrein:

 Telefoonkode & nommer Na-ure
 Identiteitsnommer.....
 Opvoedkundige kwalifikasies (*). st 6

 diploma

 st 8

 hoër diploma

 matriek

 graad

 ander (spesifiseer).....

3. (a) Nuutste geskatte lewensduur van stortterrein jaar
 (b) Dui die toepaslike tipe afval en hoeveelhede wat gedurende die jaar gestort is aan:

Tipe afval	Hoeveelheid (m ³ per jaar)	Gekompakteer(G)	Ongekompakteer(O)						
<u>Nie-gevaarlike afval</u>		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
Huishoudelike afval		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
Tuinafval		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
Bourommel		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
Industriële afval (nie-gevaarlik)		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
- (spesifiseer).....		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
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<u>Gevaarlike afval</u>		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
- Ontvlambare vloeistowwe		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
- Ontvlambare vastestowwe		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
- Oksideermiddels		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
- Giftige stowwe		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
- Bytende stowwe		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
- Hospitaal afval en smetstowwe		<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>				<table border="1" style="width: 20px; height: 20px;"><tr><td> </td></tr><tr><td> </td></tr><tr><td> </td></tr></table>			
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* Dui aan met 'n X

4.(a) Dui die metode van afvalstorting aan (*). Landopbouing Landvulling

(b) Dui die huidige afmetings van die terrein aan in meter.

Hoogte/diepte
 Lengte
 Breedte

5.Dui die afvaltippe en hoeveelhede aan wat gedurende die jaar herwin is. (*)

Geen herwinning is onderneem nie

Tipe	Hoeveelheid(m ³)	Tipe	Hoeveelheid(m ³)
Papier/houtvesel	Rubber	.....
Plastiek	Tekstiele	.....
Glas	Yster	.....
Koper	Aluminium	.....
Sink	Lood	.....
Fosfogips	Poekoolas	.....
Afval vir kompostering	Voedselreste	.....
Brandbare gasse	Ander	.....
Ander	Ander	.....
Ander	Ander	.....

6.Dui die tippe, bronne en beraamde hoeveelhede beskikbare bedekkingsmateriaal aan (*).

Tipe	Bronne	Hoeveelheid (m ³)
Grond
Sand
As
Gruis
Klei
Bourommel
Ander (spesifiseer)
.....
.....
.....

* Dui aan met 'n X

Handtekening

Hoedanigheid

Plek Datum



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X6101 Kimberley 8300
Tel: (053) 830 8800, Fax: (053) 831 6450, (053) 831 5682 email:www@dwaf.gov.za

FAX COVER SHEET

DATE: 13/02/2011

TO:	Rhudzani		
ORGANISATION:	Hotzel Manganese Mine (Pty) Ltd: Mamatwan		
FAX:	086 5608510		

FROM:	Dawn		
TEL:	0538308822	ROOM NO:	2.5
FAX:	053 8316450		
E-MAIL:	lefleurd@dwaf.gov.za		
NO PAGES:	1+18		

SUBJECT: Licences – Hotazel

MESSAGE: Good Morning

Please find attach your order number for your perusal!

Thank You

Dawn le Fleur



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria, 0001, Sedibeng Building, 185 Schoeman 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, **Maxwell Sirenya**, in my capacity as Director-General in the Department of Water Affairs and acting under authority of the powers delegated to me by the Minister of Water and Environmental Affairs, hereby authorise the following water uses in respect of this licence.

SIGNED: Maxwell Sirenya

DATE: 26/01/2012

LICENCE NO: 10/D41K/AGJ/1537

FILE NO: 27/2/2/D1141/105/1

1. Licensee **Hotazel Manganese Mines (Pty) Ltd: Mamatwan mine**
Postal address **P O Box 1
Hotazel
8490**
2. Water Uses
 - 2.1 Section 21(a) of the Act: Taking of water from a water resource, subject to the conditions set out in Appendices I and II.
 - 2.2 Section 21(g) of the Act: Disposing of waste in a manner which may detrimentally impact on a water resource, subject to the conditions as set out in Appendices I and III.
 - 2.3 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 IV.

B 03095

3. The Properties on which the water use will be exercised

- Section 21(a) Portion 1 and 2 of the farm Mamatwan 331
- Section 21(g) Portion 4 of the farm Adams 328
- Section 21(g) Portion 0 of the farm Sinterfontein 748
- Section 21(g) Portion 1 and 2 of the farm Mamatwan 331 and Portion 5 of the farm Goold 329
- Section 21(g) Portion 5 of the farm Goold 329 and Portion 4 of the farm Adams 328
- Section 21(j) Portion 0 of the farm Sinterfontein 748
- Section 21(j) Portion 1 and 2 of the farm Mamatwan 331

4. Registered owner of the Property

- 4.1 Hotazel Manganese Mines (Pty) Ltd

5 Licence and Review Period

- 5.1 This licence is valid for a period of 20 (twenty) years from the date of issuance, and may be reviewed at intervals not exceeding 5 (five) years.

6 Definitions

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

"The Regional Head" Means the Regional Head: Northern Cape, Department of Water Affairs, Private Bag X6101, Kimberly, 8300.

"Report" refers to the report entitled "bhpbilliton Water Use Licence Application report dated October 2009 for Hotazel Manganese Mine (Pty) Ltd as compiled by Bemani Sustainability Training as well as all other related documentations and communication (emails, letters, verbal, etc) related thereto.

7. Description of the activity

The licence is for Section 21(a), (g) and (j) water uses for mining purposes on portion 1 and 2 of the farm Mamatwan 331. Mamatwan Manganese Mine consists of open pit operations that started in 1963. This pit is still operational and is being extended to the North and West. The mining area is approximately 644ha and extends across the farm of Mamatwan 331, Goold 329 and Sinterfontein 748.

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 Regional Head of any change of name, address, premises and/or legal status.
4. If the property in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the properties to the Regional Head 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 of any other applicable Act, Ordinance, Regulation or By-law.
9. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other applicable provisions of the Act, as amended from time to time.
10. The Licensee shall conduct an annual internal audit on compliance with the conditions of licence. A report on the audit shall be submitted to the Regional Head 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 6 (six) months of the date this licence was issued and a report on the audit shall be submitted to the Regional Head within one month of finalisation of the report.
12. Flow metering, recording and integrating devices shall be maintained in a sound state of repair and calibrated by a competent person at intervals of not more than two years. Calibration certificates shall be available for inspection by the Regional Head or his representative upon request.
13. Any incident that causes or may cause water pollution shall be reported to the Regional Head or his/her designated representative within 24 hours

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

1. This licence authorises the abstraction of a maximum quantity of six hundred thousand cubic metres (**600 000 m³/a**) of water per annum from the mine open pit workings at Mamatwan mine on portion 1 and 2 of the Farm Mamatwan 331 based on an average of one thousand six hundred and forty three cubic metres per day (1 643 m³/d). The abstraction point is located at the position S 27°23'17 " E 22°59'31.4" in D41K catchment.
2. The quantity of water authorised to be taken in terms of this licence may not be exceeded without prior authorisation by the Minister.
3. This licence does not imply any guarantee that the said quantities and qualities of water will be available at present or at any time in the future.
4. The above-mentioned volume may be reduced when the licence is reviewed.
5. The Licensee shall continually investigate new and emerging technologies and put into practice water efficient devices or apply technique for the re-use of water containing waste, in an endeavour to conserve water at all times.
6. All water taken from the resource shall be measured as follows:
 - 6.1 The daily quantity of water taken must be metered or gauged and the total recorded at the last day of each month; and
 - 6.2 The Licensee shall keep record of all water taken and a copy of the records shall be forwarded to the Regional Head on or before 25 January and 25 July of each year.
7. No water taken may be pumped, stored, diverted, or alienated for purposes other than intended in this licence, without written approval by the Minister or his/her delegated nominee.
8. 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.
9. 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.
10. Notices prohibiting unauthorised persons from entering the certain areas, as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.
11. The Department accepts no liability for any damage, loss or inconvenience, of whatever nature, suffered as a result of:
 - 11.1 shortage of water;
 - 11.2 inundations or flood;
 - 11.3 siltation of the resource; and
 - 11.4 required reserve releases.

Licence no: 10/D41K/AGJ/1537
File No. 27/2/2/D1141/105/1

- 12 The Licensee shall establish a programme of formal Information Management System, which maintains a database on water supply, distribution and delivery infrastructure.

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

APPENDIX III

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

1.1 The Licensee shall carry out and complete all the activities, including the construction and operation of the dirty water Dams below, according to the Report and according to the final plans submitted with the Integrated Water Use Licence Application as approved by the Regional Head.

Table 1: Geographical positions of all the waste and water containing waste management facilities

Activities	Purpose	Properties	Total Water	Capacity	Area of Facility	Co-ordinate
Section 21(g)	Disposal of coarse low grade manganese into Adams pit	Portion 4 of the farm Adams 328	75 200 t/a	n/a	4ha	S27°22'59" E22°59'19"
Section 21(g)	Operation of the thickener at Mamatwan (existing)	Portion 0 of the farm Sinterfontein 748	514 194 m ³ /a	n/a	0.1ha	S27°23'19" E22°59'33"
Section 21(g)	Operation of the clarifier at Mamatwan (existing)	Portion 0 of the farm Sinterfontein 748	688 317 m ³ /a	n/a	0.2 ha	S27°23'17" E22°59'31"
Section 21(g)	Disposal of water pumped from the open pit into the Process Water tank (existing)	Portion 0 of the farm Sinterfontein 748	197 944 m ³ /a	456 m ³	0.1ha	S27°23'20" E22°59'28"
Section 21(g)	Disposal of water pumped from the open pit into proposed new Process Water Reservoir (proposed)	Portion 0 of the farm Sinterfontein 748	967 250 m ³ /a	5 200 m ³	0.1ha	S27°23'21.3" E22°59'30.2"
Section 21(g)	Operation of the slime dam at Mamatwan (proposed)	Portion 1 and 2 of the farm Mamatwan 331 and Portion 5 of the farm Goold 329	752 000 tons/a	600 000 m ³ over LoM	4ha	S27°23'17" E22°59'31.4"
Section 21(g)	Operation of the slime	Portion 5 of the farm	912 500 m ³ /a	27 600 m ³	1.2 ha	S27°21'46" E22°58'43"

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	return water dam at Mamatwan	Goold 329 and Portion 4 of the farm Adams 328				
Section 21(g)	Operation of the proposed evaporation ponds at Mamatwan	Portion 0 of the farm Sinterfontein 748	8 517 m ³ /a	1 200 m ³	0.1ha	S27°23'26" E22°59' 14"
Section 21(g)	Mamatwan sludge drying bed	Portion 0 of the farm Sinterfontein 748	0.573 t/a		0.1ha	S27°06'49" E22°50'54"

- 1.2 The construction of the dams listed in table 1 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 All the designs of the raw and dirty water storage dams must be submitted to the department within six months of the date of issue of this licence and the Licensee shall submit that to the Regional Head
- 1.4 All sewage sludge from the sewage treatment plant must be stockpile on concrete and on bunded area. The sludge must also be classified according to the Department of Water Affairs sludge guideline
- 1.5 The Licensee must submit the information on the sludge classification and utilization, as well as technical drawings of the sludge drying beds. to the department within six months of the date of issue of this licence and the Licensee shall submit that to the Regional Head
- 1.6 The Licensee must submit the Water Quality Management Reports (WQMR) for wastewater treatment plants within six months of the date of issue of this licence
- 1.7 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/D1141/105/1, inform the Regional Head thereof. This shall be accompanied by a signature of approval from the designer referred to above that the construction was done according to the design plans referred to in the Report.
- 1.8 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.
- 1.9 The Licensee shall submit a set of as-built drawings to the Regional Head after the completion of the waste facilities listed in table 1.
- 1.10 The waste facilities listed in table 1 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.
- 1.11 The Licensee shall use acknowledged methods for sampling and the date, time and sampler must be indicated for each sample.

1.12 Monitoring Requirements

1.12.1 Suitable measuring structures must be constructed to measure the quantity of water entering and leaving the pollution control as well as water levels in the dams

1.12.2 The quantity of water stored shall be recorded as at the last day of each month.

1.12.3 The groundwater water quality monitoring frequency must be on a monthly basis for the first 12 months of the licence and changed to quarterly thereafter.

2. STORAGE OF WATER CONTAINING WASTE

2.1 The Licensee is authorised to dispose of a maximum quantity in cubic metres (m³) of waste per annum into the waste management facility on the farm described below in table 2.

Table 2: Volumes of waste to be disposed at the waste disposal facilities

Activities	Purpose	Properties	Total Water	Capacity	Area of Facility	Co-ordinate
Section 21(g)	Disposal of coarse low grade manganese into Adams pit	Portion 4 of the farm Adams 328	75 200 t/a	n/a	4ha	S27°22'59" E22°59'19"
Section 21(g)	Operation of the thickener at Mamatwan (existing)	Portion 0 of the farm Sinterfontein 748	514 194 m ³ /a	n/a	0.1ha	S27°23'19" E22°59'33"
Section 21(g)	Operation of the clarifier at Mamatwan (existing)	Portion 0 of the farm Sinterfontein 748	688 317 m ³ /a	n/a	0.2 ha	S27°23'17" E22°59'31"
Section 21(g)	Disposal of water pumped from the open pit into the Process Water tank (existing)	Portion 0 of the farm Sinterfontein 748	197 944 m ³ /a	456 m ³	0.1ha	S27°23'20" E22°59'28"
Section 21(g)	Disposal of water pumped from the open pit into proposed new Process Water Reservoir (proposed)	Portion 0 of the farm Sinterfontein 748	967 250 m ³ /a	5 200 m ³	0.1ha	S27°23'21.3" E22°59'30.2"
Section 21(g)	Operation of the slime	Portion 1 and 2 of the farm	752 000 tons/a	600 000 m ³ over	4ha	S27°23'17" E22°59'31.4"

	dam at Mamatwan (proposed)	Mamatwan 331 and Portion 5 of the farm Goold 329		LoM		
Section 21(g)	Operation of the slime return water dam at Mamatwan	Portion 5 of the farm Goold 329 and Portion 4 of the farm Adams 328	912 500 m ³ /a	27 600 m ³	1.2 ha	S27°21'46" E22°58'43"
Section 21(g)	Operation of the proposed evaporation ponds at Mamatwan	Portion 0 of the farm Sinterfontein 748	8 517 m ³ /a	1 200 m ³	0.1ha	S27°23'26" E22°59' 14"
Section 21(g)	Mamatwan sludge drying bed	Portion 0 of the farm Sinterfontein 748	0.573 t/a		0.1ha	S27°06'49" E22°50'53.8"

3. QUALITY OF WASTE WATER TO BE DISPOSED

- 3.1 The quality of waste water disposed of into the dams specified above shall not exceed the following limits as specified in table 3 (below).

Table 3: Quality of waste water to be disposed into waste water facility
Quaternary catchment D41K

Substance/parameter	Limit
pH	7.78
Total Dissolved Solids (TDS) in mg/l	1605.5
Chlorides (Cl) in mg/l	342.70
Sulphate (SO ₄) in mg/l	53.50
Sodium (Na) in mg/l	140.80
Calcium (Ca) in mg/l	118.80
Fluoride (F) in mg/l	0.71
Potassium (K) in mg/l	2.27
Magnesium (Mg) in mg/l	160.50
Manganese in mg/l	0.38

4. MONITORING

- 4.1 The Licensee shall monitor on monthly basis the water resources at surface water monitoring point and Ground water monitoring point to determine the impact of the facility and other activities on the water quality by taking samples at the monitoring points described in Table 4 and 5 below.

Table 4: Surface Water monitoring points for Mamatwan Mine

Locality	Description	X co-ordinate	Y co-ordinate
C(MMT)01	At plant run-off canal to Adams pit	22° 59' 30.12"	27° 23' 12.48"
K(MMT)01	sewage treatment works	22° 59' 13.92"	27° 23' 25.80"
O(ADM)01	Adams pit	22° 59' 15.36"	27° 22' 56.64"

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O(MMT)02	South pit	22° 58' 51.6"	27° 22' 34.32"
O(MMT)03	North pit	22° 58' 48.36"	27° 21' 56.16"
Z(MMT)01	Solid waste site	22° 59' 19.68"	27° 23' 21.84"
Z(MMT)02	Furnace tank near sinter tank	22° 59' 43.44"	27° 23' 27.96"
Z(MMT)03	Old oil skimmer	22° 58' 50.1594"	27° 21' 56.52"
Z(MMT)04	New oil skimmer	22° 59' 23.9994"	27° 23' 9.60"
X(MMT)01	Incoming water from Mamatwan Reservoir	22° 59' 26.52"	27° 23' 20.76"
Z(MMT)05	Drinking water from the Offices, plant or change house	22° 59' 21.12"	27° 23' 27.24"

Table 5: Ground Water monitoring points for Mamatwan Mine

Locality	Description	X co-ordinate	Y co-ordinate
JB(RIS)04	North West of Mamatwan Pit	22° 58' 5.5194"	27° 21' 44.64"
JB(GLD)05	North of Mamatwan Pit	22° 58' 39.100"	27° 21' 28.8"
JB(MMT)17	Adjacent to furnace oil tanks	22° 59' 43.80"	27° 23' 26.52"
JB(MMT)18	Adjacent to DMS discards, southern corner	22° 59' 31.56"	27° 23' 45.6"
JB(MMT)19	Adjacent to the laboratory & electrical workshop	22° 59' 28.68"	27° 23' 8.88"
JB(MMT)20	Adjacent to Barlows mechanical workshop	22° 59' 22.92"	27° 23' 11.04"
JB(MMT)21	Behind old explosive magazine	22° 58' 54.84"	27° 22' 58.44"
JB(MMT)22	Adjacent to waste dump shed near Adams pit	22° 59' 12.48"	27° 22' 41.52"
JB(MMT)23	Adjacent sewage treatment works	22° 59' 11.76"	27° 23' 25.08"
JB(MMT)24	Northern side of old slimes dams next to leveled slimes dam	22° 59' 21.12"	27° 23' 40.92"

- 4.2 The date, time and monitoring point in respect of each sample taken shall be recorded together with the results of the analysis.
- 4.3 Monitoring points shall not be changed prior to notification to and written approval by the Regional Head.
- 4.4 An Aquatic Scientist approved by the Regional Head must establish a monitoring programme for the following indices: Invertebrate Habitat Assessment System (IHAS) and the latest SASS (South African Scoring System). Sampling must be done once during the summer season and once during the winter season, annually, to reflect the status of the river upstream and downstream of the mining activities.
- 4.5 Water quality testing to be performed on all pollution control dams on a quarterly basis in order to determine the risks to the receiving environment. The data gathered in the investigation must be reported annually to the Regional Head. If any concentrations levels as specified above are exceeded, the Licensee must institute an investigation to determine the cause of poor water quality.

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- 4.6 The Licensee shall participate in any initiative such as Direct Estimation of Ecological Effect Potential (DEEEP) to determine the toxicity of complex tailings waste discharges. Both acute and chronic toxicity must be addressed and at least three taxonomic groups must be present when toxicity tests are performed.
- 4.7 Analysis shall be carried out in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), in terms of the Standards Act, 1982 (Act 30 of 1982).
- 4.8 The methods of analysis shall not be changed without prior notification to and written approval by the Minister.
- 4.9 Water quality testing must be performed on the monitoring points in table 4 and 5 on a quarterly basis in order to determine the risks to the receiving environment. The data gathered in the investigation must be reported annually to the Regional Head. If any concentrations levels as specified above in table 3 are exceeded, the Licensee must institute an investigation to determine the cause of pollution.

5. WATER RESOURCE PROTECTION

- 5.1 The impact of the activities of the mine on the ground water shall not exceed the following water quality levels as indicated on table 6 below.

Table 6: Water resource quality objectives
Water resource quality objectives (quaternary catchment D41K)

Parameter (mg/l unless otherwise stated)	RQO
Electrical conductivity (mS/m)	96.75
Sodium (mg/l)	24.70
PH	7.90
Magnesium (mg/l)	60.20
Calcium (mg/l)	82.40
Chloride (mg/l)	107.40
Sulphate (mg/l)	32.86
Nitrate (mg/l)	9.79
fluoride(mg/l)	0.35
Total Alkalinity(mg/l)	269.85

6. REPORTING

- 6.1 The Licensee shall update the water balance annually and calculate the loads of waste emanating from the activities. The Licensee shall determine the contribution of their activities to the mass balance for the water resource and must furthermore co-operate with other water users in the catchment to determine the mass balance for the water resource reserve compliance point.
- 6.2 The Licensee shall submit the results of analysis for the monitoring requirements to the Regional Head on a quarterly basis under Reference number 27/2/2/D1141/105/1

7. STORM WATER MANAGEMENT

- 7.1 Storm water leaving the Licensee's premises shall in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises.
- 7.2 Increase runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that storm water does not lead to bank instability and excessive levels of silt entering the stream.
- 7.3 Storm water shall be diverted from the mine complex site and roads and shall be managed in such a manner as to disperse runoff and concentrating the storm water flow.
- 7.4 Where necessary works must be constructed to attenuate the velocity of any storm water discharge and to protect the banks of the affected watercourses.
- 7.5 Storm water control works must be constructed, operated and maintained in a sustainable manner throughout the impacted area.
- 7.6 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.
- 7.7 The polluted storm water system shall be designed and implemented to provide suitable routing and pumping capacity for contaminated storm water from the individual facilities to the respective storm water dams in accordance with the design specifications as contained in the Integrated Water Use Licence Application report.
- 7.8 The polluted storm water captured in the storm water control dams shall be pumped to the process water treatment plant for reuse and recycling.

8. PLANT AREAS AND CONVEYANCES

- 8.1 Pollution caused by spills from the conveyances must be prevented through proper maintenance and effective protective measures especially near all stream crossings.
- 8.2 All reagent storage tanks and reaction units must be supplied with a bunded area built to the capacity of the facility and provided with sumps and pumps to return the spilled material back into the system. The system shall be maintained in a state of good repair and standby pumps must be provided.
- 8.3 Any hazardous substances must be handled according to the relevant legislation relating to the transport, storage and use of the substance.
- 8.4 Any access roads or temporary crossings must be:
- 8.4.1 non-erosive, structurally stable and shall not induce any flooding or safety hazard and
- 8.4.2 be repaired immediately to prevent further damage.

9. ACCESS CONTROL

- 9.1 Strict access procedures must be followed in order to gain access to the property. Access to the pollution control dams, Coal slurry discard dumps, storm water dam and Return water dam must be limited to authorised employees of the Licensee and their Contractors only.

- 9.2 Notices prohibiting unauthorised persons from entering the controlled access areas as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.

10. CONTINGENCIES

- 10.1 Accurate and up-to-date records 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 Regional Head upon request. Such malfunctions shall be tabulated under the following headings with a full explanation of all the contributory circumstances:

- 10.1.1 operating errors
- 10.1.2 mechanical failures (including design, installation or maintenance)
- 10.1.3 environmental factors (e.g. flood)
- 10.1.4 loss of supply services (e.g. power failure) and
- 10.1.5 Other causes.

- 10.2 The Licensee must, within 24 hours, notify the Regional Head of the occurrence or potential occurrence of any incident which has the potential to cause, or has caused water pollution, pollution of the environment, health risks or which is a contravention of the licence conditions.

- 10.3 The Licensee must, within 14 days, or a shorter period of time, as specified by the Regional Head, from the occurrence or detection of any incident referred above, submit an action plan, which must include a detailed time schedule, to the satisfaction of the Regional Head of measures taken to:

- 10.3.1 correct the impacts resulting from the incident
- 10.3.2 prevent the incident from causing any further impacts and
- 10.3.3 prevent a recurrence of a similar incident.

11. AUDITING

- 11.1 The Licensee shall conduct an annual internal audit on compliance with the conditions of this licence. A report on the audit shall be submitted to the Regional Head within one month of finalisation of the report, and shall be made available to an external auditor should the need arise.

- 11.2 The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. The first audit must be conducted within 6 (six) months of the date this licence was issued and a report on the audit shall be submitted to the Regional Head within one month of finalisation of the report.

12. INTEGRATED WATER AND WASTE MANAGEMENT

- 12.1 The Licensee must update an *Integrated Water and Waste Management Plan (IWWMP)*, which must together with the updated *Rehabilitation Strategy and Implementation Programme (RSIP)*, be submitted to the Regional Head for approval within one (1) year from the date of issuance of this licence.

- 12.2 The Licensee shall at all times maintain the negative water balance, during the mining operation and after the mining operation

- 12.3 The IWWMP and RSIP shall thereafter be updated and submitted to the Regional Head for approval, annually.

- 12.4 The Licensee must, at least 180 days prior to the intended closure of any facility, or any portion thereof, notify the Regional Head of such intention and submit any final amendments to the IWWMP and RSIP as well as a final *Closure Plan*, for approval.
- 12.5 The Licensee shall make full financial provision for all investigations, designs, construction, operation and maintenance for a water treatment plant should it become a requirement as a long-term water management strategy.

13. SITE SPECIFIC CONDITIONS

- 13.1 Water samples must be taken from all the monitoring boreholes by using approved sampling techniques and adhering to recognized sampling procedures. Samples should be analyzed for both organic as well as inorganic pollutants, as mining activity often lead to hydrocarbon spills in the form of diesel and oil. At least the following water quality parameters should be analyzed for:

- Major ions (Ca, K, Mg, Na, SO₄, NO₃, Cl, F)
- pH
- Electrical Conductivity (EC)
- Total Petroleum hydrocarbon (TPH)
- Total Alkalinity

These should be recorded on a data sheet. It is proposed that the data should be entered into an appropriate computer database and reported to the Department of Water Affairs.

- 13.2 The mining areas should be flooded as soon as possible to prevent oxygen from reacting with remaining pyrite.
- 13.3 The Licensee should remove all coal from the opencast and as little as possible should be left.
- 13.4 The final backfilled opencast topography should be engineered such that runoff is directed away from the opencast areas.
- 13.5 The final layer should be as clayey as possible and compacted if feasible, to reduce recharge to the opencasts.
- 13.6 A safety pillar of at least 30 m should be left between the underground and opencast areas.
- 13.7 Quarterly groundwater sampling must be done to establish a database of plume movement trends, to aid eventual mine closure.
- 13.8 The Licensee must ensure in advance that alternative water supply for external water users is provided to these users should groundwater resources be impacted
- 13.9 A proper ground and surface water monitoring network should be established to monitor the quality and quantity of water resources as per the report recommendation and ensuring that water used by other water users are safeguarded in accordance with the National Act.
- 13.10 The pollution control dam must be designed in such a manner that any spillage can be contained and reclaimed without any impact on the surrounding environment, a plan must be in place to stop overflowing in a dam in case of rainy seasons.

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- 13.11 Geochemical assessment should be done on the discard material during the mining operation.
- 13.12 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).
- 13.13 The Licensee shall consider other alternatives rather than using clean water for dust suppression in order to conserve clean water.

APPENDIX IV**Section 21 (j) of the Act: Removing of water found underground**

1. The Licensee is authorised to remove a volume not exceeding six hundred thousand cubic metres (600 000 m³/a) of water per annum from the mine open pit workings at Mamatwan mine on portion 1 and 2 of the Farm Mamatwan 331 based on an average of one thousand six hundred and forty three cubic metres per day (1 643 m³/d). The removal point shall be located at the position S 27° 04' 49" E 22° 51' 10".
2. The quantity of groundwater authorised to be extracted in terms of this licence may not be exceeded without prior approval by the responsible authority.
3. The water removed from underground in terms of this licence shall be detained in appropriate facilities authorized in Appendix IV of this licence, and may be used in terms of provisions in Appendix II.
4. The Licensee is prohibited from abstraction of groundwater from any property not described in the tabulation under Clause 3 of this licence.
5. This licence does not guarantee that the said amount to be abstracted will always be available whenever needed by the Licensee.
6. No water taken may be pumped, stored, diverted, or alienated for purposes other than intended in this licence, without written approval by the Regional Head or his/her delegated nominee.
7. Water management aspects for opencast operations at Mamatwan must be in accordance with the Department's BPG A5 for Water Management in Surface Mines.
8. The Licensee shall plan, design, operate and close the underground mining operations in a manner that reduces the ingress of clean water into the mine, minimizes the volume of water used in mining operations, maximizes water reuse, minimizes the water quality deterioration within the mine and minimizes the impacts on the water resource.
9. The Licensee shall undertake the mine planning and development, active mining operations and mine decommissioning in a manner that minimizes disturbance to existing hydrological and geohydrological systems and minimizes water ingress into the mine workings.
10. Where appropriate, the Licensee shall undertake dewatering operations ahead of the mine to keep the mine dry and minimise the potential for water quality deterioration.
11. The Licensee shall submit to the Regional Head for approval, a post-closure water flow and quality model considering water flow control upon mine closure, no closer than 5 (five) years before the intended mine closure.
12. The Licensee must provide any water user whose supply is impacted by the groundwater extraction activities by Hotazel Manganese Mines with potable water or any form of acceptable relief, subject to a written agreement or compensation protocol signed with the affected water users upon scrutiny by the Regional Head.

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13. The Licensee shall keep a record of and swiftly address any complaints, concerns and comments of neighboring land owners or water users regarding alleged negative impact on their water sources due to Hotazel Manganese Mines' groundwater extraction. Such records must be made available to the Regional Head upon request.
14. The Licensee shall implement measures to protect surface and groundwater quality and minimise potential negative impacts on groundwater quantity and levels during operation.
15. The Licensee must implement the groundwater monitoring programme recommended in the report, which programme shall include monitoring of groundwater levels and extraction volumes from both production and monitoring boreholes.
16. Groundwater levels shall be monitored and the Licensee shall continue monitoring these boreholes for a period not less than 10 (ten) years from mine closure (or any period as the Regional Head may determine) to assess the full scale impact of dewatering on the groundwater regime; in line with the approved closure plan.
17. A post closure water management programme must be developed and submitted to the Regional Head within 24 months from the date of issuance of this licence. Details on financial provision and an operational plan for implementation of the post closure management programme must be outlined.
18. The post closure water management programme required in this licence must include considerations and strategies for extraction/abstraction, storage (impoundment), treatment and use or discharge of water from the mine workings areas due to decant or other effects.
19. The Licensee must commission a strategy for the management of polluted water and / or any potential acid mine drainage within 24 months from the date of this licence, taking into consideration aspects such as the separation, collection, containment, pumping, treatment and disposal, discharge or use of such treated water. The Licensee must apply for the relevant authorisation for discharge and/or disposal of the mine water.
20. The Licensee shall consult with Interested and Affected Parties (I & APs) on closure objectives and closure plans, and ongoing review of post-closure impacts and plans.
21. The Licensee must assess the impact that it will have on the water found underground in the mine, on surface water as well as on all neighboring mines and water users, prior to the cessation of any of the Licensee's operations.
22. The Licensee shall initiate an investigation and develop a water management strategy to manage the abstraction of underground compartment water and the disposal to the evaporation facilities effectively.
23. The Licensee shall provide the Department with a management plan to effectively maintain all dams, pollution control systems, toe paddocks, etc. and including regularly removing sludge, silt, plants, etc.
24. The Licensee shall provide any water user whose water supply is impacted by the water use with alternative sources of water.

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25. The Regional Head 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:
- 25.1 nature of the incident (e.g. operating malfunctions, mechanical failures, environmental factors, loss of supply services, etc)
 - 25.2 actions taken to rectify the situation and to prevent pollution or any other damage to the environment and
 - 25.3 measures to be taken to prevent re-occurrence of any similar incident.
26. The Licensee shall investigate options to re-use and minimize any discharges of water found underground to minimize the raw water abstractions from freshwater systems. Such water may be used for amongst others secondary uses including dust suppression, lawn irrigation, sports facilities and pre-treatment for small scale community gardens.
27. The Licensee shall within 1 year of issuance determine and delineate the area of dewatering and the area of possible impact of dewatering, map this area and notify any landowners in writing of possible impacts.
28. The quantity of water removed from underground must be measured as follows:
- 28.1 The quantity of water removed must be metered or gauged, the daily quantity must be recorded and the total recorded on the last day of each month; and
 - 28.2 The licence shall keep record of all water removed and a copy of the records shall be forwarded to the Regional Head on a quarterly basis.

END OF LICENCE