



# Khumani Iron Ore Mine

## Final Rehabilitation Plan for 2020

### Report Purpose

Providing the client and Regulatory Authority with an understanding of the Final Closure Plan for the mine.

### Report Status

FINAL V4

### Report Reference

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**26 June 2020**



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## Quality Control

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## 1 INTRODUCTION AND TERMS OF REFERENCE

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### 1.1 Introduction

Khumani Iron Ore Mine (hereafter referred to as “Khumani” or “the mine”), located near Kathu in the Northern Cape Province, is owned by Associated Manganese Mines of South Africa Limited (“Assmang”).

Khumani has an approved Mining Right, granted by the Department of Mineral Resources (hereafter referred to as the “DMR”) in January 2007 for mining activities associated with iron ore. Khumani comprises of four (4) farms, namely Parson 564 (including Police Camp 692) (Portions 0, 2, 8 and 9), King (Portions 0), Bruce 544 (Portion RE) and Mokaning 560 (Portions 0, 1, 2, 3, and 4), hereafter referred to as “Parson”, “King”, “Bruce” and “Mokaning” respectively.

The Mining Right is located over portions of the farms King, Bruce and Mokaning. The overall mining area, however, also includes the farm Parson, where the plant infrastructure, product- and low-grade stockpiles, explosives magazine and main offices are situated. The farm Parson does not form part of the Mining Right and therefore no mining activities are undertaken over this farm.

Construction activities at Khumani commenced during June 2006, with an environmental approval in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (hereafter referred to as the “ECA”), while operational activities on the farm Bruce commenced during May 2007.

Khumani is an opencast Iron Ore Mine and is classified as a Primary Risk Class: A, which relates to the mining of base metals (including Iron Ore) for a Large Mining Operation, which includes a mine, mine waste, plant and plant waste.

The mining operations include opencast mining operations, within seven (7) opencast pits, from where the Run of Mine (ROM) is trucked to a primary crusher and is transported via conveyor to the secondary and tertiary crushers, with the latter located at the Beneficiation Plant on the farm Parson. Material is washed and screened in the Beneficiation Plant, where the final product is stockpiled for rail transport to either Saldanha for export (via the Ore Export (OREX) Line) or Port Elizabeth for local markets (via Transnet Fright Rail (TFR)). Waste Rock (or low-grade material) is placed on, what will in future be named the Low-Grade Stockpiles, and earmarked for reprocessing in the future, depending on market requirements. Waste material from the beneficiation process is pumped through a series of thickeners to the Paste Disposal Facility located on the farm King. Additional ancillary mine infrastructure has been constructed, such as the main offices, access roads, haul roads, power lines, fences for security purposes, etc. The mine has, in the past number of years, invested in the delineation of its primary catchment areas for the purposes of designing a detailed clean and dirty water management system for the mine. One of the key purposes of this system is the importance of water conservation. The area in which the mine is located is characterised as a water negative environment, i.e. evaporation exceeds precipitation. The mine is committed to reuse as much water as possible, not only from an environmental and sustainable viewpoint, but also due to the fact that the mine is reliant on purchasing water from the Sedibeng Water Supply Scheme, which is currently considered to be an unreliable source of water supply, having often resulted in the mine not having access to water. Water from the storm water system is utilised as a dust suppressant over roads, in combination with roads also being treated with a dust suppressant.

The mining infrastructure associated with each farm of the Mining Right is detailed as follows:

#### Parson:

- Rapid Load-Out Facility;
- Product Stockpile Area;
- ROM Stockpile Area;
- Discard Stockpile (to be known as the Low-Grade ROM Stockpile);



- The mine is currently in the process of undertaking an Environmental Authorisation Process to increase this facility in terms of its footprint, and through additional infrastructure such as a Reclaiming Facility.

- ☞ Plant Area (Original Beneficiation Plant and the Wet, High-Intensity Magnetic Separation (WHIMS) Plant);
- ☞ Plant Offices;
- ☞ Third Party Stockpile Area
- ☞ Workshop Areas;
- ☞ Explosive Magazine (operated by Sasol Nitro);
- ☞ Sewage Facilities;
- ☞ Conveyors;
- ☞ Storm Water Management Infrastructure (channels and dam);
- ☞ Borrow Pits; and
- ☞ Contractor Workshop Areas.

Bruce:

- ☞ Primary Crusher;
- ☞ Secondary Crusher;
- ☞ Mine Workshops;
- ☞ Offices;
- ☞ Overland Conveyors;
- ☞ Sewage Facilities;
- ☞ Contractor Workshop Areas;
- ☞ Opencast Operations (five main Opencast Pits – BA05, BB01, BC01, BC02, BC03);
- ☞ Topsoil Stockpile;
- ☞ Barrier Pillar Mining operations;
- ☞ Panhandle Dump;
- ☞ Low-Grade ROM Stockpile (Waste Rock Dump); and
- ☞ Storm Water Management Infrastructure (channels and dam).

King/ Mokaning:

- ☞ Paste Disposal Facility;
- ☞ Topsoil Stockpile;
- ☞ Low-Grade ROM Stockpile;
- ☞ Waste Rock Dump;
- ☞ Contractor Workshop Areas;
- ☞ Opencast Pits (two main Opencast Pits – KM01, KM02);
- ☞ Primary and Secondary Crusher;
- ☞ Sewage Facilities;
- ☞ TFR Diversion has been completed and the decommissioned Port Elizabeth Railway Line is being dismantled;
- ☞ River Diversion associated with the TFR Diversion;
- ☞ Mine Workshops; and
- ☞ Offices.

Linear Activities Connecting the Farms Include:

- ☞ Conveyors;
- ☞ Roads; and
- ☞ Power lines.



## 1.2 Local Setting

Khumani is situated 15km south of Kathu, adjacent to the Kumba Iron Ore Mine and comprises of four (4) farms, namely Parson, King, Bruce and Mokaning.

The mine falls within two Local and two District Municipalities. The farm Mokaning is situated within the Tsantsabane Local Municipality (NC085), which forms part of the ZF Mgcawu District Municipality (formerly known as the Siyanda District Municipality). The farms Parson, Bruce and King are situated within the Gamagara Local Municipality (NC01B1), which forms part of the John Taolo Gaetsewe District Municipality (formerly known as the Kgalagadi District Municipality). Neighbouring towns and villages include Olifantshoek, Beeshoek, Postmasburg and Dingleton. The main industries in the area include mining (mainly of manganese ore, iron ore and tiger's eye), agriculture (mainly cattle, sheep, goat and game farming) and tourism.

## 1.3 Current Environmental Authorisations

The mine is operating with all required Environmental Authorisations in terms of the:

- National Environmental Management Act, 1998 (Act No. 107 of 1998) (hereafter referred to as the "NEMA") (also the original approval in terms of the ECA);
- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (hereafter referred to as the "NEM:WA");
- Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (hereafter referred to as the "MPRDA"); and
- National Water Act, 1998 (Act No. 36 of 1998) (hereafter referred to as the "NWA").
  - The NWA makes provision for a Water Use Licence (hereafter referred to as a "WUL"), which was obtained in 2013. This Licence is currently being amended by the Department of Water and Sanitation (DWS) due to inconsistencies found in the Licence.

Environmental Authorisations obtained include the following:

- Permits:
  - NEM:WA:
    - Permit 12/9/11/L812/8 for the Landfill Site and Hazardous Storage Facility
  - NWA:
    - Licence: 10/D41J/BC1J/2122 for the 2013 WUL
  - NEMA (and ECA):
    - Permit 43/2006 for the development of an iron ore opencast Mine's with all associated infrastructure
    - Permit 47/2009 for the Railway Line Diversion and Local Siding Establishment
    - Permit 37/2012 for the expansion of diesel storage and a silo for explosives, construction of a tar road and additional refuelling station, storm water dams and storage tanks
    - Permit 56/2013 for the Off-grade 2 Plant
    - Permit 21/2016 for the construction of the WHIMS Plant at Parson, the Expansion of the Parson Discard Dump, Bruce Low-Grade ROM Stockpile and King/ Mokaning Low-Grade ROM Stockpile, and the establishment of additional Low-Grade Stockpiles at King
    - NC30/5/1/2/3/2/1(070)EM for the WHIMS Plant and silo project, 2018.
    - NC30/5/1/2/3/2/1(070)EM for the new RWD and various water management activities, 2019.
  - National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004 (NEMAQA)
    - Licence NC/AEL/JTG/KHUM01/2014 for Air Emission Licence for diesel storage, 2014.
  - MPRDA



- MPRDA Record of Decision (ROD) 2007 for the new Mining Operation and associated Environmental Management Programme (EMP) dated February 2006
- MPRDA RODs – undated 2007 (document date of modification states August 2007) for the Barrier Pillar and associated EMP dated April 2007 (this EMP resulted in a change to certain commitments by the Mine’s since the original EMP)
- MPRDA ROD 2011 for the additional infrastructure such the local siding in line with Permit 47/2009
- MPRDA ROD 2012 for the additional infrastructure such as the diesel storage in line with Permit 37/2012.

## 1.4 Pending Environmental Authorisations

Regulation 23 of the MPRDA states in Section 1(a), that subject to subsection (4), the Minister must grant a mining right if the mineral can be mined optimally in accordance with the mining work programme. The mine has been awarded a Mining Right by the DMR and therefore has an obligation to give effect to the following:

- The ongoing development and improvement of the Mining Work Programme which details the planned mining activities to be followed in order to mine the mineral resource optimally; and
- Optimal mining of minerals must be undertaken, as the Minerals and Petroleum Board may recommend to the Minister to direct the holder of a mining right to take corrective measures if the Board establishes that the minerals are not being mined optimally in accordance with the Mining Work Programme. The Minister may, on the recommendation of the Board, suspend or cancel a mining right if the Minister is convinced that any act or omission by the holder justifies the suspension or cancellation of the right.

Khumani conducts a planned exploration programme, which mostly comprise of drilling, sampling, assay analysis, modelling and reporting of Mineral Resources and Reserve.

### Project 1:

Based on the description above, the mine has identified further iron ore resources available for extraction via opencast mining methods on the most Southern portion of its approved Mining Rights Area.

The current planned is to develop two opencast pits:

- New Opencast Pit: Mokaning East (20ha);
- New Opencast Pit: Mokaning South (78ha);

The opencast pits will be linked via an approximate 7.5km haul roads, 30m wide, which trucks will utilise to transport the ROM from the opencast pits to the King Primary Crushers. No new ROM Stockpile will be required at the Mokaning mining area. Certain ancillary infrastructure such as water supply, sewage treatment, dust suppression will be required. Other requirements may involve dewatering of groundwater from the opencast pits for safe mining conditions. The Mokaning East opencast pit is located over a tributary of the Gamagara River and therefore a river diversion will be required.

### Project 2:

The last project will involve a new Low-Grade ROM Stockpile on the farm Bruce. The current Low-Grade ROM Stockpile is located to the most northern portion of the farm property and requires extensive travelling distances relating to the BB and BC Opencast Pits. The mine has therefore identified an additional area located in close proximity to the current opencast pits. The proposed facility will be about 55ha in size and will be associated with berms and paddocks to manage clean and dirty water systems. It is not foreseen that additional roads will be required as access roads to this area are already in place.



The project has currently been placed on hold due to the potential inclusion of additional activities such as workshops, roads and crusher plants and also to re-evaluate the planned opencast pit shell designs.

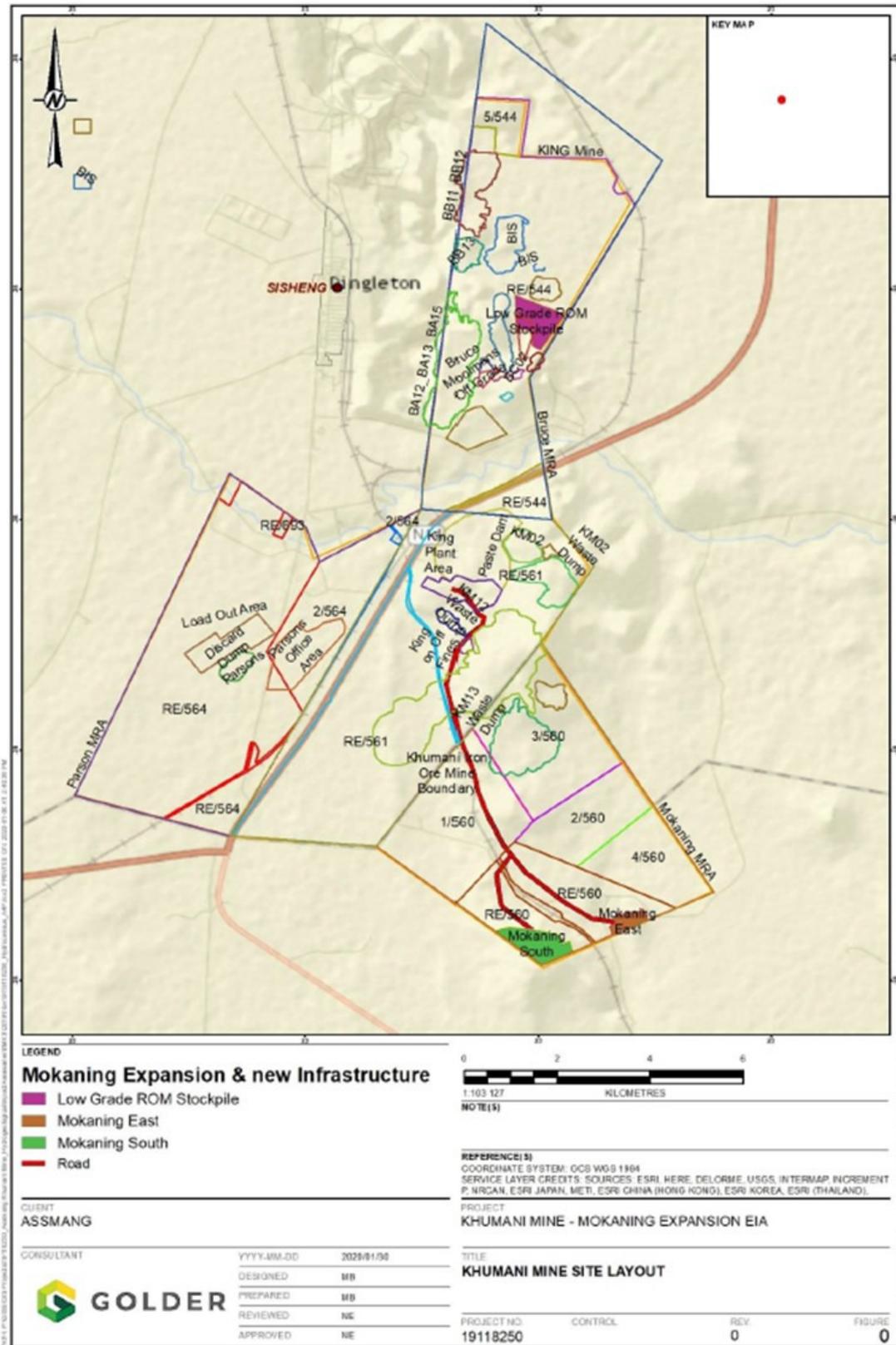


Figure 1: Project location



## 1.5 Purpose of this Report

Newly promulgated regulations (November 2015 as amended) pertaining to the Financial Provision for Prospecting, Exploration, Mining and Production Operations in terms of the NEMA prescribes the determination and making of Financial Provision for existing rights/ permit holders (Regulation 11 of GN R 1147). Importantly, the provisions in Section 24P of NEMA have been given effect through these newly promulgated regulations.

Accordingly, the following is required to satisfy the requirements for the determination of the Financial Provision and provides the basis to bring Khumani's Financial Provision into alignment with the new regulations:

- A detailed review and itemisation of all activities and associated actual costs for the implementation of:
  - Annual rehabilitation, as reflected in an Annual Rehabilitation Plan;
  - Final rehabilitation, decommissioning and closure of the mining operations at the end of the life of the operations, as reflected in a Final Rehabilitation, Decommissioning and Closure Plan; and
  - Remediation of latent or residual environmental impacts which may become known in the future, including the pumping and treatment of extraneous water, again as reflected in a Residual Risk Assessment Report.

According to the Amendments to the 20 November 2015 Financial Provision Regulation (Government Notice 24, published in Government Gazette 42956, dated 17 January 2020) 'a holder, or holder of a right or permit who applied for such right or permit prior to the commencement of the 2015 Regulations, shall by no later than 19 June 2021 comply with these Regulations (2015 Financial Provision Regulations0.

To prepare towards compliance to meet the specified timeframes, Assmang (Pty) Ltd initiated the first round of assessing their operations' financial provision requirements in terms of the November 2015 Regulations during the 2016/2017 financial year. A subsequent assessment followed annually thereafter. The purpose of this report is therefore to present the findings of any changes from the 2020/2021 assessment as part of the annual update in **line with the 2015 Financial Provision Regulations**.

No Latent or Residual Environmental Impact post-closure is expected. This is based on the current information provided in the EMP and the Residual Risk Report, dated 2019, and updated in 2020 with administrative information, that the required management measures approved therein will be sufficient to reduce the significance of impacts on the environment. For the purpose of the conclusion reference has been made to the following reports:

- Approved EMPr, which comprised of specialist studies and risk assessments;
- Integrated Water and Waste Management Plan;
- Latest Numerical Groundwater Models;
- Latest Contamination Assessment Reports;
- Waste Classification Reports; and
- Water Monitoring Reports.

The purpose of this report is to present the Final Rehabilitation Plan. This plan must be assessed annually to determine the mine's compliance in terms of rehabilitation commitments set. The final rehabilitation, decommissioning and mine closure plan must be measurable and auditable, must take into consideration the proposed post-mining end use of the affected area and must contain information that is necessary for the definition of the closure vision, objectives and design and relinquishment criteria, indicating what infrastructure and activities will ultimately be decommissioned, closed, removed and remediated and the risk drivers determining actions, indicating how the closure actions will be implemented to achieve closure relinquishment criteria and indicating monitoring, auditing and reporting requirements.

The objectives of the Final Rehabilitation Report are to:



- Provide an overview of the mine and its environmental context;
- Presentation of identified risks based on an Environmental Risk Assessment conducted for the mine (in this case undertaken as part of the approved EMPs, and reviewed based on ongoing/annual specialist reviews);
- Presentation of the approved closure design principles, and also identify where these require amendment;
- Presentation of the final post-mining land use (in this case as approved in the EMP);
- Presentation of the closure actions to achieve the final land use;
- Identification of gaps in the plan;
- Presentation of the relinquishment criteria for each activity or infrastructure;
- Presentation of the Closure Cost Estimation Methodology and accuracy;
- Closure Cost Estimation;
- Monitoring requirements.

### 1.5.1 Information Utilised during the Development of the Plan

The information utilised in the development of this plan is stipulated in Section 4 of this Report.

### 1.5.2 Site Visit – Independent Verification

The last site visit was undertaken during 7-8 March 2019. Ms. Bekker again undertook a site visit during October 2019 and therefore has a good understanding of the site conditions.

The methodology and approach followed by EnviroGistics in conducting the financial provision assessments commences with a detailed documentation review and then verification on information and site conditions during a site visit.

Due to the current COVID 19 country wide constraints and the lock down regulations issued by the President of South Africa since 26 March 2020 (Regulation 657 of 18 March 2020) severe restraints have been implemented to ensure social distancing, as well as restrict movement across provinces. This is restricted the opportunity to undertake site visits and verify site information.

It is however required that the financial provision studies continue to allow the mining group (Assmang Pty Ltd) to make provision for current rehabilitation liabilities in the end of financial year figures. For this reason, EnviroGistics were commissioned to commence with the remote assessment of survey data (current) and allowance for open channel of communication with the survey departments, planning departments, mining departments, and environmental departments.

### 1.5.3 Documents and Reports Considered in the Assessment

All approved Environmental, Water and Waste Management Licences:

Table 1: Environmental Reports Considered

Licence Reference	Date
Original EMP: IV.04.05.044	February 2006
Original ROD: NC 30/5/1/2/3/2/1/070EM	25 January 2007
Original Environmental Authorisation: Pert 43/2009	12 June 2006
Barrier Pillar EMP: IV.ARM.07.005	April 2007
Barrier Pillar: NC 30/5/1/2/3/2/1/070EM	Undated, signed off by M.J Mndaweni
Railway Line EMP: : 00049/000/000/08-343	April 2009
Railway Line ROD: NC 30/5/1/2/3/2/1/070EM	17 February 2009
Railway Line: Permit 47/2009	29 July 2009
Expansion EMP: NC 30/5/1/2/3/2/1/070EM	17 February 2011



Licence Reference	Date
Expansion EMP: NC 30/5/1/2/3/2/1/070EM	14 May 2012
Expansion WRD Environmental Authorisation: Permit 37/2012	23 July 2012
EMP, 13-843	January 2016
Expansion WRD Environmental Authorisation Permit, Permit 21/2016	27 June 2016
New Plant and Silo Relocation EMP: 21707	19 July 2017
New Plant and Silo Relocation: NC 30/5/1/2/3/2/1/070EM	27 July 2018
WML 12/9/11/L812/8	27 March 2012
Waste Management EMP	October 2010
Water Use Licence: 10/D41J/BC1J/2122 (16 MARCH 2013)	16 March 2013

The information utilised to review and update the Bill of Quantities (BoQ) for this (2020) review was provided by the SHEQ and Survey Departments of the mine. We were unable to visit the mining operation due to Covid-19 lockdown restrictions and can therefore not verify the accuracy or comprehensiveness of the information received.

The table hereunder lists the documentation provided by the Mine, which resulted in the development of the annual updates and costing assumptions based on surveyed data as required (Refer to Annexure B for examples received):

Table 2: Survey Data Considered

Information received	Date of Provision	Issued by
Email: Closure cost Information Request: • Contact Details	22 April 2020	Dirk Coetzee
• 1m WD Contours (WD volumes dwg file) • Pit Toe and Crest Files (Pit volumes dwg files)	24 April 2020	Sindie Esterhuizen
• Rehabilitation Cost Review 2020 – Survey Dept V1.pdf	24 April 2020	Sindie Esterhuizen
• PDF sections (.pdf & dwg files) • Outline of current Facilities.dwg	25 April 2020	Sindie Esterhuizen
• Rehabilitation Plan for Pit BC12-Default-000.pdf	25 April 2020	Sindie Esterhuizen
Email: closure Cost Information Request: • Backfilling for Pits BB, BA and KM (Query: Backfilling of Pits)	25 April 2020	Sindie Esterhuizen
• Infrastructure Developments April 2019 to April 2020	26 April 2020	Sindie Esterhuizen
Email: closure Cost Information Request: • Survey system WG84 (WG23)	04 May 2020	Sindie Esterhuizen
• NWA License PA 2019 WUL Final.pdf • MPRDANEMA License PA 2019_Final 2.pdf	7 May 2020	Tanja Bekker
• Copy of Khumani Data request update.xlsx	21 May 2020	Dirk Coetzee
• 202001150851.pdf (Interwaste certificates)	21 May 2020	Dirk Coetzee
Email: 2019-2020 Infrastructure: • New infrastructure June 2019 to May 2020	25 May 2020	Dirk Coetzee
• Rehabilitation Plan May 2020.pdf	25 May 2020	Dirk Coetzee
• Bank Guarantees Assmang OPS.xlsx	25 May 2020	Crystal Vries
Email: Khumani Information Request: • Feedback on information request	28 May 2020	Sindie Esterhuizen
• KHUMANI INFRA.dgn		Sindie Esterhuizen

#### 1.5.4 About the Author

**Ferdi Pieterse:** Mr. Pieterse has more than 17 years' experience in the Environmental Management field. He has a strong background in providing environmental solutions, having completed numerous projects from concept and pre-feasibility phases to full completion and implementation phases. Ferdi has undertaken and completed projects in different sectors, including tourism, mining, manufacturing, energy and industrial. He also completed a year as an Environmental Manager in the Electricity Generation Industry (Eskom), specifically within the coal, water and gas resource sectors where the focus was on mining environmental management and compliance assurance.

Ferdi's main strengths are focused within the environmental management and sustainable development spheres. Significant experience within the primary, secondary and business economic sectors include strategic planning and advisory, project management and coordination, client interaction and management, capacity



building, providing innovative solutions, compliance assurance and reporting, liability valuations, sound advice and objectivity. Ferdi has been extensively involved in projects in Lesotho, Zambia, Angola, Kenya, Namibia, Madagascar and Tanzania.

Ferdi is passionate about creating value and growth for people and projects on the African continent. He thrives on the challenge of integrating his experience and knowledge with new people and project teams and is naturally motivated through the adventure, exploration, learning, engagement and travel which is associated with the developing economies in Africa.

Refer to the Curriculum Vitae of Mr Ferdi Pieterse in Annexure A.

**Tanja Bekker** Ms. Bekker is registered as a Professional Natural Scientist in the field of Environmental Science with SACNASP Board and is also a registered EAP with EAPASA, a legal requirement stipulated by NEMA. She is further certified as an ISO 14001 Lead Auditor. Her qualifications include BSc. Earth Sciences (Geology and Geography), BSc. Hons. Geography, and MSc. Environmental Management. In addition to these tertiary qualifications, she obtained a Certificate in Project Management, and completed the Management Advancement Programme at Wits Business School.

With more than 18 years' working experience in environmental management and the consulting industry and managing various Large Account Clients, she understands the South African Regulatory System, and can advise clients with due diligence on their environmental regulatory requirements and offer a solution driven service to their project life cycle. She is equipped with exceptional project management and coordination skills, which especially enhances the service she offers clients within the environmental permitting system.

Her key focus is environmental management and compliance, and she has extensive experience in the mining industry. Project Management and Coordination of projects form a critical component of her duties, which include project planning, initiation of projects, client, authority and stakeholder consultation, specialist coordination, budget control, process control, quality control and timeframe management. Her interest lies in a client advisory capacity, being involved during due diligence investigations, pre-project development and assisting the client and engineering team in adding value to develop the project in an environmentally sustainable manner, considering client costs and liabilities, as well as considering the implication of environmental authorisation conditions and requirements on project deliverables. Her involvement in projects has spanned across the project life cycle from Due Diligence Investigations, Pre-Feasibility Investigations, Prospecting Right Applications, Mining Right Applications, Environmental Reporting and implementation and auditing of Environmental Management Plans and Environmental Authorisations.

<b>Name</b>	Tanja Bekker
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#### Summary of the EAP's Education

- B.Sc. Earth Sciences (Geography & Geology) - RAU (University of Johannesburg)
- B.Sc. (Hons) Geography - RAU (University of Johannesburg)
- M.Sc. Environmental Management - RAU (University of Johannesburg)

#### Career Enhancing Courses

- ISO 14000 Lead Auditors Course (WTH Management)
- Certificate in Project Management (University of Pretoria)
- Management Advancement Programme (MAP 81) (Wits Business School)

#### Professional Affiliations

- Certified member of the Interim Certification Board of Environmental Assessment Practitioners of South Africa



Certified ISO 14001 Environmental Management System Auditor  
Registered as a Professional Natural Scientist with the South African Council for Natural Scientific Professions (SACNASP)  
Member of the South African affiliate of the International Association for Impact Assessment (IAIA)  
Member of the Environmental Law Association of South Africa (ELA)

Refer to the Curriculum Vitae of Ms. Tanja Bekker in Annexure A.

#### 1.5.4.1 Registrations, Affiliations & Experience

The following table presents the expertise of the Auditor to carry out the Assessment.

Table 3: Professional Team Registrations, Affiliations and Experience

Name	Position	Project Responsibility	Qualification	Professional Registrations	Experience
Ferdi Pieterse	Rehabilitation and Closure Cost Assessor	Compliance Assessor	B.Sc. (Honours) Environmental Management (RAU, now University of Johannesburg)	Member of the Environmental Law Association of South Africa	18 Years
Tanja Bekker	EAP	Compliance Assessor	M.Sc. Environmental Management (RAU), now University of Johannesburg)	Registered EAP with the Environmental Assessment Practitioner Association of South Africa (EAPASA Reg No. 306/2019) Registered Professional Natural Scientist with the South African Council for Natural Scientific Professions (SACNASP Reg No. 400198/09) Member of International Association of Impact Assessors (IAIA) Member of the Environmental Law Association of South Africa (ELA)	18 Years



## 2 PROJECT CONTEXT

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### 2.1 Introduction to the Mining Operation

At Khumani, iron ore is mined from a series of opencast pits on the farms Bruce and King by means of conventional drilling, blasting and loading onto trucks, followed by hauling to either of the Bruce and King primary and secondary crushing facilities. From there, it is transferred by means of overland conveyors and stockpiled onto blending beds that divide the material into two categories, on- and off-grade material, before reaching the Parson Beneficiation Plant.

On-grade material is moved from the on-grade stockpile through to the Washing and Screening Plant situated on the farm Parson, to ultimately produce final product incorporating tertiary crushing of any oversize material from the screening plant.

Off-grade material is moved from the off-grade stockpile through to the Washing and Screening Plant. Any oversized material is crushed in the Tertiary Crushers, and also beneficiated through jiggling in the Lumpy or Fines Jig Plants, in order to remove any contaminants (Assmang Limited, 2015).

The final products are stockpiled on the Lumpy or Fines product stockpiles, before loading through a rapid load-out station onto 342 wagon trains (a total of approximately 34,200t) that are sent for export to the Port of Saldanha Bay on South Africa's West Coast, via the 861 km Sishen-Saldanha ore export railway line (OREX Line). (Assmang Limited, 2015).

### 2.2 Approved Infrastructure

The following table has been sourced from the EMP submitted to the DMR and approved in 2016 and has been updated to present a list of all approved infrastructure on site which are considered in the development of the Annual and Final Rehabilitation Plans.



Table 4: List of Approved Infrastructure

Infrastructure	Description
<b>Roads</b>	
N14 National Road	<p><b>Existing N14 National Road:</b> The N14 national road traverses the Khumani property between the farms Bruce and King in a north-south direction.</p>
R325 Secondary road	<p><b>Existing Secondary Road (R325):</b> A regional road (R325) to the town Dingleton runs through to the farm Parson in a north-south direction.</p>
Access Roads	<p><b>Approved Access Roads:</b> Access to the Plant and main administrative buildings is from the existing R325 Dingleton road. Roads to the administrative buildings are surfaced. Access to the King/ Mokaning operations is directly from the N14 road. Access to the Bruce operations is from an existing road turning off from the N14. Treated roads serve the plant area. Treated access roads have been established for access to the Bruce and King opencast operations.</p>
Haul Roads	<p><b>Approved Haul Roads:</b> Haul roads serve as links between the various mine opencast pits, the two ore crushing facilities (at Bruce and King respectively), as well as the topsoil storage areas and discard dumps. Overburden is transported via trucks on treated roads to the crushers, which are situated in close proximity to the opencast operations. ROM is transported to the crushers via haul roads from where it is loaded onto conveyors. Various haul roads have been/ will be constructed to provide access from one opencast working area to the other. Two categories of haul roads are present:</p> <ul style="list-style-type: none"> <li>☛ Category 1 has a width of 38.0m and serves as main arterials between opencast pits and crushing facilities.</li> <li>☛ Category 2 haul roads have a width of 31.0m without a central berm, and function as links from opencast pits to Category 1 haul roads.</li> </ul>
Other Roads	<p><b>Approved Other Roads:</b> Service roads have been constructed connecting the plant area to the Bruce and King/ Mokaning opencast operations. A link road between the Bruce operations and the Plant has also been approved, but not yet constructed. The service road from the plant to the Bruce opencast operations runs parallel to the conveyors in a north-easterly direction. The service road from the plant area to the King/ Mokaning operations utilises the same road as the Bruce opencast operations for the first 1.5km, after which it crosses the N14 national road under a bridge in an easterly direction parallel to the conveyors connecting the King/ Mokaning opencast operations with the Plant. A surface road has been constructed between the Bruce and King/ Mokaning opencast operation, to serve as access between the two mining operations. This road is known as the A1 highway. The road runs on the eastern boundary of the farm King in an approximate northerly direction. The road crosses the N14 national road under a bridge.</p>



Infrastructure	Description
<b>Conveyors</b>	
Bruce Conveyor	<p><b>Approved Conveyor at Bruce:</b></p> <p>This single length conveyor PS 15/CV60 is 6,5km long. From the stockpile at Bruce, where the conveyor is loaded, it passes under a Transnet railway line (OREX line) and public road (N14) to surface on the southern side of these.</p> <p>The conveyor further crosses a bridge (400m wide) across the Gamagara, travelling outside of the 1:100 floodline. The fourth crossing is under the Transnet Hotazel/ Port Elizabeth (PE) line. Before arriving at the load off point at Parson, the conveyor travels over two small flood plains where it is suspended on culverts, and under the Khumani export siding.</p>
King Conveyors	<p><b>Approved Conveyor at King:</b></p> <p>This conveyor route is made up of two conveyors. The first leg, PS25/CV60, which is 1km long, travels west from the stockpile where it is loaded. After 400m, the conveyor passes over the Mine Access road and Hotazel/ PE Transnet railway line.</p> <p>The conveyor further passes under the N14 highway to arrive at a transfer tower. The ore is then transferred to the second conveyor PS25/CV70 which is ~1,5km long. The conveyor passes under the export siding at the same point as the Bruce conveyor.</p>
<b>Railway Lines and Associated Infrastructure</b>	
The OREX Railway Line	<p><b>Existing OREX Railway Line:</b></p> <p>The OREX Railway Line is an existing railway line between Sishen Mine and the Saldanha Port (export market) which runs parallel to the R325.</p>
The Hotazel / Port Elizabeth Railway line	<p><b>Existing Hotazel/ PE Railway Line:</b></p> <p>The Hotazel/ PE Railway line (local markets) traverses the farms Mokaning and King where after it runs west of the farm Bruce.</p>
Rapid Load-Out Facilities	<p><b>Approved Rapid Load-Out Facility:</b></p> <p>The layout of the siding is of a balloon shape with double track arrangement comprising two (2) balloons. The siding is electrified at 50kV in common with the Transnet Main Line (OREX Line), and the take-off from the Transnet line is fully signalled and controlled from Saldanha.</p> <p>One siding line initiates from the OREX line and splits to form two balloons (loop structures) in order to load the required product on the train wagons for export. The railway siding has been established to accommodate 342 wagons plus 6 locomotives. Wagons capable of transporting 100 tonnes (t) of product are used.</p> <p>The layout basically allows for a 342-wagon train to enter the siding, one at a time, and proceed on to the balloon layout in an anti-clockwise direction. The train will proceed to one of the load-out stations. Uncoupling will take place and the rear part of the train with two (2) locomotives now leading will proceed to the load-out station. Loading will commence after the train has entered the load-out and the first wagon in each rake has been aligned and declared ready for loading. Three (3) rakes of 114 wagons each are loaded separately, connected and dispatched to the OREX line. Movement of rakes on the balloons is currently undertaken by diesel locomotives.</p> <p>The following design criteria has been adopted (track standards as per Transnet, i.e. 30t axle loads, 60kg/m rails):</p> <ul style="list-style-type: none"> <li>☛ 30t axle loads;</li> <li>☛ 50kV AC overhead electrification;</li> <li>☛ Multi aspect colour light signalling; and</li> <li>☛ Maximum train length 342 wagons excluding locomotives.</li> </ul>



Infrastructure	Description
Hotazel/ Port Elizabeth Railway Line Diversion	<p><b>Approved Hotazel/ PE Railway Line Diversion:</b></p> <p>The railway line linking Hotazel to Port Elizabeth passes through an area that has been earmarked for opencast pits on King. In order to mine these opencast pits, the railway line was diverted to the west.</p>
Local Railway Line Siding	<p><b>Approved Local Railway Line Siding:</b></p> <p>There are requirements for iron ore on the local market and financial feasibility studies carried out by Assmang indicated that it would be advantageous to sell material on the local market. A siding linked to the Hotazel/ PE line has been constructed.</p> <p>The local siding will be a single-track railway tying into with the Hotazel/ PE railway line south-east of the point at which the Hotazel/ PE line crosses the Sishen-Saldanha (OREX) Line. The local siding then crosses the following existing infrastructure:</p> <ol style="list-style-type: none"> <li>1. A Rail-over-Road bridge over the Dingleton regional road.</li> <li>2. The 100-year flood line of the Gamagara River where drainage structures will be provided.</li> <li>3. The 132kV Eskom power line - this line has been raised to accommodate the siding.</li> <li>4. The three Assmang transmission lines - these lines have been raised to accommodate the siding.</li> <li>5. The Bruce overland conveyor - a culvert has been placed over the conveyor.</li> <li>6. The Sishen Saldanha (OREX) export railway line with a Rail-over-Rail bridge.</li> <li>7. The Sedibeng Pipeline running parallel to the Dingleton provincial road - this has been protected with a culvert incorporated in the bridge design.</li> </ol> <p>The local siding will join up with the second railway balloon running outside of the first balloon.</p>
<b>Power Lines</b>	
Eskom Power Lines	<p><b>Existing Eskom Power Lines:</b></p> <p>Existing Eskom power lines (132 kV) from the Sishen traction station are present to the north of the farm Parson and transect the farm Bruce. Another line traverses the farms Mokaning and King parallel to the Hotazel/ PE railway line.</p>
Three New Power Lines (132kV)	<p><b>Approved New Power Lines:</b></p> <p>Three power lines (132kV) have been routed from an existing Eskom Substation near Sishen Mine. The power lines are routed to an Eskom yard, situated at the plant area on the farm Parson. From the Eskom yard, two 22kV lines are routed to the Bruce opencast operations and two 22kV lines are taken to the King/ Mokaning opencast operations. The balloons can be electrified at 50kV AC, in common with the Transnet OREX Line, and the take-off from the Transnet line is fully signalled and controlled from Saldanha. Power supply for traction on the siding is from the Transnet system.</p> <p>The structure-series Eskom used for pylons is the "Steel Monopole Raptor Friendly" series. The intermediate suspension structure can be self-supporting or guyed structures depending on the landowner and/ or environmental preferences.</p>
Additional Power Supply	<p><b>Approved Additional Power Supply:</b></p> <p>The electricity shortage in the country has necessitated the creation of additional power supplies on site. The mine intends to implement the use of additional diesel generators for this purpose. An additional 1.25MVA generator will be placed on Parson and an additional two (2) 800kVA generators have been placed at King, all of which are located within the existing plant areas on site (Bruce, Parson and King). These generators are located at the following coordinates:</p> <p>King Genset – X = +81,417.940, Y = +49,365.570</p>



Infrastructure	Description
	Parson Genset – X = +83,253.980, Y = +52,677.310
<b>Fuel and Lubricant Storage</b>	
Temporary Fuel Storage	<p><b>Approved Temporary Fuel Storage:</b></p> <p>The temporary fuel storage facility consists of two (2) above ground temporary diesel storage facilities, each with a capacity of 61m<sup>3</sup>. Each tank is double bunded (so-called “Transtanks”) and have been equipped with drip free nozzles. The structures have been established on concrete slabs with humps on all sides. A sloped, fully bunded area has been located between the two tanks in order to enable the collection and management of potential spillages from the tanks.</p>
Additional Diesel and Lubricant Storage	<p><b>Approved Additional Diesel and Lubricant Storage</b></p> <p>The operation of the diesel generators and the additional activities on site require the storage of additional fuel and oil. The mine has a storage capacity of 21 days. This translates to an additional 1312m<sup>3</sup> of diesel and 276m<sup>3</sup> lubricants being stored on site at any time.</p> <p>All fuel is stored above-ground within designated and appropriately constructed hazardous material storage areas.</p>
<b>Solid Waste Management Facilities</b>	
Industrial and Domestic Waste Disposal Sites	<p><b>Approved Industrial and Waste Deposal Sites:</b></p> <p>Industrial waste is limited to oil, diesel and grease. This waste is sold in bulk back to the manufacturers and suppliers. Unwanted waste is disposed of by a contractor at an approved industrial waste site.</p> <p>Three central areas have been identified in which domestic waste is stored for collection by the Gamagara Local Municipality. The Gamagara Local Municipality disposes of the domestic waste at the local municipal waste disposal facility in the Kathu area.</p>
Chemical Storage	<p><b>Approved Chemical Storage:</b></p> <p>The mine uses several petroleum products on the mine. These can be separated into two types of products, namely bulk storage products and packaged products and will be stored as follows:</p> <ul style="list-style-type: none"> <li>☛ Bulk storage comprises above-ground tanks in the vicinity of the workshops located at the Parson Plant and at the workshop areas at Bruce and King. The delivery area and storage areas are lined with a concrete sealed floor and are bunded to contain any spillage or leakage and prevent contamination of the underlying soils. Sumps have been provided to allow contaminated storm water and spillage to be pumped out and disposed of by the contractor.</li> <li>☛ Packaged products are stored in areas lined with a concrete floor to prevent contamination of the underlying soils due to spillages. As the quantities of these products are small and the area roofed thus preventing rainwater dispersal, the area is not bunded. Spillages are treated with an absorbent type material and then disposed of as contaminated waste.</li> </ul>
Contaminated Waste	<p><b>Approved Contaminated Waste Storage:</b></p> <p>Contaminated waste such as oily rags, oil filters etc. are deposited in sealed drums at designated areas in the vicinity of the workshops at the Beneficiation Plant and the two opencast operations. These drums are removed from the area, for disposal in an approved manner.</p>
Tyres	<p><b>Approved Tyre Waste Storage:</b></p> <p>Old tyres are removed from site by a contracted tyre company for recycling or disposal in an approved manner. The tyre storage area has not as yet been registered as per the Tyre Regulations.</p>



Infrastructure	Description
Lubrication Oils	<p><b>Approved Lubrication Oil Waste Storage:</b></p> <p>Used lubrication oils are removed from site by the fuel and lubrication contractor, for recycling and re-use. This occurs in bulk from tanks designed for this purpose. The area surrounding the tanks containing the waste oil and the collection point is bunded.</p>
Office and Domestic Waste	<p><b>Approved Office and Domestic Waste:</b></p> <p>Office and domestic waste are collected and disposed of at the mine's waste site. Three collection points have been provided by the mine, one at the farm Parson, and one at each of the opencast operations.</p>
Domestic Waste Site on the farm Parson	<p><b>Approved Domestic Waste site in terms of the NEMA – on the farm Parson:</b></p> <p>The waste disposal site is located on the remainder of the farm Parson.</p> <p>Uncontaminated rubble is collected and transported by trucks via the existing road network at the mine and is transported to the waste disposal site. The waste is collected on a weekly basis. Offloading and compaction takes about 5-10 minutes, which implies that the waste is exposed to the atmosphere within an enclosed building for only a very short period of time during normal operational conditions.</p>
Temporary Hazardous Waste Disposal Facility	<p><b>Approved Temporary Hazardous Waste Disposal Facility in terms of the NEMA:</b></p> <p>The facility consists of an area where all hazardous waste can temporarily be stored prior to removal and disposal at a licensed hazardous waste disposal site. The proposed temporary storage facility is located adjacent to the proposed general waste disposal site.</p>
<b>Topsoil Stockpiles</b>	
Topsoil Stockpiles	<p><b>Approved Topsoil Stockpiles:</b></p> <p>Due to the shallow soil cover at Khumani, all topsoil and subsoil have been/ will be stripped (minimum of 0.25m or until hard rock is reached) from the:</p> <ul style="list-style-type: none"> <li>☛ Opencast pits;</li> <li>☛ Overburden and Low-grade ROM Stockpiles;</li> <li>☛ Overburden dump;</li> <li>☛ Paste Disposal Facility;</li> <li>☛ Parson Plant;</li> <li>☛ Discard stockpile;</li> <li>☛ Export stockpile; and</li> <li>☛ Haul roads.</li> </ul> <p>Various topsoil stockpiles have been created (Total area: 106.110ha; Height: ranges from 1.5m to 5m; Volume: 4,378,000m<sup>3</sup>). An eighth area is reserved for topsoil north of the Rapid Load-Out Facility on Parson.</p> <p><u>Stockpiling of topsoil</u></p> <p>The height of the topsoil stockpiles ranges between 1.5m and 5m. All topsoil stockpiles higher than 1.5m will require erosion control measures (i.e. terraces).</p>
<b>Overburden and Low-grade ROM Stockpiles</b>	



Infrastructure	Description
Overburden and Low-grade ROM Stockpiles	<p><b>Approved Overburden and Low-grade ROM Stockpiles:</b></p> <ul style="list-style-type: none"> <li>☞ Bruce Low-Grade ROM Stockpile and associated expansion towards the north;</li> <li>☞ King/Mokaning Low-Grade ROM Stockpile and associated expansion towards the west;</li> <li>☞ Parson Discard Dump and associated expansion towards the south.</li> <li>☞ The waste rock and overburden from the KM_NTH opencast pit will be stockpiled as material for the Paste Disposal Facility walls.</li> <li>☞ Low-Grade ROM Stockpile J on the farm King.</li> <li>☞ Material with an approximated 50 percent iron content and high Al<sub>2</sub>O<sub>3</sub> and K<sub>2</sub>O will be stockpiled on the overburden and Low-grade ROM Stockpiles situated at the King/ Mokaning and Bruce opencast workings. These stockpiles will be utilised once the mine reaches the end of life should it be proven economically feasible to process and sell the product. The following is anticipated: <ul style="list-style-type: none"> <li>○ Currently, it is planned that 1.3 percent (1.6 million tons) of the Bruce overburden and Low-grade ROM Stockpiles will be reworked. The remainder of the stockpile will remain as a rehabilitated overburden dump upon decommissioning.</li> <li>○ Currently, it is planned that 4.9 percent (19.4 million tons) of the King/ Mokaning overburden and Low-grade ROM Stockpiles will be reworked. The remainder of the stockpile will remain as a rehabilitated overburden dump upon decommissioning.</li> </ul> </li> </ul>
<b>Paste Disposal Facility</b>	
Paste Disposal Facility	<p><b>Approved Paste Disposal Facility:</b></p> <p>All residue derived from the Parson Plant is thickened and disposed of at the approved Paste Disposal Facility.</p> <p>Khumani has developed a Paste Disposal Facility to ensure that no significant environmental impacts occur.</p> <p>The area of the Paste Disposal Facility is 168.4854ha.</p> <p>Water derived during the thickening process is returned to the Parson Plant to be reused.</p> <p>The Paste Disposal Facility has been constructed according to sound engineering and environmental principles.</p>
<b>Borrow Pits</b>	
Borrow Pits	<p><b>Approved Borrow Pits:</b></p> <p>There are large volumes of borrow material available for use as bulk and engineered fill materials as well as road and sub-ballast layer works. The hauling distances are expected to vary between 2km and 6km depending on the location of the borrow pit and the place where the material is needed.</p> <p>Materials were tested to determine the suitability for use: road pavement layers, upper and lower sub-ballast layers, gravel wearing coarse, semi-permeable material for the seepage cut-off and construction materials for paste disposal facility starter walls and storm water retention dams, and materials for engineered fills.</p> <p>The engineering properties of the materials were evaluated in terms of the Technical Recommendations for Highways: Standards for Road Construction Materials 1980 (TRH14).</p>
<b>Mineral Processing</b>	
Mineral Processing	<p>The Iron Ore Processing Facility has been designed to process ROM ores from the Bruce, King and Mokaning opencast pits. The first phase (phase 1) allows for 8 million dry metric tons product per annum, with the second phase (phase 2) ramping up to an approved 16 million dry metric tons product per annum.</p> <p>The Bruce and King mining areas are each equipped with processing units, consisting of a primary gyratory crusher, scalping screen and secondary cone crusher. ROM ore is reduced from a top size of one metre, to a crushed plant feed of less than 80mm.</p>



Infrastructure	Description
	<p>Following the primary and secondary crushing operations, the crushed ore is conveyed to the processing plant area, which is situated remotely from the mining areas, on the farm Parson.</p> <p>On-grade and off-grade crushed ore is stockpiled separately with dedicated stackers and reclaimed to be fed separately to the dedicated on-grade and off-grade processing plants. On-grade ore requires only screening, while off-grade ore requires further beneficiation, to conform to the market requirements.</p> <p>On-grade ore requiring no beneficiation, i.e. ore conforming to the required chemical specifications is washed, crushed to -32mm in closed circuit, and sized into three market related products:</p> <ul style="list-style-type: none"> <li>☛ Lumpy export product;</li> <li>☛ Medium Sized product for export and local markets; and</li> <li>☛ Fines export product.</li> </ul> <p>Off-grade ore (i.e. ore not conforming to the required chemical specifications) is washed, crushed to -32mm in closed circuit and screened into a coarse fraction and a fine fraction, prior to the beneficiation processes.</p> <p>Beneficiation is achieved by utilising jig technology. Jigs separate the ore according to the specific density of the particles. The separating units operate in such a way that particles within the off-grade ore with densities generally less than 4.9 will be rejected as discards, while particles with a specific density greater than 4.9, will be recovered as a product. The products from the beneficiation processes are screened into the three market related sizes as mentioned above.</p> <p>Reagents are not utilised in any of the beneficiation processes. A flocculating agent is required to assist in clarifying process water in the water reticulation circuit. This is achieved by utilising a conventional thickener. The clarified water is reticulated in the processing plants.</p> <p>A significant amount of water is recycled in the processing plant to reduce the magnitude of the clarifying requirement.</p> <p>Thickened pulp from the thickener units is pumped to a secondary thickener, situated away on farm King, to recover the remaining water from the thickened pulp. The secondary thickener produces a “paste”, which is deposited onto a “paste deposition facility”, designed specifically for this purpose.</p>
Mine Offices	<p><b>Approved Mine Offices:</b></p> <p>Mine offices have been established at the Bruce and King/ Mokaning opencast areas for managers, engineers and administration staff.</p> <p>The main administrative buildings are situated at the Plant (on Parson) and houses managers, engineers and administrative staff.</p> <p>A separate engineering block has been established at the Plant, which houses engineers, technical and administration staff employed in the operation of the process plant.</p> <p>A separate export office has been established at the load-out facility, which is equipped with tearoom and ablution facilities.</p>
Laboratory	<p><b>Approved Laboratory:</b></p> <p>A laboratory has been established at the Plant, which is utilised for the testing and certification of the product being processed and exported from the mine.</p>
Change House	<p><b>Approved Change House:</b></p> <p>Staff facilities for washing, ablutions and the safe keeping of personal belongings have been established at the Bruce and King/ Mokaning opencast areas as well as at the Plant. The change houses at the plant accommodates a medical centre at the main offices.</p> <p>A laundry facility has been established at the King Mine to provide a washing service to Bruce, King and Parson for the cleaning of overalls and other clothing issued to staff.</p> <p>Sewage plants have been established at the opencast and plant areas, to treat the sewage within the mine area.</p>
Clinic / Training Centre	<p><b>Approved Clinic / Training Centre:</b></p>



Infrastructure	Description
	A medical centre and a training centre have been established at the Parson Plant.
Security Building	<p><b>Approved Security Building:</b> Security buildings have been established at the Bruce and King/ Mokaning opencast areas, as well as at the plant area.</p>
Plant Control Centre	<p><b>Approved Plant Control Centre:</b> A Plant Control Centre has been established on the farm Parson for operators to monitor and control the Process Plant. The centre is equipped with offices, electronics, workshop, a tea room and ablutions for staff associated with the centre. A Control Centre for the operation of the load-out and discard areas has been established on the farm Parson.</p>
Workshops / Stores / Substations	<p><b>Approved Workshop, Stores and Substations:</b> The following infrastructure has been established:</p> <ul style="list-style-type: none"> <li>☛ Garage for the servicing and repair of mine vehicles at the Bruce and King/ Mokaning opencast areas;</li> <li>☛ Stores on the Bruce and King/ Mokaning opencast areas, as well as the plant, for the daily requirements of the mine (i.e. spares);</li> <li>☛ Workshops on the Bruce and King/ Mokaning opencast areas, as well as the plant, for the maintenance and repair of equipment used on the mine (i.e. crusher screens and conveyors etc.);</li> <li>☛ Substations to house electrical equipment have been established at the Plant and the opencast operations;</li> <li>☛ Sumps equipped with a submersible pumps and oils traps have established at the workshops where lubricants and chemicals are stored; and</li> <li>☛ Vehicle cleaning facilities linked to oil/water separators have been established.</li> </ul>
Mess Facility	<p><b>Approved Mess Facility:</b> A mess area for train drivers and Transnet staff associated with the Rapid Load-Out Facility has been provided at the export facility.</p>
Weighbridge	<p><b>Approved Weighbridge:</b> A weighbridge has been established at the plant area for verification regarding weight of loaded and unloaded vehicles etc.</p>
Explosives Magazine	<p><b>Approved Explosives Magazine:</b> The explosives magazine has been built to Sasol Nitro design with the finished structures having been approved by Sasol Nitro. An exclusion zone of 800m radius within which there will be no buildings, other structures or public access is maintained.</p>
<b>Housing and Recreation</b>	
Housing and Recreation	<p><b>Approved Housing and Recreation:</b> Assmang is not directly involved in the provision of housing. Housing is included as an element within the remuneration package to allow the employees to provide their own housing. By undertaking this view, Assmang envisages their employees becoming self-sustaining. No permanent housing has been erected for employees on the site. The existing infrastructure and residential areas in and around Kathu, Postmasburg and Olifantshoek are utilised.</p>
<b>Transport</b>	



Infrastructure	Description
Transportation of Ore on Site	<p><b>Approved Transportation of Ore on Site:</b></p> <p>Haul trucks transport the blasted product to the crushers. Following the primary and secondary crushing operations, the crushed ore is stockpiled using stackers. Re-claimers are used to load the ore onto belt conveyors to transport the ore to the processing plant situated away from the mining areas, on the farm Parson.</p> <p>From the Plant, the final product is transported via conveyor to the product stockpiles, from where it is loaded into the Rapid Load-Out Facilities.</p>
Transport of Ore Off-site	<p><b>Approved Transportation of Ore Off-site:</b></p> <p>The final product is transported from the Rapid Loud-Out Facilities, via the OREX railway line to Saldanha (for export) and the Hotazel/ PE line (for local markets).</p>
<b>Water Pollution and Storm Water Management Facilities</b>	
Water Pollution and Storm Water Management Facilities - Legalities	<p>Storm water management infrastructure at Khumani does and will comply with the requirements of Government Notice Number 704 (GN 704), published in terms of the NWA. GN 704 requires the following:</p> <ul style="list-style-type: none"> <li>☛ All clean water systems must be designed and operated in such a manner that they are at all times capable of handling the 1:50 year flood event on top of their mean operation level without spilling;</li> <li>☛ Any water arising from an area, which causes, has caused or is likely to cause pollution of a water resource, including polluted storm water, must be contained within a dirty water system. In order to reduce the volume of polluted water, contaminated areas should be minimised. While clean water should be diverted to natural watercourses, polluted water should be re-used wherever possible, thereby reducing the use of clean water; and</li> <li>☛ Design, construct, maintain and operate any dam or tailings dam (in the Khumani situation, a Paste Disposal Facility) that forms part of a dirty water system to have a minimum freeboard of 0.8m above full supply level.</li> </ul> <p>The following criteria have therefore been assumed for design purposes at Khumani:</p> <ul style="list-style-type: none"> <li>☛ 1:50 year, 24hr flood event;</li> <li>☛ Average precipitation in the annual wettest month;</li> <li>☛ Average operations water pumped to the Paste Disposal Facility; and</li> <li>☛ 0.8m freeboard (incl. freeboard for wave action) on the Paste Disposal Facility.</li> </ul>
Sewage Treatment Plants	<p><b>Approved Sewage Treatment Plants:</b></p> <p>During construction, chemical toilets and mobile ablution blocks will be provided for the construction workers. These toilets will be cleaned as and when required. The waste material will be taken by a contractor to a suitable waste water treatment facility.</p> <p>During the operational phase the three main areas of operation, i.e. the Parson Plant, Bruce opencast area and the King/ Mokaning opencast areas, will be supplied with sewage treatment plants designed to treat 120 to 140l of sewage per person per day. The Rapid Load-Out Facilities and the Explosives Magazine are equipped with smaller treatment facilities.</p> <p>At each site, underground piping carries the sewage to a central collection tank capable of buffering the loading from the sewage plant. This tank also acts as a combined settling tank and aerobatic digester.</p> <p>A secondary aerobic process comprising of a Bio Filter Rotating Biological Concentrator (RBC), fixed film reactor unit, followed by a humus settlement tank and disinfection tank completes the process.</p> <p>The discharges, following chlorination, from the sewage plants are:</p>



Infrastructure	Description
	<ul style="list-style-type: none"> <li>☞ Parson Plant (2.33m<sup>3</sup>/hr) – to the 5000m<sup>3</sup> process water dam, forming part of the water employed in the plant process.</li> <li>☞ Rapid Load-Out Facility (0.05m<sup>3</sup>/hr) – to the storm water dam where the returning water is pumped to the process water dam as described above.</li> <li>☞ Explosives magazine (0.02m<sup>3</sup>/hr) – to the storm water dam where the water is allowed to evaporate.</li> <li>☞ Bruce opencast operations (1.33m<sup>3</sup>/hr) – to the 300m<sup>3</sup> mine water tank where the water will be used for mining activities.</li> <li>☞ King/ Mokaning opencast operation (1.21m<sup>3</sup>/hr) – to the 300m<sup>3</sup> mine water tank where the water will be used for mining activities.</li> </ul> <p>Once a day, the filter elements are washed using clean water and once a week the units moving parts are inspected and greased.</p> <p>The settled sludge is emptied once a year or as necessary using an outside contractor such as Waste Tech. It is part of the contract for the contractor to safely dispose of the solid waste off-site.</p>
Additional Sewerage Works	<p><b>Approved Additional Sewerage Works:</b></p> <p>The expansion of capacity and operations on King required an increase in the number of staff on site. This growth in the workforce created the need for additional sewerage capacity. The peak workforce on King was 1800 during construction. This number has dropped to 600 for operations. The sewerage works was designed to handle the peak conditions at 1800 people.</p>
Parson Plant Area and Surroundings - Water Pollution and Storm Water Management Facilities	<p><b>Approved Water Pollution and Storm Water Management Facilities at Parson Plant Area and Surroundings</b></p> <p>Surrounding Area:</p> <p>All the storm water runoff from the upstream catchment of the plant area, ROM stockpile area and product stockpile area is diverted around the affected areas by means of berms and channels and has been sized for a 1:50 year flood event.</p> <p>The surface runoff from the areas is collected in pollution control dams. All the Pollution Control Dams are sized to contain the 1:50 year storm event, including a 0.8m freeboard. The Pollution Control Dams are:</p> <ul style="list-style-type: none"> <li>☞ Return Water Dam 1, 2, and 3 of the Paste Disposal Facility;</li> <li>☞ Plant Storm Water Dam;</li> <li>☞ Load Out Storm Water Dam;</li> <li>☞ King New Stockpile Dam;</li> <li>☞ King Crusher Dam;</li> <li>☞ Buffer Dams at the Parson Plan; and</li> <li>☞ Bruce Storm Water Dam.</li> </ul> <p>Inside Parson Plant:</p> <p>All plant sections, which process ore or form part of the processing facility, have been designed and laid out within proper sump areas, as contingency measures should spills occur. These have been constructed from concrete and are equipped with suitable vertical spindle centrifugal pumps, to allow for controlled evacuation of potential spillages.</p> <p>The design of the volumetric proportions of the bunds allow accommodation of the maximum volume of the tank or container, which might drain or overflow in that particular catchment.</p> <p>Sumps have been allowed for in the area of water treatment and clarification, and are similarly equipped with suitable sump pumps.</p> <p>Potential overflows from the thickener and process water tank are channelled to the dedicated storm water dam.</p>
Opencast Area - Water Pollution and Storm	<p><b>Approved Water Pollution and Storm Water Management Facilities at Opencast Area</b></p>



Infrastructure	Description
<p>Water Management Facilities</p>	<p>Diversion systems have been/ will be constructed upslope of the King and Bruce opencast areas in order to divert clean water away from the contaminated areas. Clean runoff from upstream of the opencast areas is/ will be diverted around the affected area by means of berms, sized so as to prevent spilling from a 1:50 year storm event. The diversion berms have been/ will be constructed with overburden material from the mining area.</p> <p>Groundwater seepage and direct rainfall water onto the opencast areas is pumped out by means of portable pumps. This water is used for dust suppression on the mine haul roads and operation water in the Process Plant.</p> <p>Water within the opencast pit areas is contained within the pit perimeter in low-lying areas. This water is pumped to various areas within the pit perimeter should it be required by the mining activities.</p>
<p>Primary and Secondary Crushers - Water Pollution and Storm Water Management Facilities</p>	<p><b>Approved Water Pollution and Storm Water Management Facilities at Primary and Secondary Crushers</b></p> <p>All the storm water runoff from the upstream catchment of the King crusher and Bruce crusher, is diverted around the areas by means of berms and channels which are sized for a 1:50 year storm event to designated pollution control dams.</p> <p>The sumps within the pollution control dams are lined to minimise seepage. All the pollution control dams are sized to contain the 1:50 year storm event including 0.8m freeboard. The pollution control dams are:</p> <ul style="list-style-type: none"> <li>☞ Return Water Dam 1, 2, and 3 of the Paste Disposal Facility;</li> <li>☞ Plant Storm Water Dam;</li> <li>☞ Load Out Storm Water Dam;</li> <li>☞ King New Stockpile Dam;</li> <li>☞ King Crusher Dam;</li> <li>☞ Buffer Dams at the Parson Plan; and</li> <li>☞ Bruce Storm Water Dam.</li> </ul> <p>Water collected is used for dust suppression at the primary and secondary crushers at the Bruce and King/ Mokaning opencast operations.</p> <p>Dry materials from the paddock is then removed to the Overburden and Low-grade ROM Stockpiles. Sumps have been constructed at the crushers to contain the water from the dust suppression system. The sumps have each been equipped with silt traps and a submersible pump. Sludge and mud are removed and disposed of on the nearest overburden dump and/ or Low-grade ROM Stockpile.</p>
<p>Stockpiles and dumps - Water Pollution and Storm Water Management Facilities</p>	<p><b>Approved Water Pollution and Storm Water Management Facilities at Stockpiles and Dumps</b></p> <p>Diversion systems have been constructed upslope of the stockpiles and/ or dump areas in order to divert clean water away from the contaminated areas. Clean runoff from upstream of the opencast areas is diverted around the affected area by means of berms, sized for a 1:50 year storm event. The diversion berms have been constructed with overburden material from the mining area.</p>
<p>Paste Disposal Facility - Water Pollution and Storm Water Management Facilities</p>	<p><b>Approved Water Pollution and Storm Water Management Facilities at Paste Disposal Facility</b></p> <p>Under-Drainage and Seepage Control System:</p> <p>An under-drainage and seepage control system with downstream paddocks has been designed and implemented to assist in lowering the phreatic surface in the starter wall, to maximise water return and to limit the release of potentially contaminated water into the downstream environment.</p> <p>A layer of sand underlies the Paste Disposal Facility. Supernatant water collects at the interface between the residue surface and the natural ground. In this area seepage into the underlying sand is likely to occur, as the sand will not be sufficiently blinded with residue. This seepage water will be confined to the sand layer and will flow down-gradient towards the downstream environment. To capture and control this flow, a combined under-drainage and cut-off system is required.</p>



Infrastructure	Description
	<p>Contaminated Runoff Control:</p> <p>Any storm water runoff from the downstream embankment slopes will contain some eroded residue solids. In order to prevent the eroded residue solids from discharging into the surrounding environment, catchment paddocks are provided downstream of the embankment toe. The paddocks are sized to contain the peak runoff from the outer embankment expected from the 1:50 year recurrence interval storm and allow for sedimentation of any eroded solids and evaporation of storm runoff.</p> <p>The catchment paddocks require periodic cleaning of deposited sediment. This should form part of normal operation and maintenance.</p> <p>Due to the site being positioned in a valley, storm water diversion forms a significant consideration in terms of the overall design.</p> <p>The external catchment draining towards the Paste Disposal Facility has an area of 171ha. The catchment is largely positioned to the east of the site. In order to divert the flows from each portion of the catchment, cut-off trenches and diversion bunds are required.</p> <p>The sand is highly permeable and therefore any water entering the sand will drain rapidly. The deposition method results in the blinding of the surface of this sand layer with the residue material. This serves to reduce seepage from the basin once it has been covered by residue.</p> <p>Containment:</p> <p>A containment dam has been constructed to contain all precipitation. Supernatant water (above the paste in the Paste Disposal Facility) is pumped into the two Return Water Dams (with a third approved in terms of an Environmental Authorisation, but not as yet constructed) when required, and is returned to the plant for reuse.</p> <p>The slurry delivery system to the Paste Disposal Facility has been designed to allow containment of potential spills at any location along the route for the full volume of the pipeline contents. A pipeline break will therefore result in the controlled spill of slurry into a spill collection ditch that discharges into an emergency paddock, where the slurry will be contained for subsequent removal, to prevent release into the environment.</p>
<p>Linear infrastructure - Water Pollution and Storm Water Management Facilities</p>	<p><b>Approved Storm Water Management Facilities for Linear Infrastructure</b></p> <ul style="list-style-type: none"> <li>☛ Haul roads are constructed to allow storm water to run over low points.</li> <li>☛ Storm water is allowed to run off the access roads towards low points.</li> <li>☛ Culverts have been constructed where conveyors and roads cross the 1:100 year flood lines. The culverts have been constructed such as to allow through-flow of 1:100 year floods and debris.</li> <li>☛ The following have reference to the Rail Siding: <ul style="list-style-type: none"> <li>○ Culverts are located at the lowest points along the long section; and</li> <li>○ Long sections are used to determine the acceptable sizes of culverts so that the depth of the culvert does not exceed the depth available under the railway line.</li> </ul> </li> </ul>
<p>Workshops - Water Pollution and Storm Water Management Facilities</p>	<p><b>Approved Water Pollution and Storm Water Management Facilities for Workshops</b></p> <p>Maintenance workshops have been provided as part of the infrastructure in the vicinity of the Parson Plant, and Bruce and King/ Mokaning opencast operations. Oil/ water separators have been installed on each of the water discharges of the three workshops.</p> <p>The separators have three compartments. The first compartment collects sand, grit and stones and is emptied and cleaned once a year or when necessary. The material is disposed of with the waste being deposited in the oil contaminated waste skip for disposal.</p> <p>Retained oils and grease in the second compartment are emptied once a year and discharged off-site in line with the Mine's contract for the disposal of such material. Water from the separator is collected in the third compartment before being pumped to the process water dam at Parson and the mine water tank at the Bruce and King/ Mokaning operations, depending on where the workshop is located.</p>



Infrastructure	Description						
Laboratory Acid Treatment Plant	<p><b>Approved Water Pollution and Storm Water Management Facilities for Laboratory Acid Treatment Plant</b></p> <p>Weak diluted acids are used in the laboratory at the Parson Plant. These solutions are discharged from sinks in the laboratory. Prior to the discharge of these solutions into the sewerage system, they are treated in an acid neutralising treatment plant to a neutral pH.</p>						
<b>Potable Water Supply</b>							
Potable Water Supply	<p><b>Approved Potable Water Supply</b></p> <p>With the start of the Sishen iron ore mining operation, the Vaal-Gamagara Water Scheme was built with one of the main purposes being to supply water from the Vaal River to the Sishen mining operations. The magnitude of the dewatering requirements at Sishen necessary to create dry mining conditions was not foreseen at the time of the construction of the Vaal-Gamagara pipeline. In recent years, the dewatering programs at both Sishen and further south at Assmang's Beeshoek Mine near Postmasburg have started pumping more and more water into the pipeline.</p> <p>Although Sishen currently discharges excess water into the pipeline, water demand from the pipeline is also on the increase.</p>						
<p>Water is contracted to be supplied at a rate of 800m<sup>3</sup>/hr from an abstraction point on the existing Sedibeng Water Pipeline to a point on the farm Parson.</p> <p><b>Coordinates of the Sedibeng Pipeline Abstraction Point on the farm Parson:</b></p> <table border="1"> <thead> <tr> <th>Reference</th> <th>X Coordinate South</th> <th>Y-Coordinate North</th> </tr> </thead> <tbody> <tr> <td>Abstraction Point from the Sedibeng Pipeline</td> <td>27° 51' 48.2"S</td> <td>22° 58' 14.5"E</td> </tr> </tbody> </table> <p>Water supply is potable water, and is used to top up the 10 000m<sup>3</sup> make-up Gamagara Tank, and for certain other uses. Water in the plant system is recycled where possible to minimise the potable water top-up demand.</p> <p>Khumani plans to utilise 4.5 million m<sup>3</sup> per year, which may increase in the future.</p> <p>A 10 000m<sup>3</sup> and two (2) other potable water dams have been established at the Parson Plant in which the water from the Sedibeng Pipeline is stored. From the potable water dam, the water is pumped to potable water tanks (150m<sup>3</sup>), which have been established at the Plant and the opencast areas to provide water for domestic, workshop and wash bay purposes.</p> <p>Dirty water from the pits, sewage facilities, workshops and wash bays are re-used in the plant process and/ or mining activities.</p> <p>Assmang's objective is to reduce the volume of water obtained by maintaining the re-use of water.</p>		Reference	X Coordinate South	Y-Coordinate North	Abstraction Point from the Sedibeng Pipeline	27° 51' 48.2"S	22° 58' 14.5"E
Reference	X Coordinate South	Y-Coordinate North					
Abstraction Point from the Sedibeng Pipeline	27° 51' 48.2"S	22° 58' 14.5"E					
<b>Disturbance of Water Courses</b>							
Disturbance of Water Courses	<p>Two (2) river diversions have been approved for Khumani:</p> <ul style="list-style-type: none"> <li>➤ Drainage channel diversion associated with the King/ Mokaning Low-Grade Stockpile; and</li> <li>➤ Diversion of the non-perennial drainage channel around the King West opencast mining area.</li> </ul>						



## 2.3 Current Mine Plan

### 2.3.1 Mining Plan

Based on the Life of Mine Statement and the iron ore reserves available as declared in June 2019 a life of mine of 23 years is currently predicted. This conclusion is made with the following taken into consideration:

1. All planned pits and pit levels are exploited and not stopped prematurely.
2. Average recoveries are 83.95% and 62.03% respectively for On-grade and Off-grade ore.
3. Optimum design yields for the Wash and Screen and Jig processes are achieved.
4. The plant capacities are optimized to process 14Mtpa Off-grade and 8.0Mtpa On-grade ore (the latter increasing at end of LoM)
5. The mine strip ratio is optimally applied to expose the required ore to feed the plant
6. Mining stockpiles are not included in this prediction.
7. The bench cut-off grade for ore is 54% Fe.

Please refer to a graphical illustration of this below:

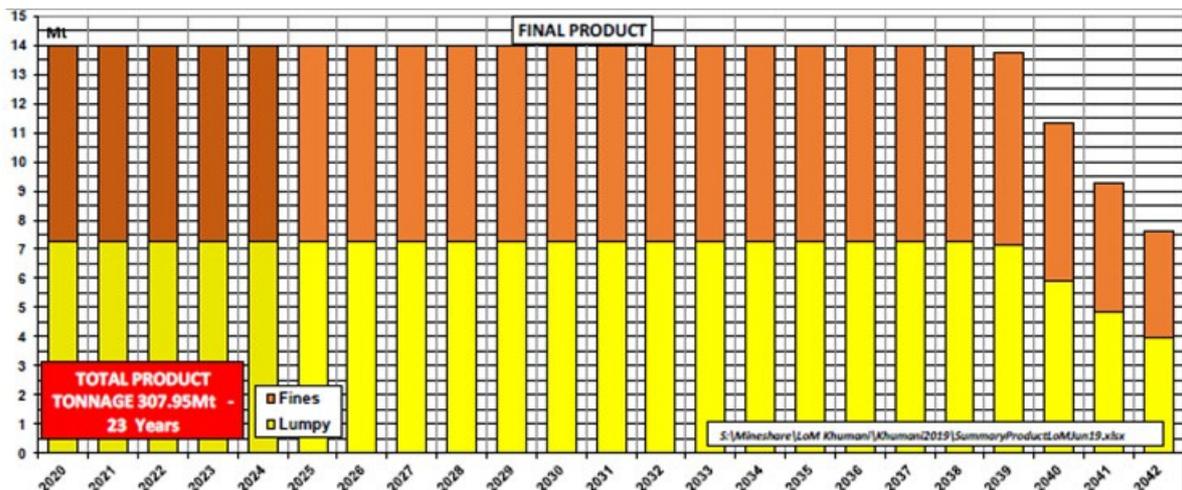


Figure 2: Total Product over time

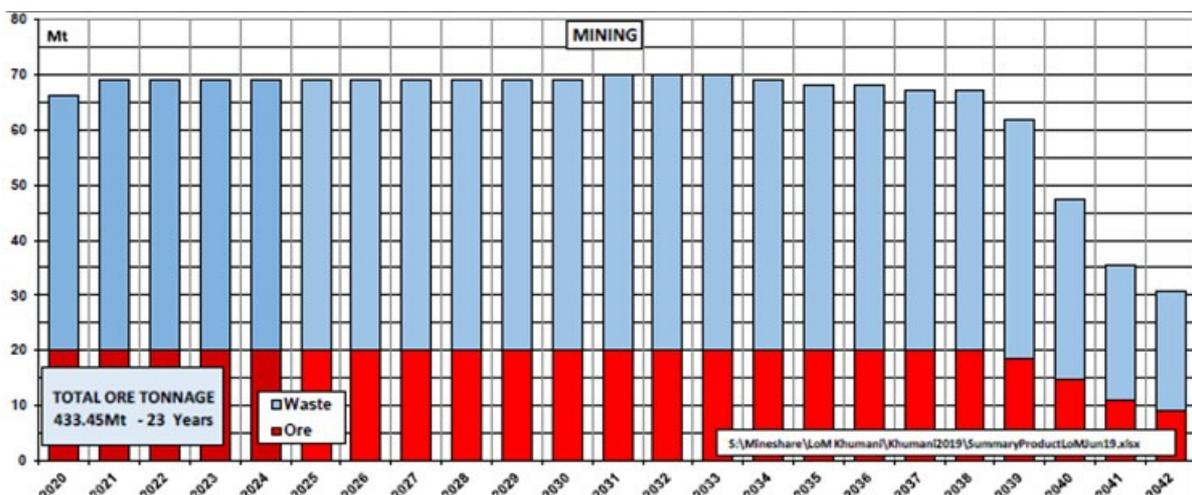


Figure 3: Waste and Ore Tonnages



	<b>ON-GRADE</b>	<b>OFF-GRADE</b>	<b>RESERVES</b>	<b>WASTE</b>	
	<b>TONNES</b>	<b>TONNES</b>	<b>TONNES</b>	<b>TONNES</b>	<b>Total Strip Ratio</b>
<b>BRUCE A</b>	52 623 700	50 605 200	103 228 900	207 722 800	2.01
<b>BRUCE B</b>	16 201 100	46 091 900	62 293 000	149 260 300	2.40
<b>BRUCE C</b>	1 714 800	2 547 400	4 262 200	23 815 400	5.59
<b>BRUCE</b>	<b>70 539 600</b>	<b>99 244 500</b>	<b>169 784 100</b>	<b>380 798 500</b>	<b>2.24</b>
King Main	87 572 600	158 173 600	245 746 200	634 888 800	2.58
Mokaning South	5 383 200	12 536 700	17 919 900	32 908 000	1.84
<b>KINGMOK</b>	<b>92 955 800</b>	<b>170 710 300</b>	<b>263 666 100</b>	<b>667 796 800</b>	<b>2.53</b>
<b>TOTAL</b>	<b>163 495 400</b>	<b>269 954 800</b>	<b>433 450 200</b>	<b>1 048 595 300</b>	<b>2.42</b>

Figure 4: Estimated Grade vs Waste Ratios

### 2.3.2 Life of Mine

The life of mine is expected to be in excess of 20 years, based on current iron ore reserves, 23 years from 2019 (2042).

### 3 ENVIRONMENTAL CONTEXT

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#### 3.1.1 Geology

The farm Parson is situated in the northern part of the Maramane Dome. Carbonate rocks of the Campbellrand Subgroup and iron formations of the Asbesheuwels Subgroup of the Transvaal sequence define the dome. The eastern part of Maramane Dome is exposed. The red beds of the Gamagara Formation of the Olifantshoek Group overlie the Transvaal sequence along an angular unconformity to the west.

#### 3.1.2 Topography

The general topography is characterised by fairly flat terrain, with no steep inclines, except for the two (2) mountain ranges to the west (Langberg range) and a smaller range to the east (Kuruman Heuwels). Altitudes range from approximately 1360 metres above mean sea level (mamsl) in the south to 1200mamsl in the north. Various landform elevations occur in the area, with the highest elevations on the southern portion of the farm Mokaning (1365mamsl) and on the border between farms Mokaning and King (1347.3mamsl).

#### 3.1.3 Soils

Soil distribution is strongly linked to the topography of the area. In turn, the topography is closely linked to the underlying surface geology. Hard rock outcrops characterise the topographic highs of the area. The outcrops generally comprise quartzites and the iron ore bearing ironstones. These outcrops form prominent hills or ridges with moderate to steep slopes. In these areas, soils are very shallow to non-existent, occurring as erratic pockets of orange sands within the outcrops, which can be as deep as 1m. These soils are classified as Mispah Form soils, with minor occurrences of Hutton Form soils.

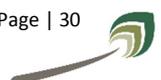
The very gently sloping areas between the hills and ridges are generally underlain by calcrete or dolomite. The calcrete is overlain by orange fine sands, which can be classified as Plooyburg Form soils. The calcrete surface is undulating, with isolated boulder outcrops occurring within the soils. The soil depth is highly variable, being between about 0,3m to greater than 2m.

On the lower slopes, between the Plooyburg Form soils and the Mispah Form soils are Hutton Form soils. These areas are characterised by abundant, to numerous surface boulders, derived from the outcrops upslope thereof, which have moved by gravity down slope to be deposited on the ground surface.

The Hutton Form soils are characteristically dystrophic and non-luvic in the B1- horizon, indicative of Lilliebun Family soils while the Plooyburg Form soils are non-luvic – Brakkies family and the Augrabies Form soils have a non-bleached red A horizon and are non-luvic, characteristic of the Khubus Family. The Hutton and Plooyburg Form soils examined on site comprise dry, yellowish red to red, apedal, loose, fine sands, with little observed differentiation between the topsoil and the B1-horizon sandy loams. The topsoil of the Mispah Form and Augrabies Form soils is also very similar in structure.

#### 3.1.4 Ecology

The Savanna Biome is the largest biome in southern Africa, covering about 46% of its area. The term savanna is widely accepted as describing a vegetation type with a well-developed grassy layer and an upper layer of woody plants. Many environmental factors correlate with the distribution of different savannah vegetation types, including landform, climate, soil types, fire and a very specific fauna. South African savannas of nutrient-poor substrates are characteristically broad-leaved and without thorns, while those of nutrient-rich substrates are



fine-leaved and thorny. Nutrient-rich savannas have high grass layer productivity and the grasses are acceptable to grazers, resulting in a high grazing capacity (Knobel, 1999).

The diversity of African savanna is exceptional, comprising more than 13,000 plant species, of which 8,000 are savanna endemics. Specifically, dry savannas have more than 3,000 species. This diversity equals that of the South African grasslands and is only exceeded by Fynbos (Knobel, 1999). Similarly, in respect of animal diversity, savannas are without peer, including approximately 167 mammals (15% endemism), 532 birds (15% endemism), 161 reptiles (40% endemism), 57 amphibians (18% endemism) and an unknown number of invertebrates (Knobel, 1999). Flagship species include the Starburst Horned Baboon Spider (*Ceratogyrus bechuanicus*), ground Hornbill (*Bucorvus leadbeateri*), Cape Griffon (*Gyps coprotheres*), Wild dog (*Lycan pictus*), Short-Eared Trident Bat (*Cloetis percivali*) and the White Rhino (*Ceratotherium simum*) (EWT, 2002).

Conservation within and of the savanna biome is good in principle, mainly due to the presence of a number of wildlife reserves. Urbanisation is not a threat, perhaps because the hot, dry climate and diseases prominent in the savanna areas have hindered urban development. Much of the area is used for game farming and the importance of tourism and big-game hunting in the conservation areas must not be underestimated. Savannas are the basis of the African wildlife and ecotourism industry and play a major role in the meat industry.

Surprisingly little is known about the vegetation as most studies have been done in nature reserves and game farms, but five major regions are present, three of which are represented in the area. Sweet Bushveld occurs on fertile soils in the dry and hot valleys of the Limpopo River and the thorny, small-leaved vegetation is dominated by Acacia species that increase to dense, impenetrable thickets at the expense of the grass layer when overutilised. Mixed Bushveld varies from short, dense bushveld to a rather open tree savanna.

On shallow, infertile soils the broad-leaved Red Bushwillow (*Combretum apiculatum*) dominates, whereas on deeper, leached soils the Silver Clusterleaf (*Terminalia sericea*) becomes dominant.

The vegetation that characterises this area has developed many survival strategies, including the ability to produce tannins that are triggered when the leaves are browsed, the production of toxic sap, the development of thorns or their adaptation to sourveld areas that are not generally favoured by grazers. The interaction of vegetation, fire and animals play important roles in maintaining savanna ecosystems (Knobel, 1999). Over thousands of years, the savanna system and the antelope that inhabit them have developed side by side. Grasses, for example, have become well adapted to defoliation, as much a defensive response to constant pressure by grazers as to the regular veld fires that rage through the savanna in the dry seasons.

### 3.1.5 Hydrology

The mine falls within the Lower Vaal Water Management Area (WMA). The area is situated in the catchment of the Gamagara River, the quaternary catchment being D41J. The site is located on gently sloping to hilly terrain with watercourses flowing in a general north-westerly direction. The major river traversing the site is the Gamagara River, which flows from the east to west, north of the Parson Plant area. The river then flows north to confluence with the Kuruman River.

The Gamagara River and the tributaries within the existing and proposed future development areas are normally dry and only flow for comparatively short periods after significant rainfall events (Knight Piesold, 2005).

### 3.1.6 Hydrogeology

This section has been updated by the information issued by Golder and Associated in the Groundwater Model study of 2019.



### 3.1.6.1 Sources and Sinks

The sources and sinks refer to the contribution of groundwater to the aquifers within the groundwater catchment considered and the sinks refer to the outflows from the aquifers. The primary source of groundwater is via vertical recharge associated with rainfall. While, the major sinks within the catchment include the contribution of baseflow to the Gamagara river system and abstraction for water supply and mine dewatering proximal to Sishen Mine.

### 3.1.6.2 Recharge Estimates

The 2019 Groundwater model indicated the following:

- ☞ Water levels are expected to decrease over time as a consequence of negative cumulative recharge to the system from 1982 to 1988.
- ☞ High rainfall in 1988 caused an increasing trend until 1992 before a decreasing trend was again observed until 2000.
- ☞ Between 2000 to present a gradual increasing trend is observed.

Please refer to the figure overleave for the recharge numbers.

### 3.1.6.3 Groundwater Dewatering

Presently Khumani does not intersect the water table at its various operations and as such does not require any dewatering. In addition, to date, all water supplied to the mine is via the Sedibeng network and hence groundwater has not to date been relied upon.

### 3.1.6.4 Groundwater Flow Direction and Levels

Borehole water level monitoring data at Khumani Mine has been undertaken on a monthly basis from 2008 to present. Some boreholes have been mined out, blocked or destroyed as the mine has expanded over time. Additional boreholes have also been added to the network in recent years. Approximately 25 boreholes comprise the monitoring network at present.

Khumani monitored two boreholes on the farm Parson. These boreholes are located on the western side of the dolerite dyke which has been previously identified to act as a boundary to the SIOM groundwater compartment. Water levels at PBW1 and PBW4 have been monitored on a monthly basis from 2010 to present. The recent water levels in these boreholes are approximately 7.5 and 12.6 mbgl respectively.

The King boreholes are located on the lava and are proximal to the dyke which is inferred to behave as compartment boundary limiting drawdown in water levels beyond the dyke. The water level trends in all boreholes show significant seasonal fluctuation in response to recharge. Several of these boreholes have water levels in 2018 which are higher than those measured in 2010 as a consequence of recent recharge events. The water levels at these boreholes are typically 15 -30 mbgl.

Boreholes east of the dyke and situated on the Farm King 561 are underlain by shales. The water levels in these boreholes typically range between 60 -100 mbgl. The deep water levels are indicative of dewatering associated surrounding mine' dewatering.



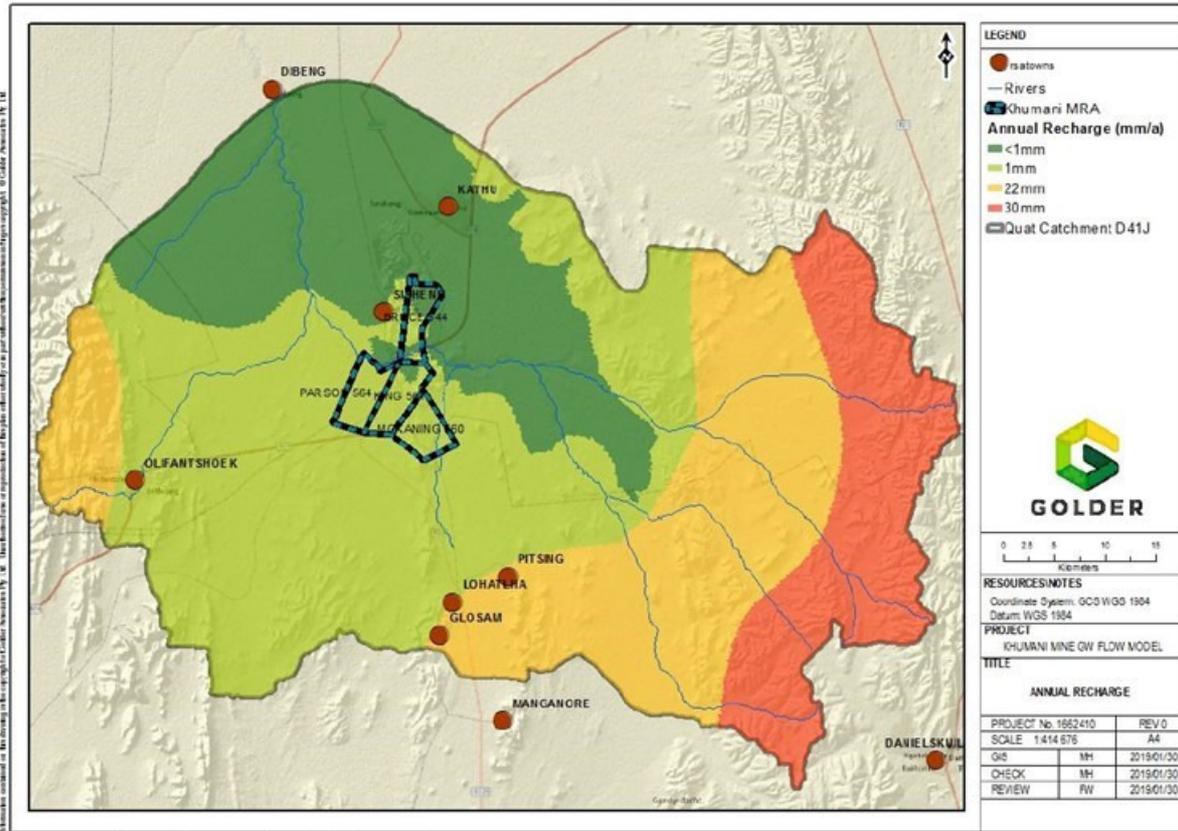


Figure 5: Recharge Distribution Quaternary Catchment D41J (Golder, 2019)

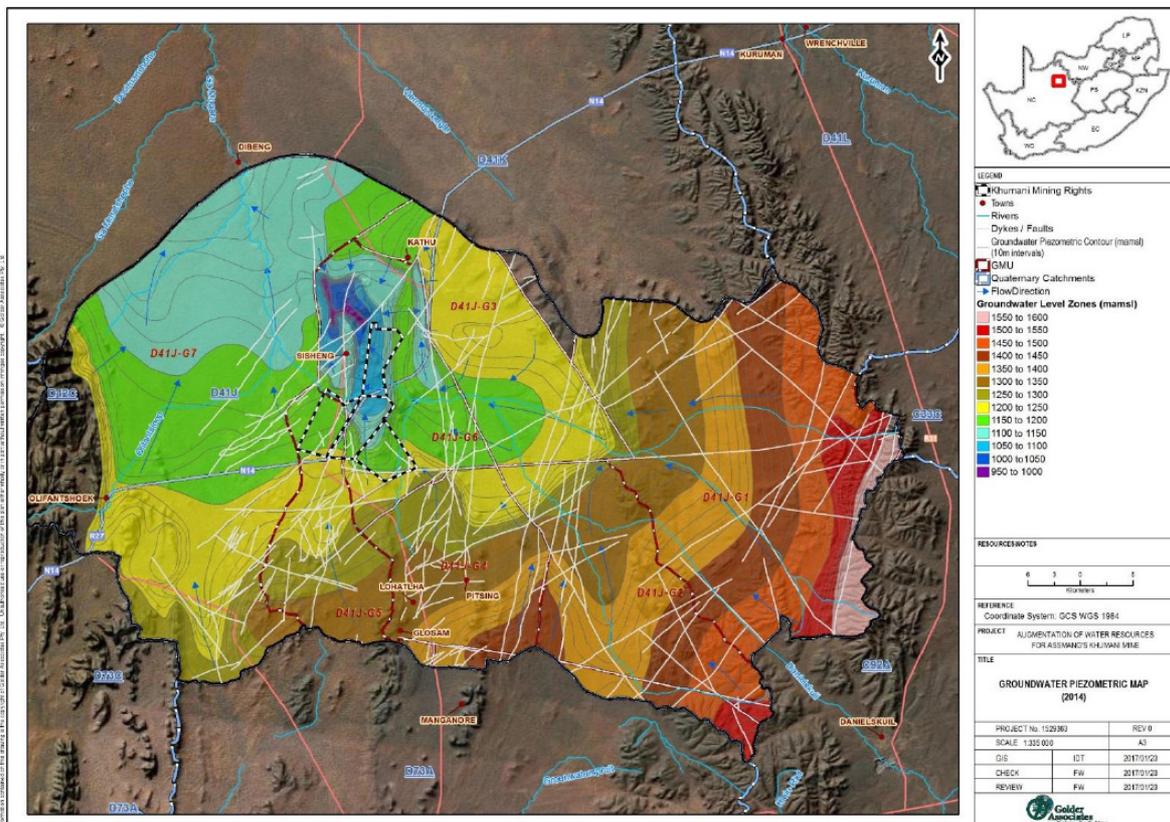


Figure 6: groundwater Piezometric Surface and flow (Golder, 2017)



### 3.1.6.5 Groundwater Quality

The baseline was established at PBE01, BKM3D, PBW01 and PBW04 in 2007. With exception of PBE01, it is evident from the baseline that water quality at the sampling points typically has a low salt load and is representative of unimpacted groundwater. The salt loads and the macro chemistry of the PBE01 varies from the other sites monitored. While all other boreholes represent the Ongeluk lava, PBE-01 is drilled into outcropping diamictite of the Makganyene formation which may explain the markedly different macro chemistry at this site.

The piper diagram below indicates the characteristics of the sampled borehole in 2007 (Baseline sampling) and in 2017. With the exception of all PBE-01, all samples plot as a Ca-Mg-HCO<sub>3</sub> type water which is indicative of unimpacted groundwater. It is inferred from the piper diagram that there have been no significant changes to the characteristics of groundwater chemistry in proximity of the monitoring boreholes during the operational phase.

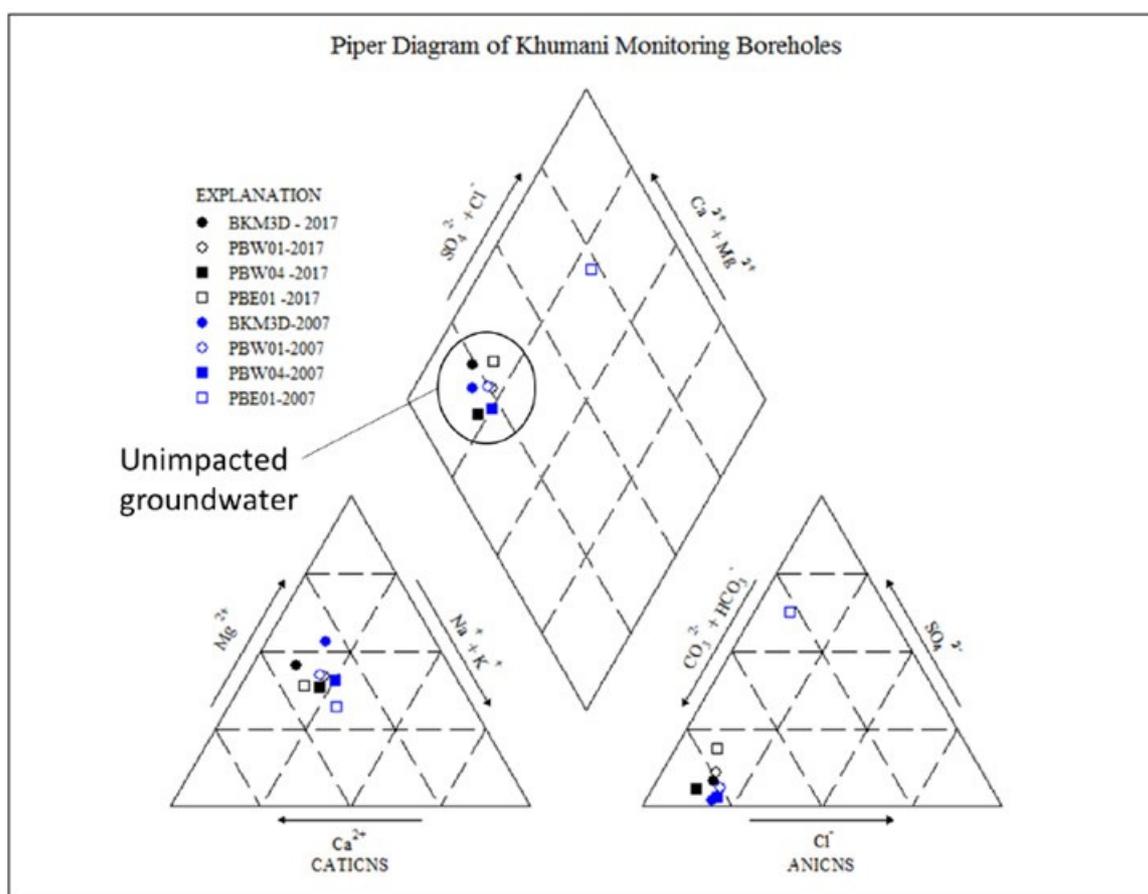


Figure 7: Khumani Piper Diagram 2007 vs 2017 (Golder, 2019)

### 3.1.6.6 Post Closure Recovery and Seepage

For the purpose of the post closure evaluation it is assumed that all mining will cease in the groundwater compartment in 2039 and water levels will thereafter begin to rebound. As described elsewhere, abstraction from the Khumani and Sishen compartment has drawn largely on aquifer storage and has consequently resulted in the deep water levels observed in the compartment. Limited interflow occurs into the compartment from the adjacent catchment areas due to regionally extensive dykes and recharge is estimated to be very low (1 mm/a). As a consequence of the factors rebound in water levels within the compartment is expected to be slow. It was

demonstrated through the numerical modelling undertaken that complete recovery in compartment water levels will take more than 200 years.

Post closure seepage from mining infrastructure will be contained within the compartment for up to 300 years as the water levels rebound. Only after rebound will seepage from Waste rock and the Paste facility migrate toward surface water receptors such as the Gamagara River. The seepage quality is not however expected to have any constituents of concern which exceed drinking water quality guidelines and consequently the post closure impact resulting from seepage are considered to be negligible.



## 4 STAKEHOLDER CONSIDERATION

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As part of the ongoing development of the mine, various EIA Processes have been conducted and are currently in process. A key component to each of these processes is the consultation with the Stakeholders. The findings and outcomes of these sessions are documented in the EMPs. Through assessing the EMPs, the following key issues have been identified for consideration in the final Rehabilitation Plan:

- ☞ Impact of the mine on groundwater levels in the area;
- ☞ The potential for groundwater pollution;
- ☞ Increase of dust in the area;
- ☞ Involvement of youth and local community in the mine; and
- ☞ Loss of sensitive and protected ecology.

During the development of the Final Rehabilitation Plan it was important to take cognisance of the above. This was done by means of the following:

- ☞ Impact of the mine on groundwater levels in the area.
  - The mine is not currently abstracting any groundwater as the opencast pits have not intercepted these levels. It is uncertain whether the mine will intercept groundwater due to the current dewatering practices of surrounding mines; and
  - The mine is in the process of investigating the potential of abstracting groundwater due to the shortage of water supplied by the Sedibeng Water Supply (Pipeline) Scheme. A groundwater investigation is currently being undertaken to determine the impact of this abstraction (should it be approved) on the regional groundwater levels. The outcomes of these studies are currently being reassessed.
- ☞ The potential for groundwater pollution.
  - Shaping and vegetation of the mine residue deposits must take place;
  - Rehabilitation of the Opencast Pits must be prioritised; and
  - Implementing strategies to ensure that the area is free draining when backfilled.
- ☞ Increase of dust in the area.
  - The practices to be implemented must ensure that the emissions in the area remains within the regulated levels of 1200mg/m<sup>2</sup>/day.
- ☞ Involvement of youth and local community in the mine.
  - The activities undertaken must take into consideration compliance in terms of commitments made in the Social and Labour Plan in terms of involving local people as far as practically possible.
- ☞ Loss of sensitive and protected ecology.
  - The mine has committed to the establishment of an Offset Area, due to the sensitive ecology in which this mine is located, which has subsequently been formulated on the farm Watermeyer near Olifantshoek. As part of the operational internal commitments (not legally binding through an EMP), the mine will replant tree species which are indigenous to the area. The Rehabilitation Plan however, does not include the replanting of trees, as the EMP allows for self-succession to take place.



## 5 RISK ASSESSMENT CONSIDERATIONS

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Ongoing assessment must be undertaken to ensure that operations are undertaken within the ambits of the regulatory requirements.

Previously, the MPRDA required all mine residue to be deposited in “approved demarcated” areas. These areas were to be included in the EMP which was required in terms of the now repealed Section 39 of the MPRDA.

These provisions were repealed with effect from 8 December 2014, and new provisions were inserted in the NEM:WA, 2008 (Section 43A).

Approved EMPs, however, remain legally binding, and approved residue stockpiles and deposits need not be re-approved. See the following sections below.

As from 2 September 2014, Mine Residue Stockpiles and deposits, as defined in MPRDA, are no longer excluded from the ambit of the NEM:WA.<sup>1</sup> The key implications of this change are briefly described as follows:

- i. Mine Residue must be classified and assessed in accordance with the requirements prescribed by Regulations 4 & 8 of the Waste Classification and Management Regulations (GN R 634)<sup>2</sup>;
- ii. The establishment, reclamation and decommissioning of residue stockpiles and/or residue deposits require Waste Management Licences in terms of section 20 of NEM:WA, **unless** these activities have been approved in the existing EMPs in terms of the MPRDA, in which event the EMP will be deemed to be a waste management licence.<sup>3</sup>
- iii. Mine residue stockpiles and deposits must be managed in accordance with the Regulations regarding the Planning and Management of Residue Stockpiles and Residue Deposits, 2015 (GN R 632).

These three (3) requirements are discussed in more detail below.

### 5.1.1 Waste Classification and Management Regulations (GN R 634, NEM:WA)

#### 5.1.1.1 *Obligation to classify and assess waste*

In terms of Regulation 4 of GN R 634, all waste - **as defined**, excluding those listed in Annexure 1 of GN R 634, must be classified in terms of SANS 10234. The purpose of the SANS 10234 classification is to identify risks during handling of the waste.

In terms of Regulation 8 of GN R 634, all waste - **as defined**, that will be placed on land, must also be assessed in terms of the National Norms and Standards for the Assessment of Waste to Landfill (GN R 635). The purpose of the Waste Type Assessment is to identify the leachate potential of the waste if placed on land. The waste type so derived (0 – 4) determines the applicable pollution barrier design, as outlined in the National Norms and Standards for Disposal of Waste to Landfill (GN R 636).

#### 5.1.1.2 *Definition of “waste”*

In order to determine whether a material must be classified and assessed as aforementioned, it must be determined whether it is any one or more of the following:

- ☞ Unwanted; or
- ☞ Discarded; or

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<sup>1</sup> Section 4, NEM:WA, as amended.

<sup>2</sup> Regulation 4(2) of GN R 634, NEM:WA, refers.

<sup>3</sup> National Laws Amendment Bill, 2015



- Disposed; or
- Required to be discarded or disposed.<sup>4</sup>

If so, and provided that the material is not listed in Annexure 1 of GN R 634, the waste must be classified in terms of SANS 10234.

If the waste is to be discarded or disposed of, it must also be subjected to a Waste Type Assessment by an accredited laboratory, conducted in accordance with the National Norms and Standards for the Assessment of Waste to Landfill (GN R 635).

Uncontaminated topsoil is an example of material that is not waste, as defined, as it is NOT unwanted, discarded, disposed or required to be discarded or disposed of.

No risks have as yet been identified, by external or internal audits undertaken on site in terms of any non-mineral hazardous waste management for the purposes of financial quantification of residual or long term risks.

### 5.1.2 Waste Management Licence Requirements (Section 20, NEM:WA)

The mine has various Mine Residue Deposits on site, which are approved in terms of Environmental Management Programme Reports and Environmental Authorisations. Due to the fact that the operation is an active mining site, ongoing deposition is required and must be managed in terms of the approved authorisations, and where this is not possible new Authorisations in terms of the NEM:WA must be applied for. In these events the following must be considered.

#### 5.1.2.1 *Establishment, reclamation and decommissioning of Residue Stockpiles/ Deposits must be licensed*

Activities that are listed in terms of Section 20 of NEM:WA may not be carried out without a Waste Management Licence. The list of activities that are subject to these requirements was amended during July 2015 to include the establishment and reclamation of Residue Stockpiles and Residue Deposits (as defined in the MPRDA)<sup>5</sup>. The decommissioning<sup>6</sup> of activities listed in GN 921 must also be licensed<sup>7</sup>.

It follows that new Residue Stockpiles, or the expansion of existing stockpiles beyond their approved footprints, as well as new reclamation and/or decommissioning of residue stockpiles/ deposits require a Waste Management Licence. The procedure to be followed for such an application is outlined in GN R 892 of the NEMA.

#### 5.1.2.2 *Allowance for unlicensed continuation of lawful Residue Stockpiles/ Deposits*

Residue stockpiles/ deposits that were lawful on the effective date of this change (24 July 2015), are not affected by the NEM:WA licence requirements and may continue without a Waste Management Licence. "Lawful" in this context means demarcated in an MPRDA-approved EMP<sup>8</sup>.

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<sup>4</sup> Proposed new definition of "waste" – National Environmental Laws Amendment Act, 2015.

<sup>5</sup> GN R 921, Category A, activity no 15, and Category B, activity no 11.

<sup>6</sup> 'decommissioning', in relation to waste treatment, waste transfer or waste disposal facilities, means the planning for and management and remediation of the closure of a facility that is in operation or that no longer operates – Section 1, NEM:WA refers.

<sup>7</sup> GN 921, Category A, activity no 12.

<sup>8</sup> GN R 921, Regulation 7 refers. (Further amendments are proposed in terms of which the approved EMPs will be recognised as Waste Management Licences for residue stockpiles/ deposits that were lawful and that were approved before 24 July 2015).



#### 5.1.2.3 *Pending EMP Amendment applications for Residue Deposits/ Stockpiles*

EMP Amendment applications that were submitted prior to 8 December 2014, will be dealt with in terms of the MPRDA and, once approved, will also be regarded as a Waste Management Licence, insofar relating to residue stockpiles/ deposits.

EMP Amendment applications submitted after 8 December 2014, will be dealt with in terms of NEMA and the Regulations Regarding the Planning and Management of Residue Stockpiles and Residue Deposits, 2015 (GN R 632) – see Section 5.1.3.

#### 5.1.2.4 *Illegal Residue Stockpiles/ Deposits*

Existing residue stockpiles and deposits that are not described in an approved EMP, and not the subject of a pending EMP Amendment application, are accordingly illegal until licensed in terms of NEM:WA.

The same principles apply to reclamation and/or decommissioning of residue stockpiles/ deposits – if approved in terms of an EMP, or a pending EMP, no Waste Management Licence is required. If however, carried out without an approved EMP, the activity requires a Waste Management Licence.

### 5.1.3 Regulations Regarding the Planning and Management of Residue Stockpiles and Residue Deposits, 2015 (GN R 632)

These new Regulations regarding the Planning and Management of Residue Stockpiles and Residue Deposits impose several obligations relating to new stockpiles, but also impose obligations on the holder of Mining Rights that apply to all existing Residue Deposits and Stockpiles.

These are outlined in Regulations 7 - 11 and include the obligation to undertake impact prediction investigations and to take action when pollution is detected.

The results of the Waste Type Assessment, as well as the impact prediction investigations, must inform the required predictions and mitigation obligations. Beeshoek has undertaken Numerical Groundwater Investigations for the purposes of impact prediction investigations. These studies have not identified any long term or latent risks for the Mineral Residue Deposits.

#### 5.1.4 Financial Provisioning Regulations, 2015 (GN R 1147, NEMA)

Once the impact prediction investigations required in terms of GN R 632 have been completed (undertaken as part of the Risk Assessment, 2019, the information so gained must be considered for purposes of the three (3) compulsory plans and related financial provision required in terms of GN R 1147. The new Regulations commenced on 20 November 2015 and all mines should comply with these regulations by February 2020.

The risk assessments undertaken as part of the EMP, Environmental Authorisation Studies in the past, as well as the ongoing investigations and updates in the Numerical Groundwater Investigations identified no residual risks to manage – see the following section.



## 5.2 Status of Long Term Risk Identification

According to the Financial Provision Regulations, 2015, an applicant must determine the financial provision through a detailed itemisation of all activities and costs, calculated based on the actual costs of implementation of the measures required for-

- (a) annual rehabilitation, as reflected in an annual rehabilitation plan (this report);
- (b) final rehabilitation, decommissioning and closure of the prospecting, exploration, mining or production operations at the end of the life of operations, as reflected in a final rehabilitation, decommissioning and mine closure plan; and
- (c) remediation of latent or residual environmental impacts which may become known in the future, including the pumping and treatment of polluted or extraneous water, as reflected in an environmental risk assessment report.

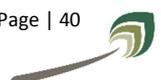
Current specialist investigations and past Environmental Impact Assessments, during which detailed Risk Assessments were conducted by competent Specialists, have as yet not identified any known Residual Risk. Studies have indicated that all identified impacts can be addressed by ongoing management measures implemented by the mine.

Here it is very important to understand the requirements of the Regulations. The content of the final rehabilitation, decommissioning a mine closure plan, as well as that of the Environmental Risk Assessment Report, states that the (c) findings of an environmental risk assessment leading to the most appropriate closure strategy.

Annexure 5 of the Regulations, stipulates the minimum content of an Environmental Risk Report and specifically states that the Environmental Risk Assessment Report will form a component of the Environmental Management Programme to be submitted in terms of section 24N of the Act and the Environmental Impact Assessment Regulations, 2014 and will be subjected to the same requirements of the environmental management programme with regards opportunities for stakeholder review and comment as well as auditing. The Regulations are promulgated for both new Environmental Authorisations, but also for the review of already conducted studies.

For the purposes of this operation, such risk assessment has been completed as part of the approved EMPs' as well as the Environmental Authorisations. Ongoing specialist investigations, such as the Contamination Study, Waste Classification Studies, and Numerical Groundwater Models are undertaken to assess whether there are any changes to the identified risks and whether additional management measures are required. The report should state the -

- (b) details of the assessment process used to identify and quantify the latent risks ((this is presented in Section 5.4 and 5.6 of the Beeshoek Residual Risk Report, detailing all documentation considered, including-
  - (i) a description of the risk assessment methodology inclusive of risk identification and quantification (this is presented in Section 5.5 of the Beeshoek Residual Risk Report, in which the rating methodologies used in the previous risk studies were utilised;
  - (ii) substantiation why each risk is latent, including why the risk was not or could not be mitigated during concurrent rehabilitation and remediation or during the implementation of the final rehabilitation, decommission and closure plan (this is presented in Section 5.6 and 5.7 of the Beeshoek Residual Risk Report, and also presented in the following section of this Annual Rehabilitation Report;



The main and most important purpose of the Risk Assessment, therefore, is the need to identify whether there are risks that were not or could not be mitigated during the concurrent rehabilitation and remediation or during the implementation of the final rehabilitation, decommissioning or closure plans. At this point of time and based on the current available impact prediction models (Numerical Groundwater Studies, Waste Classification Studies), no such risks have been identified. Risks such as the design and or management of Mine Residue Deposits, are areas, which can be managed and addressed during the operational and closure design phases, and therefore are not considered latent or residual risks. Examples of specific risks, would be where pollution plumes are identified and water treatment post closure will be required, or where there are potential for decanting of polluted water, another example is where there are not rehabilitation measures possible to manage the stability of areas (i.e. underground mining practices where the underground structures may not be sufficient to allow for land stability).

If any residual or latent risk has been identified as part of the Risk Assessment processes, these must be quantified and funding provided for management, and in that case the following is required:

- (iii) a detailed description of the drivers that could result in the manifestation of the risks, to be presented within the context of closure actions already having been implemented during the execution of concurrent rehabilitation or during the implementation of the final rehabilitation, decommission and closure plan;
- (iv) a description of the expected timeframe in which the risk is likely to manifest, typically as expected years after closure, and the duration of the impact, including motivation to support these timeframes;
- (v) a detailed description of the triggers which can be used to identify that the risk is imminent or has manifested, how this will be measured and any cost implications thereof;
- (vi) results and findings of the risk assessment;
- (vii) an explanation of changes to the risk assessment results as applicable in annual updates to the plan;

This latter point is of critical importance to ensure that annually the available specialist studies are assessed, such as the numerical groundwater models or where applicable dolomitic studies. For the purposes of this operation, none of the available studies have identified long term – residual or latent risks.

Where latent or residual risks are identified, corrective management measures and/or risk reduction activities must be implemented. Based on the studies as presented in the following sections, no such risks have been identified as yet, therefore these cannot be listed as a latent risk, quantified or costed for.

The following sections provides a description on why latent and/or residual risks are not identified as a costing requirement for residual risk management.

The potential environmental impacts assessed in the various EMPs considered both positive and negative risks, which were categorised in the following categories:

- Direct/ Primary Impacts;
- Indirect/ Secondary Impacts; and
- Cumulative Impacts.

The risk assessment utilised in the EMPs was undertaken in a quantitative manner, making use of the following considerations:

- Nature of the Impact;
- Extent of the Impact;
- Duration of the Impact;
- Intensity of the Impact;
- Probability of the Impact; and



- Mitigation or Enhancement measures.

### 5.3 Risk Indicator Drivers

Indicators, which are most sensitive to potential risk, are defined during the EIA phases associated with the development of projects. These EIAs focus on aspects within the biophysical and social spheres.

Based on the information in the EMPs, all potential drivers of risks can be mitigated as part of concurrent, as well as ongoing mitigation. Where risks remain, these can be mitigated as part of the Closure Plan – such as revegetation and the monitoring of vegetation establishment for a period of 3 years post-closure.

Based on the approved EMPs, no residual impacts of significance are listed. However, in order to ensure that the outcomes of the EMPs remain consistent with the initial studies, this report also considered the following:

- Latest Waste Classification Outcomes;
- Latest IWWMP Outcomes; and
- Latest Groundwater Monitoring Outcomes.

### 5.4 Realised Risk

Rehabilitation activities identified have been undertaken based on the following:

- Meeting the conditions of the approved Environmental Authorisations, Water Use Licences, as well as Waste Management Licences

In this case it is important that the closure management conditions of the approvals on site is similar, as all Environmental and Water Processes are undertaken in parallel with the same specialist supporting documentation. The current Water Use Licence focusses on the operational management of activities. The WUL specifically requires that the mine shall make full financial provision for all investigations, designs, construction, operation and maintenance for water treatment plant should it become a requirement as a long term water management strategy – for this latter reason, ongoing numerical models are undertaken. To date no such need has arisen.

Considering the approved closure management measures/actions and essentially, based on the information obtained in the latest environmental reports, it is concluded that the following risk indicators are the most sensitive to potential risk:

- Future dewatering for the purposes of safe mining conditions; and
- Groundwater quality as a result of unlined Mine Residue Deposits.

It should further be noted, that the mine is currently in the process of undertaking a dolomitic (sinkhole) study based on the requirements of the approved WUL. This study has not been concluded as yet. The outcomes of this study should be assessed once available in the Financial Provision assessments (annual, final and latest risks) to determine whether any hidden environmental risks, or management measures are required which should be quantified and costed.

#### 5.4.1 Mine Residue Deposit Legal Risk

The transitional arrangements of the NEMA Regulations for the Planning and Management of Residue Deposits and Residue Stockpiles are very important. Under the transitional arrangements it is stated that an EMP approved in terms of the MPRDA shall be deemed to have been approved and issued in terms of the NEM:WA.



The Minister may however direct any holder of a mining right if he or she is of the opinion that the residue stockpile or residue deposit in question is likely to result in significant pollution, degradation or damage to the environment, to take such action to upgrade the EMP to address any deficiency in the EMP. A further very important component of the transitional arrangements is the fact that under Section 6 it is stated that an EMP submitted in terms of the MPRDA and which is pending when this Notice takes effect (8 December 2014), must, despite the repeal of the MPRDA, be dispensed with in terms of the MPRDA. The aforementioned statement will then again give effect to the transitional arrangements stating that an EMP approved in terms of the MPRDA shall be deemed to have been approved and issued in terms of the NEM:WA.

#### 5.4.2 Rehabilitation Material Availability

Three (3) main topsoil stockpiles are present on site. Based on the current layout and engineering investigation sufficient topsoil is available on site.

#### 5.4.3 Waste Classification Outcomes

As part of Assmang's commitment to comply with the national environmental legislation and to follow a proactive and responsible approach in the undertaking of the mining operations, the importance of the changes in the Regulatory System in terms of the governance, management and licensing of Mine Residue has been raised as an urgent matter to be investigated and the legal requirements and potential liabilities be understood and planned towards.

The Waste Classification and Waste Type Assessment was undertaken during 2015 and 2016, with the finalisation of the report in June 2016. The outcomes of the report is summarised below:

##### 5.4.3.1 Waste Type Assessment

The material from all the different sites is classified as Type 3 Waste following the GN R 635 classification system.

This classification is mostly based on the results of the total concentration testing results where there are elements that exceed the TCTO guidelines for all the samples. The Bruce Low-Grade ROM Stockpile may not be impacted when taking into consideration dilution with natural groundwater based on the leach concentration results.

Following the GN R 636 guideline, the material from all the facilities may only be disposed of at a Class C landfill designed in accordance with Section 1(1) and (2) of the GN R 636 Norms and Standards, or, subject to Section 3(4) it may be disposed of at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill.

##### 5.4.3.2 Environmental Impact

The groundwater in the Khumani area is naturally high in nitrate with concentrations ranging between 30mg/L and 81mg/L in the majority of the monitoring boreholes.

The sulphate concentrations in monitoring boreholes BK12 and BK17 measured at 300 and 279mg/L respectively. These values exceed the LCTO guideline value of 250mg/L.

Manganese and zinc form part of the four (4) main elements to be considered when assessing the impact of leachate from the surface facilities towards the aquifers. The measured concentrations from all the samples comply with the LCTO guideline values. The manganese concentrations are mostly in the order of 0.001 to 0.006



mg/L with BK36 showing a concentration of 0.11mg/L. Zinc concentrations are consistently below detection limit (<0.005mg/L).

Natural barium concentrations in the area fall below detection limit (<0.001mg/L). The borehole at the paste disposal area shows an elevated barium concentration which can be attributable to the nearby Paste Disposal Facility. The barium concentration in this borehole is measured at 0.835 mg/L, which is one order of magnitude less than the source concentration at the paste disposal facility. This indicates the influence of dilution of the source fluids with uncontaminated natural groundwater.

Based on the available groundwater quality data and the leach test results, little impact is expected on the groundwater quality in the underlying and surrounding aquifers, except:

- ☞ All facilities have the potential to increase the aluminium and sodium concentrations due to seepage into the underlying aquifers. The resultant water will still comply with LCT0 guideline values;
- ☞ All facilities, except the BC11 facility, can be expected to have an impact on the barium concentrations in the groundwater. The barium concentrations are expected to increase up to 1.7 to 2.3mg/L over time as the plumes develop and ultimately the barium concentrations will exceed the LCT0 guidelines;
- ☞ At the King Waste Rock Dump potassium concentrations could increase. There are no LCT0 guideline values to compare it against;
- ☞ The King Paste Disposal Facility could pose some risk of increasing the manganese concentration in the underlying aquifers up to 1.7mg/L. This value exceeds the LCT0 guideline value;
- ☞ The Bruce BC11 and King Waste Rock Dump facilities could cause an increase in the zinc concentrations in the underlying aquifers. At the King Waste Rock Dump facility the leachate could exceed the LCT0 guideline value slightly (0.085mg/l vs 0.07mg/L). At the Bruce BC11 facility the impact could be more prominent, with concentrations increasing to 0.175mg/L (a factor of 2.5).

#### 5.4.3.3 SANS 10234 Classification

The outcomes of the SANS 10234 study concluded that:

- ☞ The material is classified as non-hazardous in terms of physical hazards.
- ☞ The material is classified as follows for the health hazards:
  - Both mixtures are classified as Category 1 (the highest toxicity category) for acute health effects;
  - Both mixtures are classified as hazardous in terms of skin corrosion or irritation;
  - Both mixtures are classified as Category 1 for being hazardous to the eye;
  - Both the waste rock and slimes or paste material “mixtures” can be classified as hazardous in terms of respiratory and skin sensitization hazards; and
  - Although Category 1 carcinogens are present, none of the mixtures contain known carcinogens at concentrations ranging from 0.1% and above. Therefore, none of the mixtures are classified as being carcinogenic.

In terms of the health hazards and considering total concentrations, it has to be taken into account that the solid rock material on the Waste Rock Dumps will not pose a direct health hazard through oral ingestion, dermatological processes, or respiratory processes. Rather, it is the element concentrations from leachate emanating from the surface stockpiles following rainfall recharge onto Waste Rock Dumps, or wet deposition on slimes dams, that will be representative of the water quality that has the potential to eventually reach, and impact, the neighbouring groundwater or surface water users. Therefore, the leachable concentrations have to be considered when the SANS 10234 classification is made.



Comparing the leach concentrations obtained from leach testing of the rock material to the SANS 10234 generic guidelines of 1.0% or 0.1% concentrations summarised in waste classification it can be seen that none of the elements exceed the SANS 10234 guideline limits of 1% and 0.1% concentrations.

Based on the leach test concentrations the material can be classified as being non-hazardous for health impacts.

- ☞ Laboratory testing shows that the material is non-hazardous to the aquatic environment from both an acute and a chronic toxicity point of view.

#### 5.4.3.4 Legalities

No Waste Management Licence is required for any of the facilities. An EMP Amendment for the extension to the Parson Low-Grade Stockpile (previously the Discard Dump) with associated reworking, the King/ Mokaning Low-Grade ROM Stockpile, and the Bruce Low-Grade ROM Stockpile, as well as the establishment of some additional stockpiles on King was approved by the DMR in 2016. This EMP was submitted on 14 December 2014, ensuring that these applications are considered as lawful and not subjected to the new waste management legislation.

#### 5.4.4 EMP Specific Risk Identification

The compilation of the various EMPs were undertaken using a quantitative risk assessment approach. None of the EMPs undertaken have identified any long term or residual risks for consideration in the Closure Plans.

#### 5.4.5 Groundwater Risk

A hydrogeological assessment was undertaken by Golder and Associated (dated January 2019) in order to identify and quantify the impacts associated with the proposed expansion of infrastructure at Khumani Iron Ore Mine.

Khumani Mine has a projected life of mine to 2039. Iron ore is mined via a series of opencast pits situated on the farms Bruce and King. Waste rock dumps as well as offices and stockpiles are located on the farms Parson and Mokaning. The proposed infrastructure expansions (specifically relating to the 2016 Environmental Authorisation for the expansions to the Mine Residue Deposits on site) include the following activities;

- ☞ The expansion of the Bruce overburden dump;
- ☞ The development of the overburden dump (Dump H) on King and Mokaning;
- ☞ The development of the Low-Grade Stockpile (Dump J) on King; and
- ☞ Expansion of the stockpile and associated infrastructure on Parson.

The key findings of the study are outlined in the sections below.

##### 5.4.5.1 Groundwater Inflows & Drawdown Impacts

- ☞ The Bruce Opencast Pits are expected to reach a maximum mining elevation of 940 mamsl (270 metres below ground level) at BA12 in 2039. Groundwater inflows to these pits are expected to begin in 2034. Based on the calibrated aquifer parameters, the inflows are expected to gradually increase to approximately 74L/s (6400 m<sup>3</sup>/d) by 2039.
- ☞ The King Opencast Pits are similarly projected to be mined up until 2039 and KM15, the deepest of the King pits, is projected to reach a maximum mining elevation of 930mamsl or approximately 280m below the pre-mining surface.



- ☞ Inflows at King Opencast Oits are expected to begin in 2034 and gradually increase over time to a peak groundwater inflow rate in the order of 114L/s.
- ☞ The maximum cumulative inflows to the pits over the life of mine are expected to be in the order of 190L/s. This will be required to be abstracted from the open pits to ensure safe mining conditions.

These predictions are based on the calibrated numerical model developed for the evaluation of mine dewatering impacts on the catchment. The aquifer parameters (conductivity and storage) are based on calibration of the model against transient water levels collected at Khumani and aquifer parameters derived from testing in the broader catchment area. No aquifer tests have been conducted within the opencast pits.

- ☞ Khumani is located within a groundwater compartment which is bound by regionally extensive dolerite dykes. Water levels within the compartment are significantly impacted as a consequence of Sishen Iron Ore Mine dewatering which has been active within the compartment since 1976.
- ☞ Extensive investigations have found that there is limited drawdown in water levels beyond the dyke boundaries which are inferred to delineate the groundwater compartment. Based on the calibrated model developed for the catchment, it was demonstrated that the dewatering which will be required from the Khumani opencast pits results in negligible addition impacts to receptors beyond the groundwater compartment in which the mine operates.

#### 5.4.5.2 Infrastructure Expansion

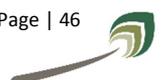
- ☞ Mass transport simulations were run in order to evaluate the existing impact associated with Khumani mine infrastructure and the additional impacts that could be expected with the expansion of the infrastructure on Bruce, King and Parson.
- ☞ Leach tests and water quality analysis associated with the Paste Disposal Facility was undertaken in 2014 by GPT. The analyses demonstrated that the seepage from the Paste Disposal Facility is not expected to adversely affect water quality in the underlying aquifers. Based on the constituents analysed, it is not expected that groundwater quality concentration beneath the Paste Disposal Facility and other Khumani mine infrastructure will not exceed SANS 241:2015 drinking water quality standards.
- ☞ A mass transport simulation was however undertaken in order to evaluate the pathway of seepage from existing and proposed infrastructure. It was demonstrated that the mass plumes associated with licensed infrastructure is not expected to impact receptors proximal to Khumani during the life of mine. Similarly, it was shown that the additional infrastructure will not result in impacts on surrounding receptors during the operational phase.

#### 5.4.5.3 Post-closure Impacts

- ☞ The water levels within the compartment containing the Khumani and Sishen Iron Ore Mines have been significantly impacted as a consequence of dewatering since 1976. Complete recovery of water levels in the compartment will take over 300 years.
- ☞ Particle tracking associated with mine infrastructure was used to demonstrate the pathways and receptors that could potentially become impacted from seepage in the post-operational phase. It was shown that after 300 years of recovery, no existing water users beyond the Khumani mine property are expected to be impacted by seepage from the Khumani mine infrastructure.

#### 5.4.6 Risks in terms of Financial Provision Costing

The mine has an approved KMO2 Waste Rock Dump located to the east of the KMO2 Opencast Pit. The initial intention, and as approved in the EMP and WUL, was to backfill paste material into KMO2 Opencast Pit upon



completion of this pit's mining life (planned for April 2019) as part of the overall Paste Disposal Facility's General Arrangements.

The shaping of this facility has been included into the previous financial provision systems, however, the manner in which waste rock has been disposed on this system (not in terms of closure philosophies, but rather in terms of logistical costing considerations) requires additional input from engineers and more intensive rehabilitation requirements. For this reason and as part of the 2019/2020 Annual Rehabilitation Plan, the following costing measures were included:

- Development of closure designs of the KMO2 Waste Rock Dump;
- Sloping of the western section of the KMO2 Waste Rock Dump (pending outcomes of engineering designs).

The mine has appointed external engineers to develop a closure design for KMO2 Waste Rock Dump during April 2020 and this process is currently underway. The design and associated costing are not as yet available to be included into this closure cost calculation. For this reason, the standard approach of shaping and topsoil cover has been priced. It is important to ensure that Code of Practices in terms of operational and disposal activities are documented to develop towards closure. This is not only best practice, but incorrect or insufficient sloping now, will result in expansion of footprints in the future to achieve the correct slopes. This could involve property purchasing (should footprints be required outside of surface rights areas), as well as additional environmental and water licensing requirements. In terms of direct operational considerations, the proper operation of these facilities also has a long-term cost saving in terms of the financial rehabilitation costs. Examples are discussed below.

The rehabilitation provision related to the Waste Rock Dumps at Khumani, being Bruce Waste Rock Dump (B01), the Panhandle, Kind Dumps (KM02 & KM12) and Mokaning Dump (KM13) account to nearly R64M, which equates to 20% of the mine's overall rehabilitation liability. At this stage, concurrent rehabilitation of available slopes, along with the establishment of containment berms and the placement of topsoil present the single largest opportunity for Khumani to achieve the following outcomes:

- A significant reduction in the rehabilitation quantum if the Waste Rock Dumps are rehabilitated concurrently;
- An opportunity to amend load, haul and tip practices to achieve desired slope angles and bench heights to achieve rehabilitation objectives during the development of the Waste Rock Dumps. This is likely to achieve the greatest reduction or curtailment of the rehabilitation quantum associated with the Waste Rock Dumps during their respective expansion cycles;
- The above-mentioned would also create increased geotechnical stability; and
- It would be aligned with the objectives of legislation driving the concurrent rehabilitation agenda in South Africa.

It is important that this is not a residual or latent risk, but rather a capital risk as proper management of facilities now can reduce long term closure requirements and costing.

#### 5.4.7 Potential Risks

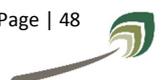
Based on the approved EMPs, WUL and available specialist studies, no residual impact has been identified, which cannot be managed as part of the approved rehabilitation processes. For this reason, no alternatives are required in terms of management measures to mitigate residual risks.

The main consideration is however, the ongoing understanding of groundwater management, and for this reason, numerical models must be updated continually to understand whether there is a change in the relationship between the surface activities and the groundwater chemistry.



This should be undertaken at least every second year to assess groundwater movement and potential changes in the risk scenario.

It should further be noted, that the mine is currently in the process of undertaking a dolomitic (sinkhole) study based on the requirements of the approved WUL. This study has not been concluded as yet. The outcomes of this study should be assessed once available in the Financial Provision assessments (annual, final and latest risks) to determine whether any hidden environmental risks, or management measures are required which should be quantified and costed.



## 6 REHABILITATION & CLOSURE DESIGN PRINCIPALS

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### 6.1 Legal and Governance Framework

On 20 November 2015 in Government Gazette 39425, Notice Number GN R 1147, the Minister of Environmental Affairs published the Regulations Pertaining to Financial Provision for Prospecting, Mining, Exploration and Production Operations (referred to as the Financial Provisioning Regulations, 2015) which came into effect on the date of publication in the Gazette. These Regulations replace the previous MPRDA Regulations and introduce a far more onerous and detailed regulatory system in respect of financial provisions related to the extractives industry.

Under the new Regulations, an applicant or holder of a right or permit is required to make financial provision for rehabilitation and remediation on an annual basis (termed concurrent rehabilitation), for decommissioning and closure activities at the end of the operations, and for remediation and management of latent or residual environmental impacts which may become known in the future, including the pumping and treatment of polluted or extraneous water.

Determining the financial provision requires the preparation of three separate documents:

- An Annual Rehabilitation Plan describing measures and costs of annual rehabilitation;
- A Final Rehabilitation, Decommissioning and Mine Closure Plan describing measures and costs for final rehabilitation and closure; and
- An Environmental Residual Risk Assessment Report describing measures and costs for the remediation of latent or residual environmental impacts.

An applicant or holder of a permit or right must determine and make financial provision to guarantee the availability of sufficient funds for the rehabilitation and remediation of adverse environmental impacts to the satisfaction of the Minister responsible for Mineral Resources (the Minister).

The applicant or holder of a right or permit must ensure that, at any given time, the available funds equal the sum of the actual costs of implementing the plans and reports for a period of at least ten (10) years forthwith.

The applicant or holder must make financial provision by one or a combination of the following:

- Financial guarantee, which must comply with the format requirements set out in Appendix 1 to the Regulations;
- Deposit into an account administered by the Minister; or
- A contribution to a trust fund established in terms of applicable legislation. Such contribution to a trust fund may only be in relation to financial provision made for the remediation of latent or residual environmental impacts, and not for annual rehabilitation or final rehabilitation, decommissioning and closure of the operation. This financial instrument may also not be used by an applicant/ holder for a mining permit in terms of the MPRDA. Furthermore, such contribution to a trust fund must be established by a deed of trust and must comply with the requirements set out in Appendix 2 of the Regulations.

The general requirements of financial provision include, but are not limited to:

- The determination, review and assessment of the financial provision must be undertaken by a specialist;
- The financial provision liability may not be deferred against assets at the mine closure or the mine infrastructure salvage value;
- Where the making of, or adjusting of the financial provision had been undertaken in terms of a financial guarantee, such undertaking must be accompanied by a verification of registration of the financial institution;



- ☞ Where the financial provision was undertaken by a deposit into an account administered by the Minister, if any interest is earned on the deposit, such interest must be used to defray bank charges and thereafter form part of the financial provision; and
- ☞ Where the financial provision applies to the remediation of latent or residual environmental impacts which may become known in the future, upon the issuance of the Closure Certificate in terms of the MPRDA, such financial provision must be ceded to the Minister.

The holder of a right or permit must ensure that a review is undertaken in respect of the requirements for the financial provision made for annual rehabilitation, final rehabilitation and remediation of latent or residual environmental impacts.

Thereafter the holder must ensure that the adequacy of the financial provision is assessed and any adjustments to the financial provision are made accordingly. The results of the assessment must be audited by an independent auditor and submitted to the Minister for approval. The submission of the audit report must be accompanied by a declaration signed by the independent auditor reconciling the financial provision submitted for approval.

## 6.2 Mine Closure Overview

Successful mine closure depends on the setting in which the mine is located, continuous reviewing and validating and finally meeting closure goals that align with the EMPr objectives, company and stakeholder requirements (in this case commitments made in approved EMPr's and conditions as stipulated in the Environmental Authorisations and Water Use Licences). There should be no to minimal residual risk to the environment, and the community should realise benefits that will continue to exist without further involvement from the company.

The vision of mine closure should be to ensure that a process is established to guide all decisions and actions during a mine's life such that:

- ☞ Future public health and safety are not compromised;
- ☞ Environmental resources are not subject to physical and chemical deterioration;
- ☞ The post-mining use of the site is beneficial and sustainable in the long-term and meets the required final land use;
- ☞ Any adverse socio-economic impacts are minimized or eliminated; and
- ☞ The opportunity is taken to maximize socio-economic benefits.

It is important that the Closure Plan be revised as the mine production progresses; this will ensure that the mine operation take advances in technology and rehabilitation methods into consideration. This is specifically important based on outcomes of ongoing updates of the IWWMP and specialist studies, such as numerical groundwater models.

## 6.3 Legal Considerations

The following table presents the legal considerations in terms of mine closure.

Table 5: Mine Closure Legal Considerations

Applicable legislation and guidelines	Details
Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)	Section 24 of the Constitution states that everyone has the right to an environment that is not harmful to their health or well-being and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures, that –
	a) Prevent pollution and ecological degradation;
	b) Promote conservation; and



Applicable legislation and guidelines	Details
	c) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.
The Conservation of Agricultural Resources, 1983 (Act No. 43 of 1983) (CARA)	CARA states that the degradation of the agricultural potential of soil is illegal; and CARA requires that protection of land against soil erosion and the prevention of water logging and salinization of soils means of suitable soil conservation works to be constructed and maintained.
Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002) (MPRDA)	<p>The MPRDA sets out the requirements relating to the development of the nation's mineral and petroleum resources. It also aims to ensure the promotion of economic and social development through exploration and mining related activities; Section 41 (1) of the MPRDA has been repealed and in terms of Section 24P in the NEMA as amended which provides that the holder of a mining right must make financial provision for rehabilitation of negative environmental impacts. The financial provision must guarantee the availability of sufficient funds to undertake the-</p> <ul style="list-style-type: none"> <li>a) Rehabilitation of the adverse environmental impacts of the listed or specified activities;</li> <li>b) Rehabilitation of the impacts of the prospecting, exploration, mining or production activities, including the pumping and treatment of polluted or extraneous water;</li> <li>c) Decommissioning and closure of the operations;</li> <li>d) Remediation of latent or residual environmental impacts which become known in the future;</li> <li>e) Removal of building structures and other objects; and/or</li> <li>f) Remediation of any other negative environmental impacts.</li> </ul> <p>In addition to Section 24P, the Regulations pertaining to the financial provision for prospecting, exploration, mining or production operations were promulgated on the 20 November 2015 (Government Notice No. 1147 published in GG 39425). Regulation 11 of the Financial Provision Regulations requires a holder of a Mining Right to determine the quantum of the financial provision through detailed itemisation of all activities and costs, calculated based on the actual costs of implementation of the measures required for:</p> <ul style="list-style-type: none"> <li>a) Annual rehabilitation, as reflected in Annual Rehabilitation Plans;</li> <li>b) Final rehabilitation, decommissioning and closure of the mining operations as per the Rehabilitation and Closure Plans which includes the findings of the Environmental Risk Assessment; and</li> <li>c) Remediation of latent or residual environmental impacts as identified in the Environmental Risk Assessment Report.</li> </ul>
National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA)	<p>The NEMA, as amended was set in place in accordance with section 24 of the Constitution of the Republic of South Africa. Certain environmental principles under NEMA have to be adhered to, to inform decision making for issues affecting the environment. Section 24 (1)(a) and (b) of NEMA state that:</p> <p><i>The potential impact on the environment and socio-economic conditions of activities that require authorisation or permission by law and which may significantly affect the environment, must be considered, investigated and assessed prior to their implementation and reported to the organ of state charged by law with authorizing, permitting, or otherwise allowing the implementation of an activity.</i></p>



Applicable legislation and guidelines	Details
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEMBA)	<p>NEMBA regulates the management and conservation of the biodiversity of South Africa within the framework provided under NEMA. This Act also regulates the protection of species and ecosystems that require national protection and also takes into account the management of alien and invasive species. This Act works in accordance to the framework set under NEMA. The following regulations which have been promulgated in terms of the NEMBA are also of relevance:</p> <ul style="list-style-type: none"> <li>☛ Alien and Invasive Species Lists, 2016 published under GN R.599 in GG 37886 of 1 August 2014;</li> <li>☛ National Environmental Management: Biodiversity Act, 2004: Threatened and Protected Species Regulations; and</li> <li>☛ National list of Ecosystems that are Threatened and in need of Protection under Section 52(1) (a) of the Biodiversity Act (GG 34809, GN R.1002, 9 December 2011).</li> </ul>
National Water Act, 1998 (Act No. 36 of 1998) (NWA)	<p>The NWA provides for the sustainable and equitable use and protection of water resources. It is founded on the principle that the National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, and that a person can only be entitled to use water if the use is permissible under the NWA.</p>
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA)	<p>According to the NEM:AQA the Department of Environmental Affairs (DEA), the provincial environmental departments and local authorities (district and local municipalities) are separately and jointly responsible for the implementation and enforcement of various aspects of NEM:AQA. A fundamental aspect of the new approach to the air quality regulation, as reflected in the NEM:AQA is the establishment of National Ambient Air Quality Standards (NAAQS) (GN R 1210 of 2009). These standards provide the goals for air quality management plans and also provide the benchmark by which the effectiveness of these management plans is measured.</p>

## 6.4 Closure Design Principles

Mine closure is an ongoing programme designed to restore the physical, chemical and biological quality or potential of air, land and water regimes disturbed by mining to a state acceptable to the regulators and to post mining land users. The activities associated with mine closure are designed to prevent or minimise adverse long term environmental impacts, and to create a self-sustaining natural ecosystem or alternate land use based on an agreed set of objectives. The objective of mine closure is to obtain legal (government) and community agreement that the condition of the closed operation meets the requirements of those entities, as a result of which the companies' legal liability is terminated.

Rehabilitation can be divided into two (2) different streams, namely concurrent rehabilitation and final rehabilitation. Concurrent rehabilitation must continue to be carried out along with mining. Concurrent rehabilitation activities should decrease the final closure costs that the mine will carry at the time of closure. This concurrent rehabilitation must be carried out within the context of the approved EMPR and is contained in the Annual Rehabilitation Plan. Final rehabilitation will be carried out once the mine goes into its decommissioning and closure phase and is presented in the mines' Final Rehabilitation Plan.

The primary concerns for decommissioning and rehabilitation are to ensure public safety and health, and environmentally stable conditions compatible with the surrounding environment, and consequently minimize the environmental impacts caused by mining. The overall objective is to have socially, economically, and environmentally sustainable development. The objectives of mine closure as set out in the Department of Minerals (DMR) policies are:

- ☛ Safety and health of animals and humans must be safeguarded;
- ☛ Environmental damage and residual impacts must be minimized to a level acceptable to all parties, i.e. avoidance of future pollution;



- ☞ Land must be rehabilitated to as close to natural state as possible, i.e. creation of a stable land surface;
- ☞ Physical and chemical stability of remaining structures must be such that they are not affected by natural elements;
- ☞ Mines are closed effectively and cost efficiently; and
- ☞ Mines are not abandoned, but closed in terms of policy.

Residual risks are those risks, which will remain even beyond the completion of final rehabilitation and risk the mine obtaining final closure.

## 6.5 Closure Vision, Objectives and Targets (ABSTRACT FROM APPROVED EMPR)

The following section is obtained from the approved EMP:

### 6.5.1 Closure objectives

The objective for closure is to return the mining area to near pre-mining conditions, where residual impacts will be minimised and the area is left with no safety threat to humans or animals.

*The EMP states clearly that the following section will be reassessed throughout the life of mine based on the economic, environmental and social changes in order to ensure that the closure objectives are in line with the ongoing mine and rehabilitation plan.*

#### 6.5.1.1 Geology

##### Management Objective

To rehabilitate the opencast pits after mine closure.

##### Management criteria

The underlying geology would have been removed throughout the life of mine; therefore, there are no feasible means to rehabilitate the geology. The mine will however rehabilitate the opencast pits to be safe.

#### 6.5.1.2 Topography

##### Management Objective

To rehabilitate the topography of the mine after mine closure.

##### Management criteria

- ☞ All infrastructure will be removed, with the exception of the Paste Disposal Facility and mine residue deposits. The area will be rehabilitated to be free draining. All stockpiles and dumps will be vegetated and would have been shaped throughout the life of mine to ensure that they will blend in with the surrounding topography.
- ☞ Final dumps will be sloped to 18° and will be vegetated to ensure stability.

#### 6.5.1.3 Soils

##### Management Objective

To rehabilitate the soils after mine closure.

##### Management criteria



- ☞ All structures and infrastructure will be demolished (apart from the Paste Disposal Facility and mine residue deposits), and all imported materials removed.
- ☞ Waste rock from the dumps will be returned to the opencast pits on a continual basis as mining progresses.
- ☞ The Paste Disposal Facility will be shaped.
- ☞ Stockpiled topsoil will be spread over the top and sides of the Paste Disposal Facility and over other associated rehabilitated areas.
- ☞ Compaction will be managed to protect the soil structure (i.e. ripping to a depth of 500mm). Fertiliser will be applied at the required rate as determined by soil laboratory analysis.
- ☞ The rehabilitated areas will be ameliorated and seeded with the recommended seed mix and the planted area will be watered thoroughly and regularly, where self-succession is not achieved. Growth will be monitored on a quarterly basis.

#### 6.5.1.4 *Land Capability*

##### Management Objective

To rehabilitate the land capability to near pre-mining conditions.

##### Management criteria

- ☞ The greater part of the site will have the capability of at least grazing land, where grazing land currently exists. The rehabilitated Paste Disposal Facility and the opencast voids will, however, not be used as grazing land due to the moderately steep side slopes where erosion could occur if grazed.
- ☞ Due to the economic implications associated with double handling relating to backfilling, the mine will aim to backfill as much material as possible during the operational phase (172 million tons). However, all the opencast pits will not be backfilled and voids will remain. According to the 2005 mine schedule, 11 of the 19 opencast pits will be backfilled. The opencast pits will be rehabilitated in such a way to be safe upon closure. This will be undertaken by either:
  - Fencing or berming the area off;
  - Establishing indigenous thorny vegetation;
  - Establishing clearly visible safety and warning signs; and
  - This area will revert to near pre-mining land at closure.

#### 6.5.1.5 *Land Use*

##### Management Objective

To rehabilitate the land use to near pre-mining conditions.

##### Management criteria

Refer to Section 6.2.1.4 of the approved 2008 EMPr.

#### 6.5.1.6 *Vegetation*

##### Management Objective

To rehabilitate the vegetation to near pre-mining conditions and to ensure that the newly planted or self-established vegetation initiates succession and creates a sustainable cover.

##### Management criteria

- ☞ During decommissioning, topsoil will be replaced and the affected areas will be rehabilitated using indigenous vegetation common to the area. The rehabilitation of the soils will play a significant role in



the rehabilitation of vegetation. *(This condition was replaced to state that the mine will use a topsoil and gravel mixture to rehabilitate the area in the 2008 EMP).*

- After closure, rehabilitate and landscape the dumps and stockpiles to be free draining and to blend into the surrounding environment.
- Clear all infrastructure and revegetate the areas to near pre-mining conditions.
- Naturally occurring (indigenous) species will be used in the rehabilitation process.
- To increase diversity in rehabilitated areas, mulch seeded areas with seed bearing hay cut in natural veld areas or incorporate locally harvested seed in the initial seed mix as specified *(this condition was replaced in the 2008 EMP to state that the area will be allowed to self-vegetate);*
- Monitoring will be undertaken to ensure that the rehabilitated areas are self-sustaining and that weed/ alien plants are under control. Monitoring will only cease once this has been confirmed.

#### 6.5.1.7 Fauna

##### Management Objective

To re-create a habitat that is suitable for animals to forage or live within. The objective will further be to make the areas safe for animals to live in.

##### Management criteria

Refer to Sections 6.2.1.2 to 6.2.1.6 of the approved 2008 EMPr.

#### 6.5.1.8 Surface Water

##### Management Objective

To control surface water contamination within the site on a long-term basis.

##### Management criteria

- The surface water quality will be monitored, where available, in order to determine/ verify the effect of the mining operations on surface water quality.
- The results will be presented to the DWS on an annual basis.
- The clean water diversions on King/ Mokaning will be engineered and constructed in such a way to be stable and to remain after closure.
- All clean and dirty water systems will be removed where infrastructure has been removed and the area has been successfully rehabilitated.
- Clean water systems upstream from the opencast voids will remain to ensure that there is no impact on the run off of the catchment.
- The area will be rehabilitated to be free draining by implementing storm water drainage systems, which will follow the natural drainage direction.

#### 6.5.1.9 Groundwater

##### Management Objective

To continue the groundwater quality and groundwater level monitoring in order to establish long-term groundwater levels and quality trends, as well as to update, verify and recalibrate the existing mine groundwater model.

##### Management criteria

- Groundwater modelling shows that any contamination from the Paste Disposal Facility will undergo significant dilution and will tend to move towards the mined-out opencast pits where the drawdown of the groundwater level has been the most significant during mining. The current understanding of the



groundwater regime suggests that no decant will occur from any of the opencast pits due to the following reasons:

- High overall aquifer transmissivity around the opencast pit areas, leading to very flat groundwater gradients not only in the spoils in the mined-out opencast pits but also in the surrounding aquifers;
  - Relatively low natural groundwater and surface gradients so that the water table will not easily intersect the surface topography;
  - Should monitoring results however indicate an expected decant, the volumes will be quantified through calibration of the groundwater model. Management/ containment measures that will be implemented will aim at creating a situation where the impact from decant will not adversely affect surrounding users;
  - The mined-out opencast pits could be utilised as strategic sources of community water supply after the mining operations have ceased;
  - Management measures will be implemented to prevent excessive run-off formation through the discard and surrounding areas into the opencast pits that could contribute to contamination in the form of suspended matter;
  - Measures will be implemented to prevent or minimise seepage to groundwater through dirty areas which may contribute to groundwater contamination; and
  - Opencast pits will be backfilled as per the given schedule so that groundwater recharge is maximised to facilitate faster recovery of the dewatered aquifers and provide a sustainable source of water supply for future generations, as the water quality should still be suitable for human consumption after mining.
- Rehabilitation of the Paste Disposal Facility will commence once the dirty water management areas are rehabilitated and the need for retention of contaminated water no longer exists. This will contribute to the limitation of infiltration of affected water.
  - The berms to divert clean water around dirty areas will be removed once the dirty water management areas are rehabilitated and re-vegetated.
  - Final rehabilitation of the opencast pits will be undertaken, including reshaping to encourage clean surface water runoff. Rehabilitated pit surfaces could be left to encourage recharge as these areas could be used as sustainable sources of good quality water after mine closure. Rehabilitation of the opencast mining area will be undertaken so as to represent the pre-mining surface drainage and vegetation as closely as possible.
  - The migration of any groundwater contamination plumes will be verified through monitoring and modelling during the decommissioning phase and suitable mitigation measures implemented before the closure is applied for, should it prove to be necessary.
  - Through the monitoring and calibration of the groundwater model during the operational phase - specifically regarding the recharge rate and water level draw down - the closure strategy will be re-assessed. The long-term groundwater management measures decided upon will be implemented prior to final rehabilitation of the land use area.

#### 6.5.1.10 *Air Quality*

##### Management Objective

To revegetate all exposed surfaces to prevent dust generation.

##### Management criteria

Refer to Section 6.2.1.6 of the approved 2008 EMPr.

#### 6.5.1.11 *Noise*

##### Management Objective



To rehabilitate the opencast pits after mine closure.

Management criteria

No significant impacts are envisaged upon decommissioning.

6.5.1.12 *Sites of Archaeological and Cultural Interest*

Management Objective

To ensure that all sites of archaeological and cultural interest are safe and where applicable that access to grave sites remain.

Management criteria

All access roads to grave sites will remain for families to access those. The mine will ensure that the area is safe.

6.5.1.13 *Visual*

Management Objective

To rehabilitate the area to ensure that the visual impacts are limited or eliminated.

Management criteria

- Final shaping of the Paste Disposal Facility will be implemented such that the sides of the facility are articulated in a fashion that create areas of light and shadow interplay.
- Harsh, steep engineered slopes will be avoided if at all possible as these could impose an additional impact on the landscape by contrasting with existing topographic forms of the nearby hills. The Paste Disposal Facility will remain after decommissioning and it is important that a long-term view of its integration with the surrounding landscape be taken.
- Topsoiling, grass seeding and planting (shrubs and trees) of the final dump will be undertaken, where self-succession does not establish.
- A combination of indigenous trees and shrubs will be planted along the southern side of the N14's view towards the Paste Disposal Facility as a 'buffer' and to partially screen views to the facility.
- Rehabilitate the outside slopes of the stockpiles with appropriate grasses (to achieve long-term sustainability without management) as soon as is practical.
- Harsh, steep engineered slopes will be avoided as these could impose an additional impact on the landscape by contrasting with existing natural topographic forms and because it is difficult to sustain vegetation on steep slopes in the long term.
- Final shaping will be implemented such that the final profile of the rehabilitated overburden dumps is formed to emulate natural contours of the area, i.e. a flat-topped profile is not desirable and a profile that emulates the nearby hills is proposed. The overburden dumps will remain after decommissioning and it is imperative that a long-term view of its integration with the surrounding landscape be taken.
- The mine will research whether there are alternative uses for the mine infrastructure. If not possible, the components will be properly removed.

6.5.1.14 *Socio Economic Activities*

Management Objective

To ensure that employees are equipped with various skills.

Management criteria

The mine will have a lifespan of more than 20 years. These include the establishment of Social Plan Forums as required by the MPRDA, to address issues raised in the Social and Labour Plan in a proactive manner.



- ☞ If and when retrenchments are implemented at mine, Assmang will ensure that the Future Forum (consultation group) is advised and that the relevant legislation is responsibly applied. Portable internal skills training programmes will be available to assist employees in procuring alternative employment.
- ☞ Assmang is committed to the following mechanisms to save jobs and to avoid job losses wherever possible:
  - Redeployment;
  - Early Retirement;
  - Voluntary Retrenchment;
  - Cessation of full-time employee recruitment;
  - Change in shift cycles;
  - Sunday work;
  - Wage moderation; and
  - Employee subcontracting.
- ☞ Where job losses will be inevitable, indirect job security can only be ensured by investing in the development of portable skills and life skills for employees involved and ensuring as far as possible the readiness of employees to undertake self-employment or to apply entrepreneurial skills.
- ☞ All commitments as per the Social and Labour Plan will be implemented.
- ☞ Assmang is aligned with various structures such as unit standard generation, assessor and moderator training, levy reclaiming, as well as skills facilitator arrangements and appointments. In keeping with this practice, Khumani will be registered for the Skills Development Levy.
- ☞ The Assmang policy requires its mines to provide and facilitate courses for non-mining related training for employees as well as for community members from surrounding communities, as is the case with the Beeshoek Mine. The mine will continue in this practice by providing similar courses as provided at Beeshoek Mine. Some of these courses are listed below:
  - A wide range of computer training courses;
  - A range of life skills training courses based on the internationally recognised Plato system that reflects the tremendous range of life skill training courses available;
  - Needlework training;
  - Upcoming Farmer training in collaboration with Department of Agriculture, in grazing methods, stock selection, etc;
  - Entrepreneurial training for employees and local small business people etc;
  - Business Wise Training for employees;
  - Adult Based Education Training (ABET) training;
  - Leadership training for local authorities;
  - Mindset training for local leadership; and
  - Diversity training.

#### 6.5.1.15 Crack Survey

##### Management Objective

To rehabilitate the area to ensure that the structural impacts are limited or eliminated.

##### Management criteria

No impacts will take place after decommissioning.

#### 6.5.1.16 Storage of Explosives

##### Management objective

To ensure that no safety issues remain after closure.

##### Management Measure



All infrastructure housing explosives will be demolished and removed from the site. The relevant suppliers will remove any excess explosives.

#### 6.5.1.17 *Storage of Diesel, Oil and Chemicals*

##### Management objective

To ensure that no contamination results from the stored diesel, oil and chemicals on site.

##### Management Measure

- ☞ All infrastructure housing diesel, oil and chemicals will be demolished and removed from the site. The relevant suppliers will remove any excess material.

#### 6.5.1.18 *Paste Disposal Facility and other Mine Residue Deposits*

##### Management objective

The minimum objectives for the closure and rehabilitation of a Mine Residue Deposit must be to prevent air and water pollution in accordance with the requirements of the relevant regulations and in line with good international practice. The intended end use should take into consideration the prior land use and the location of infrastructure with respect to current and potential future socio-economic development.

The objectives of the closure and rehabilitation measures will be:

- ☞ To establish a self-sustaining solution with minimum on-going maintenance;
- ☞ To minimise off-site impacts;
- ☞ To create safe and stable landforms;
- ☞ To return the site to beneficial land use; and
- ☞ To obtain a closure certificate.

##### Management Measure

###### *Paste Disposal Facility*

The stability of the proposed final outer slope of the Paste Disposal Facility has been assessed using circular potential failure surfaces (Bishop simplified method) in the limit equilibrium programme SLIDE. This programme allows for the analysis of numerous potential failure surfaces, and the identification of the critical surface with the lowest factor of safety against failure.

The average overall side slope angle will be approximately 1:3 (vertical to horizontal (v:h)). Intermediate slopes will be constructed to 1:2.5 (v:h) with bench widths varying between 6m and 10m.

For the purpose of stability analysis, a phreatic level has been assumed. No excess water pressures have been assumed for the paste or the underlying soil.

The results of the stability analysis indicate that the factor of safety at final height will be approximately 2.2 (overall).

It is therefore concluded that the factor of safety for overall stability will be satisfactory under normal operating conditions. However, it assumes that the management of the Paste Disposal Facility will be adequate and the need to monitor phreatic conditions at the outer embankments is critical.

###### *Other Mine Residue Deposits*

The detailed Closure Plan will be developed during the life of the mine. The purpose in preparing a conceptual Closure Plan is to ensure that the Mine Residue Deposits design and construction procedures are compatible with the achievement of final closure and rehabilitation to accepted environmental standards and at a reasonable cost.



#### 6.5.1.19 *Infrastructure*

##### Management Objective

To ensure that the area is safe and free from any explosives.

##### Management criteria

- ☞ All buildings in which explosives were stored will be demolished. The relevant supplier will remove all the explosives.
- ☞ Recyclable or reusable components of buildings and structures will be salvaged.
- ☞ Foundations will be removed to a depth of 1m below surface.
- ☞ Building rubble will be used as landfill or buried such that there is 1m of soil material over the buried rubble.
- ☞ Other surface infrastructure constructed by the mine (i.e. roads, railways and power lines) will be removed if it proves to inhibit land use at decommissioning. The soils and land capability will be rehabilitated to near pre-mining conditions.

#### 6.5.1.20 *Waste*

##### Management Objective

To remove all waste from the mining area, in order for the area to be clean and safe.

##### Management criteria

All waste on the mining area will be collected and will be removed to a permitted disposal site.

Waste materials will be made available for sale as scrap or donation, where applicable.

#### 6.5.1.21 *Mine Dirty Water Dams*

Upon mine cessation, it is unlikely that any dirty water will be present on the mine. Structures (i.e. containment dams etc.) previously implemented on the mining area will be removed.

#### 6.5.1.22 *Maintenance*

##### Management Objective

To rehabilitate the area to ensure that the impacts are limited or eliminated.

##### Management criteria

All rehabilitated areas will be monitored and all post-closure impacts will be managed. Monitoring and management will only cease when the area is self-sustaining.

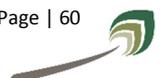
### 6.5.2 Infrastructure removal and rehabilitation

#### 6.5.2.1 *Buildings*

All infrastructure will be removed and rehabilitated, should no alternative use be found for the structures.

Foundations will be removed to a depth of 1m below surface.

An alternative use for the brick structures will first be sought i.e. they can either be sold/ donated to the post-mining landowner on sale of the land. If an alternative use cannot be found, the buildings will be demolished.



All material recovered from the demolition of buildings/ structures will either be transported to a permitted disposal site, sold as scrap or made available to the local community as building materials (provided they are in a satisfactory condition following demolition).

#### 6.5.2.2 *Linear infrastructure*

Linear infrastructure constructed by the mine (i.e. roads, railways, pipelines and power lines) will be removed if it proves to inhibit land use at decommissioning. The soils and land capability will be rehabilitated to near pre-mining conditions.

The opencast pit access roads and haul roads will be rehabilitated by ripping these structures to a depth of 500mm.

All fences erected around the mine will be dismantled and either disposed of at a permitted disposal site or sold as scrap (provided these structures will no longer be required by the post-mining land owner). Fences erected to cordon-off dangerous excavations will remain in place and will be maintained as and when required.

The overland conveyors and Rapid Load-out Facility will be disassembled, and the components removed from the site. The material can either be sold (as a unit) or the components sold as scrap.

#### 6.5.2.3 *Dirty Water Dams*

Upon mine cessation, it is unlikely that any dirty water will be present on the mine. Structures (i.e. containment dams etc.) previously implemented on the mining area will be removed.

#### 6.5.2.4 *Monitoring*

Annual surface surveys (audits) will be undertaken over mined-out areas to establish the degree of subsidence and the success of the re-establishment of vegetation on rehabilitated areas.

### 6.5.3 Mine Residue Disposal

#### 6.5.3.1 *Paste Disposal Facility*

Throughout the life of a facility it is necessary to consider closure and post-closure care of the facility. It is not possible at this stage to formulate a rigorous closure plan, however, a general outline of the likely closure requirements has been defined. This should be considered to be preliminary and will depend on the requirements of the final design, actual tonnages placed, facility construction and legislative requirements at the time of closure. Therefore, the detailed Closure Plan will be developed during the life of the mine. The purpose of preparing a conceptual closure plan is to ensure that the facility design and construction procedures are compatible with the achievement of final closure and rehabilitation to accepted environmental standards and at a reasonable cost.

The Paste Disposal Facility will be engineered and constructed in such a way to remain stable upon closure. The facility will further be constructed to blend in with the surrounding environment.

The required final surface geometry will be achieved by the control of deposition during the life of the facility, particularly during the final years, and by subsequent limited earthworks. It is intended that the upper surface of the Paste Disposal Facility will be shaped to retain surface run-off and thus to prevent the erosion of the outer slopes and the discharge of polluted solids into natural streams. The outer slopes will be reshaped to ensure structural stability and to limit erosion damage. It will be advantageous to commence rehabilitation during the operating life of the facility and, for this reason it is possible that deposition may be controlled during the last few years to allow the closure of sections of the Paste Disposal Facility prior to final decommissioning.



The paste is expected to have a low permeability with the result that seepage from rainwater infiltration will be very limited. This low permeability, coupled with the high rates of evaporation at the mine, indicates that the installation of a topsoil cover will probably be necessary in order to provide a growth medium for vegetation and to minimise dust generation. It is therefore proposed that the facility be covered with a 150mm thick layer of topsoil. This will be required over the top surface only as it is intended that the downstream slope of the impoundment wall will be progressively vegetated during operation in order to reduce erosion and visual intrusion.

The operational water decant system will be abandoned after the draining of the supernatant pool, and the surface structures will be removed. A system of diversion canals to prevent storm water runoff from entering the paste disposal area will be included in the Final Closure Plan.

Rain water falling on the top surface of the Paste Disposal Facility will be held on the facility. The top surface will be divided into separate compartments, or the water will be allowed to drain in a controlled fashion to a pool in the position of the old supernatant pool. The decision will depend upon information gathered during the operating period. Consideration will also be given to the need for an emergency spillway for decanting excess water from the top of the Paste Disposal Facility.

The run-off from the side slopes of the impoundment wall will be controlled by the creation of engineered benches. Catchment paddocks at the toe of the impoundment wall will be the final control mechanism.

Vegetation on the surface and outer slopes of the Paste Disposal Facility will reduce erosion and dust generation. It will be necessary to obtain the maximum benefit from the residual moisture in the residue and from the seasonal rainfall. Thus, efforts should be made to commence the establishment of vegetation during the operating life of the facility. It will certainly be possible to begin to establish vegetation on the outer slopes. It is anticipated that the mine will carry out revegetation trials from the time of commissioning of the project. Information available from re-vegetation exercises in similar conditions will be gathered during the planning of the tests.

#### 6.5.3.2 *Overburden and Low-grade ROM Stockpiles*

Although continuous backfilling will be undertaken throughout the life of mine, overburden and Low-grade (waste) ROM Stockpiles will remain as dumps.

At current levels it is envisaged that 1.3% (1.6 million tons) of the Bruce Overburden and Low-Grade ROM Stockpile will be reworked. The remainder of the stockpile will remain as a rehabilitated overburden dump upon decommissioning.

At current levels it is envisaged that 4.9% (19.4 million tons) of the King/ Mokaning Overburden and Low-Grade ROM Stockpile will be reworked. The remainder of the stockpile will remain as a rehabilitated overburden dump upon decommissioning.

To ensure that the remaining volumes of the stockpiles are stable the following will be undertaken:

- ☞ The required final surface geometry will be achieved by the control of construction activities during the life of each stockpiles. Generally, intermediate side slope angles of 1:1.5 (v:h) with 15m wide benches at 10m vertical intervals are proposed. This will result in an average overall slope angle of 1:3 (v:h). It is intended that the upper surface of the stockpiles will be shaped to retain surface run-off and thus to prevent the erosion of the outer slopes and the discharge of polluted solids into surrounding natural watercourses. The outer slopes will be reshaped to ensure structural stability and to limit erosion damage.
- ☞ It will be advantageous to commence rehabilitation during the operating life of the stockpiles.
- ☞ The stockpiles be will covered with topsoil. This will be required over the top surface only, as it is intended that the outer slopes of the dumps will be progressively vegetated during construction in order to reduce erosion and visual intrusion.



- ☞ A system of diversion canals to prevent storm water run-off from entering the stockpiles areas will be included in the final closure plans should a potential of contamination exist. Rain water falling on the top surface of the stockpiles will be held on the stockpiles. The top surfaces will be divided into separate compartments. The run-off from the side slopes of the stockpiles will be controlled by the creation of engineered benches. Catchment paddocks and dams along the perimeter of the stockpiles will be the final control mechanism.
- ☞ The slopes will be vegetated. *(This condition was replaced in the 2008 EMP to state that the area will be allowed to self-vegetate).*

#### 6.5.3.3 Discard Dump

Approximately 5% of the Discard Dump could be reworked - if it has a saleable component it could be economically viable.

To ensure that the remaining volumes of the dumps are stable the following will be undertaken:

- ☞ The required final surface geometry will be achieved by the control of construction activities during the life of the dump. Generally, intermediate side slope angles of 1:1.5 (v:h) with 15m wide benches at 10m vertical intervals are proposed. This will result in an average overall slope angle of 1:3 (v:h). It is intended that the upper surface of the dump will be shaped to retain surface run-off and thus to prevent the erosion of the outer slopes and the discharge of polluted solids into the surrounding natural watercourses. The outer slopes will be reshaped to ensure structural stability and to limit erosion damage.
- ☞ It will be advantageous to commence rehabilitation during the operating life of the dump.
- ☞ The dump will be covered with topsoil (or gravel mixture). This will be required over the top surface only as it is intended that the outer slopes of the dump will be progressively vegetated during construction in order to reduce erosion and visual intrusion.
- ☞ A system of diversion canals to prevent storm water run-off from entering the dump area will be included in the Final Closure Plan should the potential of contamination exist. Rain water falling on the top surface of the dump will be held on the dumps. The top surfaces will be divided into separate compartments. The run-off from the side slopes of the dump will be controlled by the creation of engineered benches. Catchment paddocks and dams along the perimeter of the dump will be the final control mechanism if required.
- ☞ The slopes will be vegetated. *(This condition was replaced in the 2008 EMP to state that the area will be allowed to self-vegetate).*

#### 6.5.3.4 ROM and Export Stockpiles

The floor of the export stockpiles will be graded to remove all rock material in the base. This material will be passed through the Plant.

The roadways will be ripped to a depth of 500mm, as will the floor of stockpiles to alleviate compaction.

The soils will be ameliorated and seeded for rehabilitation. *(This condition was replaced in the 2008 EMP to state that the area will be allowed to self-vegetate).*

#### 6.5.3.5 Opencast mining areas

The opencast pits will be backfilled parallel to the mining operations. However due to the cost and double handling of material, certain voids will remain after closure. At closure, any opencast pits that remain, will be made safe by a combination of fencing and planting of thorny indigenous vegetation around the pit perimeter to restrict access to the opencast pit.



#### 6.5.4 Final rehabilitation

It was indicated that it is the purpose of the surface rehabilitation to re-establish surface drainage to the pre-mining conditions as far as is practical. The rehabilitation will:

- Restore normal infiltration rates to areas where recharge was reduced due to surface compaction such as at the access roads;
- The mine will consult with the DMR and DWS with regards to the best rehabilitation option of opencast pits to leave the pits as strategic water sources for future generations by maximising recharge; and
- The Paste Disposal Facility area and associated mine residue deposits will be rehabilitated and the disturbed areas sloped to be free draining and vegetated with the purpose of maximising clean runoff.

### 6.6 Closure & Post Closure Timeframes

It is estimated that the final rehabilitation, decommissioning and closure actions, based on the current mine plan, would take approximately two (2) years to implement from date of commencement.

Post-closure monitoring, maintenance and aftercare is scheduled for a period of three (3) years after completion of said rehabilitation, decommissioning and closure actions.

### 6.7 Ongoing Research

The NEMA Regulations promulgated to regulate the Financial Provision has resulted in mining operations having to reconsider the implementation of concurrent rehabilitation into the operational plans of the mine. Ongoing research into rehabilitation at Khumani will involve the following:

- During the 2018 rehabilitation assessment the need was identified to undertake an Impact Prediction Model as part of the Groundwater Model to determine any changes in the 2006 EMP assessments in terms of the impact of mine residue deposits on the groundwater resources, as applicable. This has subsequently been completed by Golder and Associates (please refer to Section 5.2.5); and
- Strategic plans on how the mine can more efficiently mine opencast resources to optimise the potential for concurrent backfilling as approved in the EMP.

It is recommended that the mine include, in addition to the above, the following as part of research and development related to rehabilitation planning:

- Undertaking of closure designs of all mine residue deposits and develop supporting Codes of Practice for the disposal of material based on long-term closure requirements;
- Develop a concurrent rehabilitation plan for the Paste Disposal Facility – indicating the areas to be rehabilitated annually (i.e. sloped and vegetated) and keep record of progress;
- Develop a concurrent rehabilitation plan for each of the mine residue deposits (for example KMO2, King/Mokaning, Waste Rock Dump J, Bruce Low-Grade ROM Stockpiles) – indicating the areas to be rehabilitated annually (i.e. sloped and vegetated) and keep record of progress.

### 6.8 Assumption and Limitations

Due to Covid-19 lockdown restrictions, the rehabilitation review process had to exclude any form of site inspection and on-site verification. The information utilised to inform the 2020 assessment has been provided by the mining operation on a desktop basis and the mining operation therefore remains solely responsible for the accuracy and comprehensiveness thereof.



It's worth noting that in general information availability and its accuracy is excellent at Khumani. The list below contains assumptions made in the absence of detailed quantified information, however the implication of these on the closure actions is only expected in terms of costing and not on the ability to address aspects sufficiently during the rehabilitation and closure phase. The costing accuracy aims to achieve a 90% level of accuracy and the assumptions listed below do not have significant variation to impair on the 90% level of accuracy:

- Final closure designs for Waste Rock Dumps, discard dumps and opencast pit stability;
- Hydrocarbon soil contamination volumes and treatment/ disposal solution;
- Disposal method and location for demolished bituminous tar; and
- Social and Labour Plan commitments at closure.

The following key statements must be taken note of:

- No additional closure threads or opportunities have been identified at this time of the assessment;
- No need in the change to the closure strategy has been identified, based on the fact that current practices are successful in ensuring no long term residual impacts;
- There is no change in the closure strategy, the mine has an updated Mining Works Programme.

One of the key areas the mine should consider is ongoing rehabilitation of Mine Residue Deposits.

- Costs provided are exclusive of VAT.
- The information provided by the mine survey team is considered accurate and could not be verified due to traveling restrictions issued by the President of South Africa in terms of the Disaster Management Regulations.
- A nominal rate increase of 4.1% (Consumer Price Index (CPI) as per STATS SA) has been applied uniformly. The rate increase has been incorporated to include an increase in diesel fuel cost as well as in anticipation of an equipment rate increase which is due during 2019, according to the Contractors Plant Hire Association (CPHA).
- Khumani mine will utilise their own plant equipment and labour.
- Rates were derived independently for purposes of 3<sup>rd</sup> party contractor should Khumani plant equipment and labour not be available.
- Rates exclude Preliminary & General costs and any contingencies.
- Rates are based on the present currency (ZAR) value, i.e. at "day of assessment".
- In Section 1.4 of this report, the details on potential future planned projects are listed. These projects have not been approved in terms of Environmental Legislation and therefore have not been incorporated into the financial provision studies or rehabilitation strategies. These must again be assessed during the next assessment to determine the status of implementation.

## 6.9 Proposed Final Post Mining Land Use

The greater part of the site will have the capability of at least grazing land, including the areas where grazing land currently exists. The rehabilitated Paste Disposal Facility and the opencast voids will, however, not be used as grazing land due to the moderately steep side slopes where erosion could occur if grazed and due to safety factors.

Please refer to the following figures (Figure 8 to Figure 11) in the following section for the Post-Mining Land Use Map.



KHUMANI IRON ORE MINE 2020 FINAL REHABILITATION PLAN  
Departmental Ref: NC 30/5/1/2/3/2/1/070EM and amendments  
Project Ref: 20207  
Version: FINAL V4

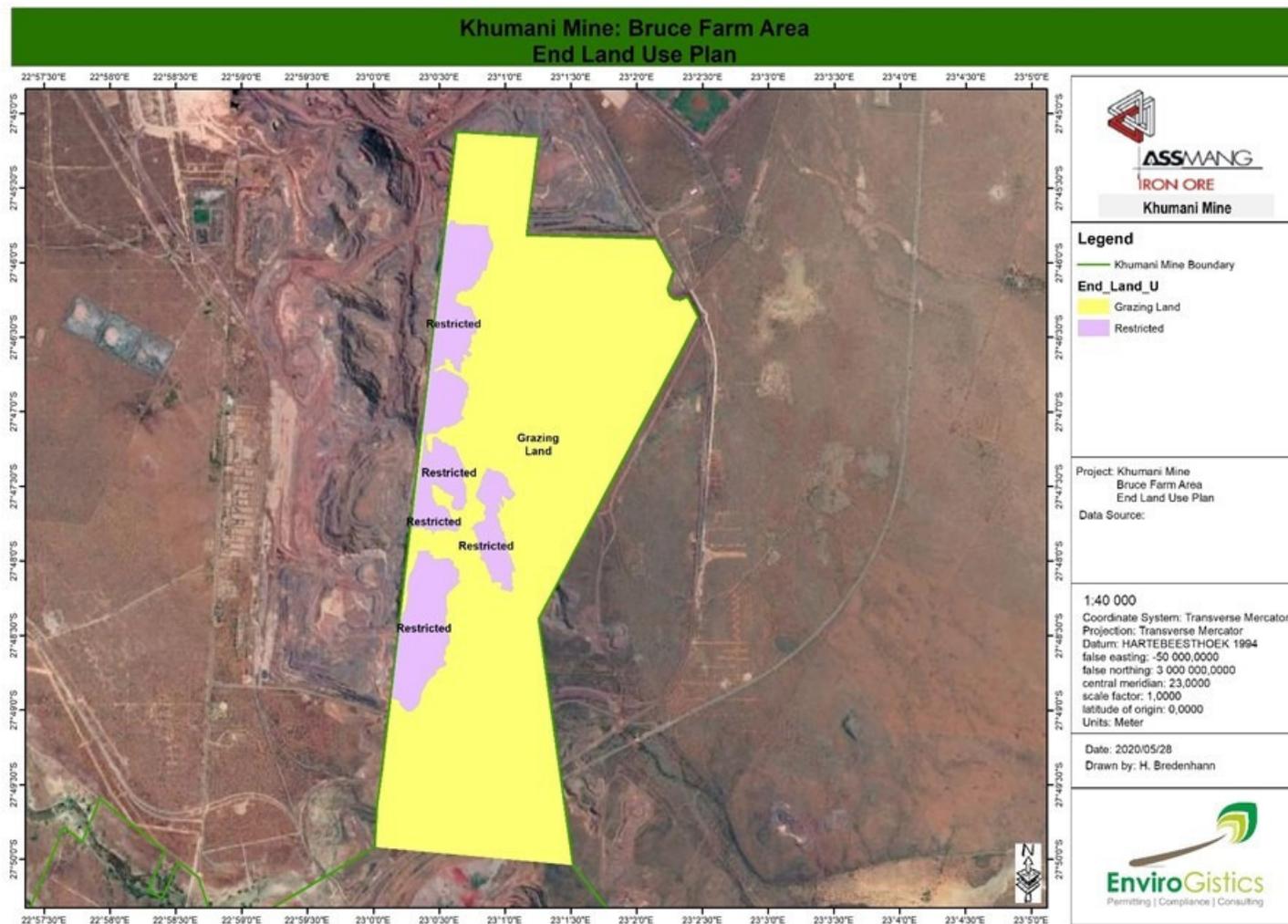


Figure 8: Post-Mining Land-Use Map - Bruce

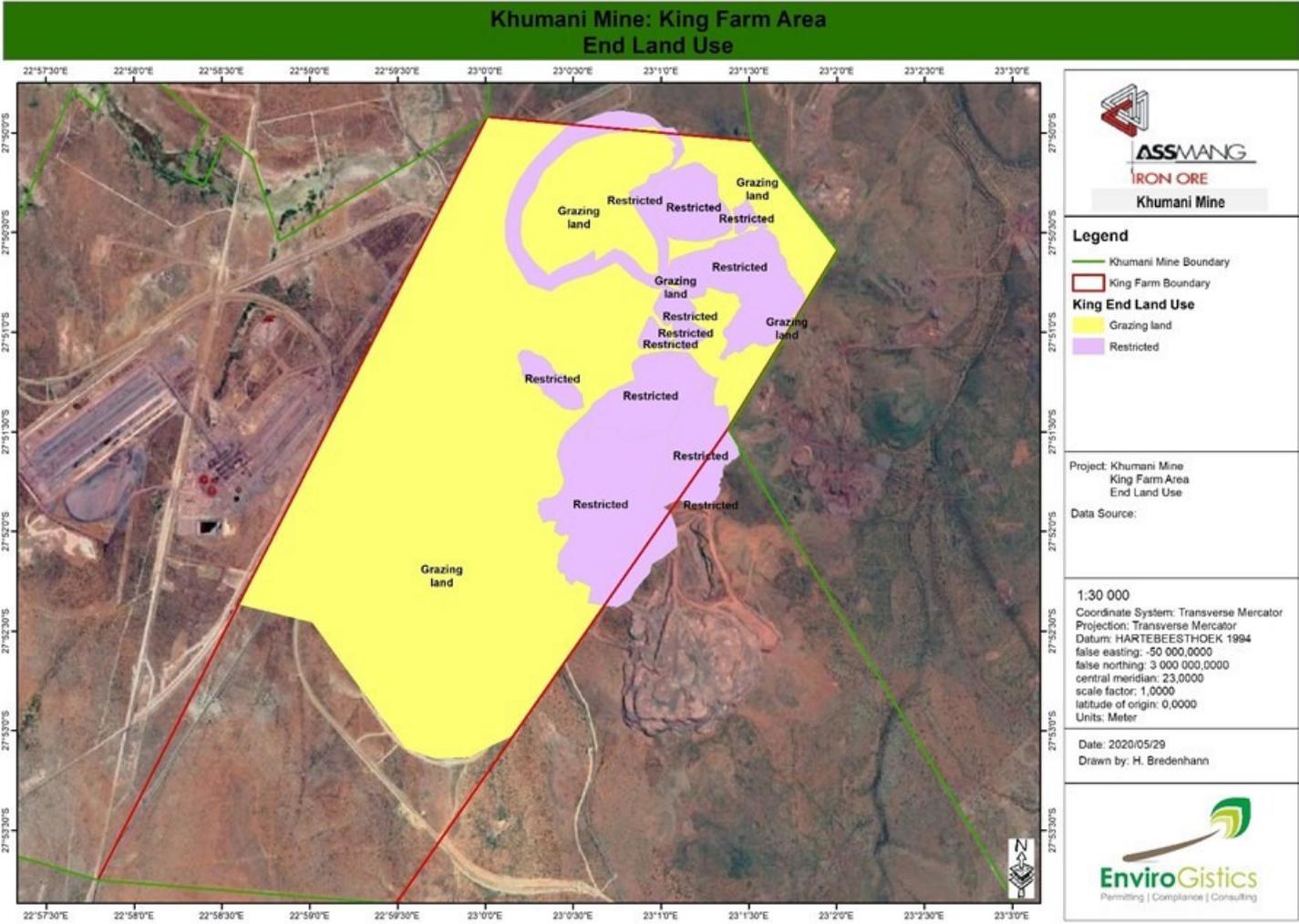


Figure 9: Post-Mining Land-Use Map - King

KHUMANI IRON ORE MINE 2020 FINAL REHABILITATION PLAN  
Departmental Ref: NC 30/5/1/2/3/2/1/070EM and amendments  
Project Ref: 20207  
Version: FINAL V4

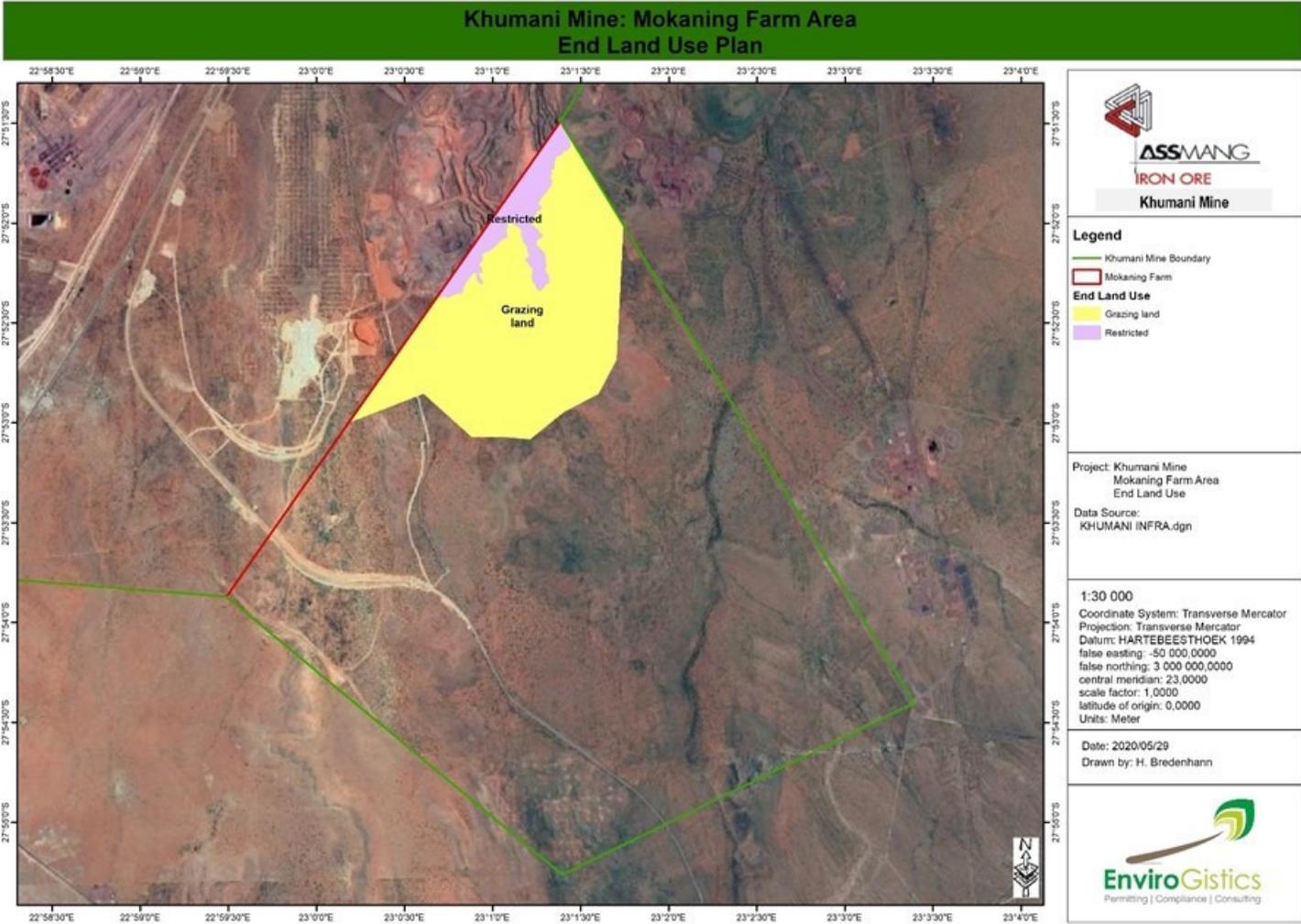


Figure 10: Post-Mining Land-Use Map - Mokaning

KHUMANI IRON ORE MINE 2020 FINAL REHABILITATION PLAN  
Departmental Ref: NC 30/5/1/2/3/2/1/070EM and amendments  
Project Ref: 20207  
Version: FINAL V4

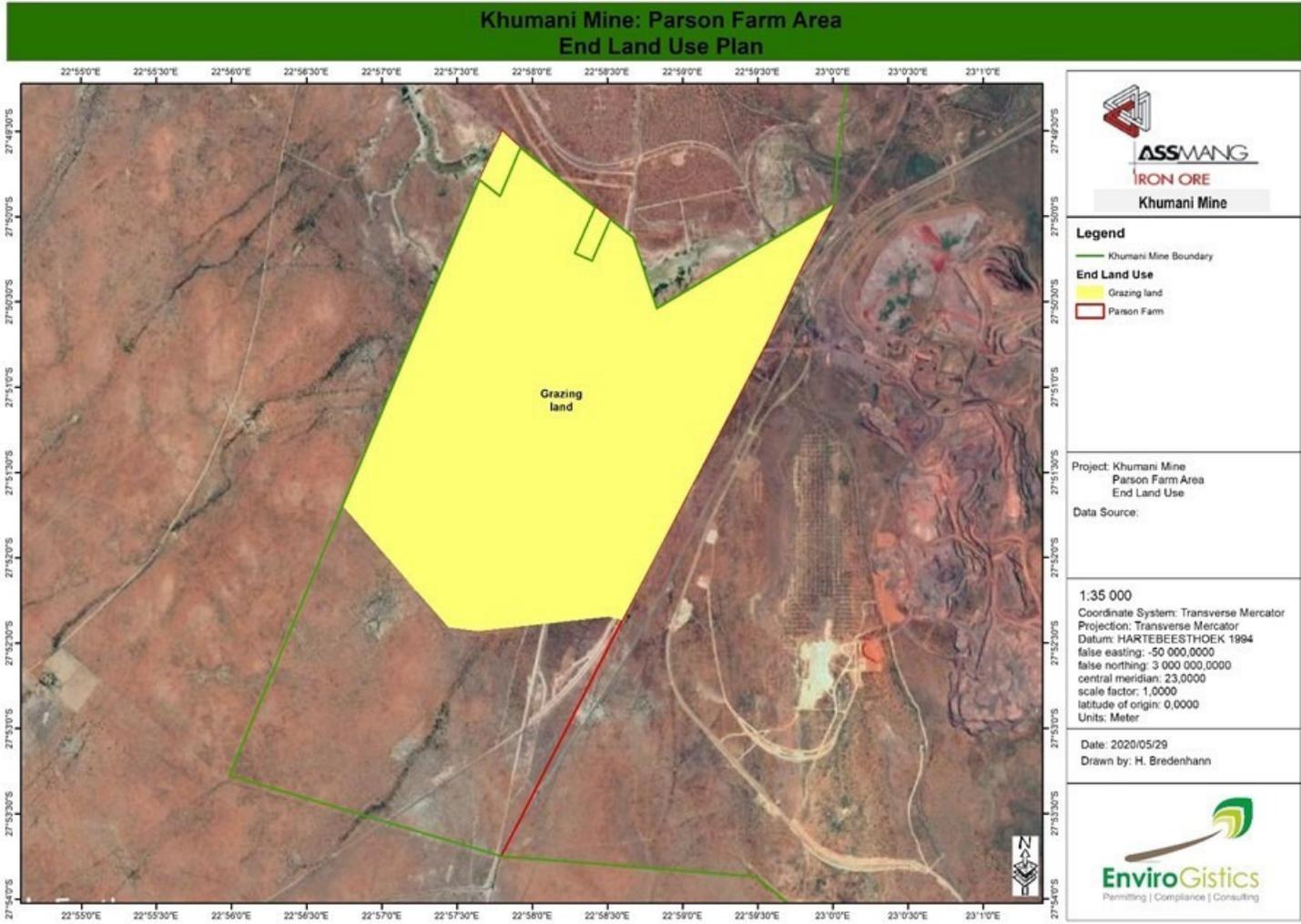


Figure 11: Post-Mining Land-Use Map - Parson

## 7 REHABILITATION AND CLOSURE FRAMEWORK

### 7.1 Technical Specifications

The following table depicts specific technical (engineering) solutions related to each infrastructure component at Khumani.

Table 6: Rehabilitation & Decommissioning Objectives and Specifications

KHUMANI IRON ORE MINE - REHABILITATION & CLOSURE FRAMEWORK 2020	
Components	Objectives & Specifications (per EMP and engineering principles)
1 <b>Topography</b>	Shape to blend in with surrounding topography
2 <b>Roads</b>	
Access Roads (gravel)	Rip, shape, topsoil, self-revegetate
Haul Roads (gravel & treated for dust allaying)	Rip, shape, topsoil, self-revegetate
Tarred Roads (bituminous tar)	Strip top layer to 500mm below surface. Dispose bituminous contents safely. Shape, rip and cover with topsoil for revegetation.
3 <b>Salvageable items</b>	Remove steel, recoverable building materials, equipment and fittings to salvage stockpile(s)
4 <b>Steel Structures</b>	Dismantle to salvage stockpile
5 <b>Brick Structures</b>	Dismantle to salvage stockpile
6 <b>Foundations, cables and pipes</b>	Remove to 1m below surface. Deeper than 1m remains in place.
7 <b>Concrete structures</b>	Dismantle to spoil
8 <b>Railway lines</b>	Dismantle steel & sleepers to stockpile, ballast to spoil
9 <b>Power lines</b>	Dismantle to salvage stockpile
10 <b>Pipe lines</b>	Dismantle to salvage stockpile
11 <b>Fencing</b>	Remove redundant material to salvage stockpile
12 <b>Materials balance (i.e. topsoil on site)</b>	Four (4) topsoil stockpiles available on site
13 <b>Hazardous waste disposal (transport and disposal site location)</b>	Collect & dispose at Holfontein H:H Disposal Site
14 <b>Slope angles on dumps</b>	18° (as per 2006 EMP). Include berms/ terraces for runoff velocity reduction where necessary. Refer Chapter 6 page 115 of EMP (2006). Also cover with 150mm topsoil.
15 <b>Opencast pits</b>	Backfill if viable, alternatively enviro berm with thorn bush vegetation cover. Upstream diversion to remain in place for open voids.
16 <b>Tailings Storage Facility</b>	Slope angles of 1:3 (v:h), benches 6-10m. Topsoil cover (150mm) and revegetate.
17 <b>Backfill vs enviro berm</b>	Per mine plan
18 <b>Product stockpiles</b>	Sale first, alternatively use material as backfill
19 <b>Earthworks (load &amp; haul, doze, shape, topsoil spread, survey etc.)</b>	Specified by Civil Engineer during evaluation
20 <b>Science/ Risk (EMP, WUL etc.)</b>	
Surface water	Water diversion to remain in place
Waste disposal (inert, domestic & hazardous)	Subject to waste classification
Dust control during rehab & closure phase	Allow for dust suppression
Groundwater	Recharge into backfilled voids post rehabilitation should be encouraged
Vegetative screening	Plant trees and shrubs along southern side of N14's view towards Paste Disposal Facility
21 <b>Mine Plan correlation</b>	Yes



KHUMANI IRON ORE MINE - REHABILITATION & CLOSURE FRAMEWORK 2020	
Components	Objectives & Specifications (per EMP and engineering principles)
22	<b>Regulation (laws, regulations &amp; guidelines)</b> Refer to applicable section in report
23	<b>Post-closure risk (groundwater contamination etc.)</b> None at present
24	<b>Post closure land use and land capability</b> Grazing land, apart from Paste Disposal Facility and opencast voids
25	<b>Social &amp; Labour Plan</b> Yes

The technical solutions are derived from a set of evaluation criteria (Table 7) selected specifically for the Khumani project sites.

Table 7: Evaluation Criteria

	Aspect	Description
1	<b>Site Inspection</b>	<i>Not possible at time for reporting due to Covid-19 lockdown restrictions</i>
2	<b>Yellow Plant</b>	Industry/ contractor rates (Northern Cape Province)
3	<b>Labour</b>	Industry/ contractor rates (Northern Cape Province)
4	<b>Rates</b>	Time and cost basis converted into unit rates
5	<b>Bill of Quantities</b>	Khumani SHEQ Department and Independent verification updated to reflect changes since last estimate.
6	<b>Preliminary and General (P&amp;Gs)</b>	6% when total value above R100M, 12% when total value less than R100M
6	<b>Health &amp; Safety</b>	2% of rehabilitation contract value
7	<b>Cost assumptions</b>	Refer applicable section in report
8	<b>Level of accuracy</b>	90%

## 8 REHABILITATION & CLOSURE ACTION PLAN

The mines latest EMPr has a detailed closure plan which was considered in this assessment. The following table specifically highlights closure actions important to the proposed activities:

Table 8: Summary of Rehabilitation and Closure Actions for Khumani Mine as a whole (EMPr, 2018)

	Requirement	Target	Responsible Person	Timeframes
<b>General Surface Rehabilitation</b>				
A	<b>Planning</b>			
A1	The closure plan will be reviewed during the life of the mine (closure, operational and decommissioning phases) as part of the NEMA Regulations for financial provision.	Legal closure review compliance.	Environmental Specialist	Annually during operational phase.
A2	Notify the DMR of intended cessation of mining activities and rehabilitation in accordance with the NEMA.	Notification	Environmental Department	Five years prior to closure.
A3	Apply for the necessary Environmental Authorisation for the decommissioning of activities in terms of the NEMA, NEM:WA and NWA.	Environmental Authorisation.	Environmental Department	At least 2 years prior to intended decommissioning.
A4	Appoint a project manager to oversee the process.	Appointment of suitably qualified project manager.	Mine Manager	Prior to the commencement of closure planning and implementation.
A5	Where still present, materials containing asbestos must be identified and removed by a person competent to do so. Asbestos waste must be disposed of to an appropriately licensed facility.	Disposal of waste in terms of Asbestos regulations and the NEM:WA.	Engineering Manager and Environmental Department.	Demolition phase
A6	Identify any protected species that may require permitting prior to disturbing.	Biodiversity Permits	Environmental Specialist	Prior to commencement of rehabilitation.



	Requirement	Target	Responsible Person	Timeframes
A7	A storm water management plan (clean and dirty water separation) for the purposes of rehabilitating towards the final land use should be developed.	Free draining environment	Hydrologist/Engineer	Prior to commencement of rehabilitation.
A8	If any archaeological artefacts of potential significance are identified at any stage, work must cease and SAHRA must be notified for instruction on how to proceed.	Protection of artefacts	Environmental Specialist	Ongoing
<b>B</b>	<b>Removal of Surface Infrastructure and Structures</b>			
B1	Photographs of the infrastructure, before, during and after rehabilitation will be taken at selected fixed points and kept on record for the Manager (Group Environmental Department) and the DMR purpose	Documentation of rehabilitation process.	Environmental Department	Ongoing
B2	All temporary buildings (pre-fabricated buildings) should be removed and their footprints rehabilitated.	Surface rights area cleared up of all mining related infrastructure and structures.	Project Manager	Ongoing
B3	All fixed assets that can be profitably removed will be removed for salvage or resale (the salvage and resale value have however not been incorporated into the closure cost estimate as per the legislative requirements)	Surface rights area cleared up of all mining related infrastructure and structures.	Project Manager	Ongoing
B4	All surface structures, infrastructure and 'hard surfaces' (inter alia, redundant surfaced roads, parking and paved areas) are to be demolished and removed from the disturbed mine footprint; unless an alternative/continued use for any such items is agreed upon, in writing, with the DMR.	Surface rights area cleared up of all mining related infrastructure and structures.	Project Manager	Ongoing
B5	Any item that has no salvage value to the mine but could be of value to individuals will be treated as waste, unless otherwise defined in terms of the NEM:WA	Surface rights area cleared up of all mining related infrastructure and structures.	Project Manager	Ongoing
B6	All structures will be demolished, terracing removed and foundations demolished to 1m or as stipulated in the closure objectives (500mm for roads) below the original ground level	No remaining sub-surface structures that may impede further phases of rehabilitation or vegetation establishment.	Project Manager	Ongoing
B7	Dismantle and remove redundant fencing for salvage	Surface rights area cleared up of all mining related infrastructure and structures.	Project Manager	Ongoing
B8	Water pollution control structures will remain until the completion of all demolition and associated rehabilitation activities where after these will be rehabilitated.	Free draining environment	Hydrologist/Engineer	Prior to commencement of rehabilitation.
B9	The soils beneath any structures used for the bulk storage of hazardous substances (i.e. bulk fuel and oil storage facilities, oil-water separators/sumps), must be made subject to a hydrocarbon contamination screening exercise undertaken by a suitably qualified, independent, professional.	Documented proof of contamination assessments on record. Compliance with any further recommendations from appointed specialist prior to further rehabilitation of contaminated site(s).	Project Manager	Ongoing
<b>C</b>	<b>Soil Preparation</b>			
C1	Where sites have been alienated of vegetation or where soils have been compacted or covered with concretes, these sites will be ripped and shaped.	No topsoil replacement on compacted soil horizons.	Project Manager	Ongoing
C2	The topsoil and subsoils (or identified gravel topsoil mixture) with the appropriate seedbed as stripped during the construction and operational phases will be placed over these areas to a depth as specified by a qualified specialist. The topsoil shall be appropriately ameliorated to allow	Replacement of fertile topsoil.	Environmental Scientist	Ongoing



	Requirement	Target	Responsible Person	Timeframes
	vegetation to grow rapidly <b>if required</b> – it should be noted that the mine will encourage self-succession of vegetation, if this does not take place effectively a revegetation project will be implemented			
C3	On-going alien and invasive floral species control is required through all phases of rehabilitation.	No establishment of alien or invasive species.	Environmental Scientist	Ongoing inspections.
C4	Pre-mining topography should be reasonably restored through shaping and landscaping, such that the topography of rehabilitated areas will ultimately be commensurate with that of adjacent, non-disturbed areas.	No evidence of significant alteration.	Project Manager	Ongoing
C5	The areas will be landscaped to be free draining in line with the approved storm water management plan.	Area to be free draining	Project Manager	Ongoing
C6	If a reasonable assessment indicates that the re-establishment of vegetation is unacceptable slow, the soil need to be analysed and any deleterious effects must be corrected and the area be seeded with a seed mix to specification	Successful vegetation establishment	Ecologist	Ongoing inspections.
C7	Appropriate erosion control measures (i.e. contour banks) must be taken where required	No evidence of significant alteration.	Project Manager	Ongoing
C8	Care should be taken in choosing a method/machinery to implement C4 and C5 above, such that ripped soils are not compacted through efforts to appropriately shape the disturbed sites.	No topsoil replacement on compacted soil horizons.	Project Manager	Ongoing
C9	Access to rehabilitated areas should be restricted to vehicles/machinery specifically required for the implementation of the closure plan.	No unauthorised access.	Project Manager	Ongoing
D	<b>Soil and Vegetation replacement</b>			
D1	A topsoil/gravel mixture should be replaced over all rehabilitated area. Where topsoil is insufficient, subsoil must be treated in accordance with the specification of a soil specialist.	Replacement of fertile topsoil.	Environmental Scientist	Ongoing
D2	Topsoil should be screened, as necessary, to remove any foreign objects, rocks, etc., prior to the replacement thereof.	Replacement of topsoil that is fit for purpose.	Project Manager	Ongoing
D3	Any areas with slope $\geq 3^\circ$ should be inspected weekly for signs of topsoil erosion following the replacement thereof, and appropriate action taken to curb any problematic areas.	No evidence of significant alteration.	Project Manager	Ongoing
D4	Self-succession should be encouraged. One rainy season will be allowed for self-succession to take place.	Successful vegetation establishment	Ecologist	Ongoing inspections.
D5	If a reasonable assessment indicates that the re-establishment of vegetation is unacceptable slow, the soil need to be analysed and any deleterious effects must be corrected and the area be seeded with a seed mix to specification. Should self-succession of vegetation not take place, the mine will implement a vegetation strategy to establish vegetation on these disturbed areas. Appropriate erosion control measures (i.e. contour banks) must be taken where required.	Successful vegetation establishment	Ecologist	Ongoing inspections.
D6	No grazing on rehabilitated areas is to occur within three years of reseeding completion, should reseeding be undertaken..	Documentation of rehabilitation process.	Project Manager	Three years from re-seeding.
E	<b>Disposal of Material</b>			
E1	Waste will be classified in terms of the NEM:WA to determine the required waste disposal strategies.	Classification of waste in terms of the NEM:WA	Environmental Specialist	Prior to the commencement of closure planning and implementation.
E2	Rubble will be disposed of at a suitable site which will be rehabilitated once it serves its purpose.	Safe disposal certificates.	Environmental Department	Ongoing



	Requirement	Target	Responsible Person	Timeframes
	This activity should also comply with the relevant NEM:WA requirements			
E3	All types of waste shall be removed entirely from the area and appropriately dealt with in respect of the general waste handling procedure	Safe disposal certificates.	Environmental Department	Ongoing
E4	Inert ceramics such as bricks, concrete, gravel etc. will be used as backfill or disposed of in a permitted waste disposal site.	Disposal of waste in terms of the NEM:WA.	Environmental Department	Ongoing
E5	Inert waste, which is more than 1m underground, such as pipes will be left in place.	Disposal of waste in terms of the NEM:WA.	Environmental Department	Ongoing
E6	Inert ceramic and buried waste with a salvage value to individuals such as scrap metal, building materials, etc. will be removed and disposed of at a proper facility	Disposal of waste in terms of the NEM:WA.	Environmental Department	Ongoing
<b>F</b>	<b>Ongoing monitoring and maintenance</b>			
F1	All rehabilitated areas will be fenced off up until the area is regarded as stable	No unauthorised access.	Project Manager	Ongoing
F2	All illegal invader plants and weeds shall be dealt with as required in terms of the relevant legislation	No establishment of alien or invasive species.	Environmental Scientist	Ongoing inspections.
F3	External, independent, 'Mine Rehabilitation' compliance audits must be undertaken by a competent auditor for all areas where rehabilitation is being implemented at the mine at least quarterly. Audit to at least document compliance with this plan, as well as any other relevant provisions of the EMPr revision approval by the DMR.	Compliance with closure plan	External Auditor	Quarterly
F4	The mine should undertake monthly internal compliance audits for all areas where rehabilitation is being implemented at the Mine.	Compliance with closure plan	Environmental Department	Monthly
F5	Monitoring and maintenance of all natural physical, chemical and biological processes for which a closure condition has been specified must be monitored for three (3) years after closure or as long as required by the relevant authorities. Such processes include erosion of the rehabilitated surfaces, surface water drainage, air quality, surface water quality, groundwater quality, vegetative re-growth, weed encroachment and colonisation by animals.	Compliance with closure plan with at least 90% sustainable establishment of vegetation.	Environmental Department	Ongoing
	<b>Specific Infrastructure Requirements</b>			
<b>G</b>	<b>Product Stockpiles</b>			
G1	All material will be removed from the footprint area: <ul style="list-style-type: none"> <li>☛ Where possible the product will be sold;</li> <li>☛ If the product cannot be sold, the material will be backfilled into the past opencast voids.</li> </ul>	Optimal use of economically viable resources.	Mine Manager and Geologist.	Ongoing
G2	General Surface rehabilitation in terms of Part C and Part D will be implemented.	Successful implementation of General Rehabilitation Requirements.	Environmental Department	Ongoing
<b>H</b>	<b>Mine Residue Facilities</b>			
H1	Where possible Mine Residue Stockpiles, as indicated in the approved EMPr will be reworked.	Optimal use of economically viable resources. Implementation of the waste reduction hierarchy.	Project Manager, Environmental Department.	Ongoing
H2	The slopes of the waste rock dumps will be shaped to be stable and that the structure blends into the surrounding environment. An overall gradient of	Ultimate compliance to the final land use requirements - free	Project Manager, Civil Engineer	Ongoing, at least 2 years after final deposition of waste on site.



	Requirement	Target	Responsible Person	Timeframes
	1:3 should be achieved for the mine residue and waste rock dumps. Slope modification will be achieved by means of either shaping existing waste rock dumps to predetermined side slopes and associated bench configurations or adding waste rock shells with the required outer slopes and associated benches onto existing waste rock dumps with waste material as it is produced.	draining suitable for grazing land.		
H3	Engineering design drawings for shaping and closure of the Mine Residue facilities, as developed by a competent civil engineer, must be submitted to the DWS and DMR for written approval prior to commencing with the closure thereof.	Ultimate compliance to the final land use requirements.	Project Manager, Civil Engineer	Once-Off
H4	Clean and dirty water systems will be implemented to remain as long terms structures to ensure that the area is free draining as far as practically possible	Free draining environment	Hydrologist/Engineer	Prior to commencement of rehabilitation.
H5	Terraces and berms will be implemented to encourage the self-succession of vegetation and the reduced potential for erosion	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
H6	Should self-succession not establish the mine will cover the remaining waste rock dumps with the necessary topsoil and subsoil mixture, with the associated seedbed	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
H7	The re-vegetation process will be monitored and encouraged until the area is regarded as stable	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
H8	The waste rock dump will be fenced off until the vegetation is stable and the rehabilitation is regarded to be finalised	No unauthorised access.	Project Manager	Ongoing
I	<b>Paste Disposal Facility</b>			
I1	The slopes of the slimes dams will be shaped to be stable and that the structure blends into the surrounding environment	Ultimate compliance to the final land use requirements - free draining suitable for grazing land.	Project Manager, Civil Engineer	Ongoing, at least 2 years after final deposition of waste on site.
I2	Clean and dirty water systems will be implemented to remain as long terms structures to ensure that the area is free draining as far as practically possible	No evidence of significant alteration.	Project Manager	Ongoing
I3	Terraces and berms will be implemented to encourage the self-succession of vegetation and the reduced potential for erosion	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
I4	Should self-succession not establish the mine will cover the remaining waste rock dumps with the necessary topsoil and subsoil mixture, with the associated seedbed	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
I5	The re-vegetation process will be monitored and encouraged until the area is regarded as stable	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
I6	The dam will be fenced off until the vegetation is stable and the rehabilitation is regarded to be finalised	No unauthorised access.	Project Manager	Ongoing
J	<b>Opencast Pits</b>			
J1	The opencast pits will be backfilled as part of the operational phase. The aim and objective of the final land use will be to limit any open voids. However, should it be found that opencast pit voids remain at the end of the mining operations, the following points will be initiated.	Ultimate compliance to the final land use requirements sheep and goat unit).	Project Manager, Civil Engineer	Ongoing, at least 2 years after final deposition of waste on site.



	Requirement	Target	Responsible Person	Timeframes
J2	The area will be made safe by the establishment of enviro-berms around the perimeter of the remaining voids in order to make the area safe and limit access	No unauthorised access.	Project Manager	Ongoing
J3	The enviro-berms will be covered with indigenous thorny vegetation	No unauthorised access.	Project Manager	Ongoing
J4	The outside slopes will be landscaped to be free draining	Ultimate compliance to the final land use requirements	Project Manager, Civil Engineer	Ongoing
J5	The surrounding topography of the area will be designed in such a manner as to allow storm water to run around the facility.	Free draining environment	Hydrologist/Engineer	Prior to commencement of rehabilitation.
J6	The topsoil and subsoils (or appropriate topsoil/gravel mixture) with the appropriate seedbed as stripped during the construction and operational phases will be placed over these areas to a depth as specified by a qualified specialist. The topsoil shall be appropriately ameliorated to allow vegetation to grow rapidly if required – it should be noted that the mine will encourage self-succession of vegetation, if this does not take place effectively a revegetation project will be implemented	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
J7	If a reasonable assessment indicates that the re-establishment of vegetation is unacceptable slow, the soil need to be analysed and any deleterious effects must be corrected and the area be seeded with a seed mix to specification	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
J8	Appropriate erosion control measures (i.e. contour banks) must be taken where required	Slope stability and effective plant establishment with no signs of erosion.	Project Manager, Environmental Department.	Ongoing
J9	All rehabilitated areas will be fenced off up until the area is regarded as stable	No unauthorised access.	Project Manager	Ongoing
J10	All illegal invader plants and weeds shall be dealt with as required in terms of the relevant legislation	No establishment of alien or invasive species.	Environmental Scientist	Ongoing inspections.
K	<b>Clean and dirty water systems</b>			
K1	Clean and dirty water systems will be implemented to remain as long terms structures to ensure that the area is free draining as far as practically possible	Protection of water integrity.	Project Manager	Ongoing
	The soils and sediment, contained in the dams, must be made subject to a hydrocarbon contamination screening and waste classification exercise undertaken by a suitably qualified, independent, and professional.	Documented proof of contamination assessments on record. Compliance with any further recommendations from appointed specialist prior to further rehabilitation of contaminated site(s).	Project Manager	Ongoing
K2	Silt and sediment contained in these facilities should be disposed of onto the licensed Slimes Dam if classification proves allowed. If the material is regarded as hazardous with a contamination potential, lawful disposal of such material should be undertaken at a licensed facility.	Lawful disposal of waste.	Project Manager	Ongoing
K3	Proceed with general surface rehabilitation Part B-F.	Successful implementation of General Rehabilitation Requirements.	Environmental Department	Ongoing
L	<b>General Landfill</b>			



	Requirement	Target	Responsible Person	Timeframes
L1	The landfill on site should be backfilled during the life of mine. If space remains, then inert waste from demolition must be used to backfill the landfill to the height of the surrounding land profile.	Free draining environment	Hydrologist/Engineer	Prior to commencement of rehabilitation.
L2	The natural recharge over the landfill site should be reduced by the compaction of the area and vegetation of the site.	Free draining environment	Hydrologist/Engineer	Prior to commencement of rehabilitation.
	A storm water management system will be designed and implemented around the facility to reduce runoff over this system.	Reduce recharge.	Civil Engineer.	Prior to the commencement of closure planning and implementation.
L3	Engineering design drawings for capping and closure of the aforementioned facilities, as developed by a competent civil engineer, must be submitted to the DWS and DMR for written approval prior to commencing with the closure thereof.	Ultimate compliance to the final land use requirements	Project Manager, Civil Engineer	Once-Off

The Rehabilitation and Closure Action Plan contains specific implementable actions in respect of decommissioning, rehabilitation, remediation and closure at Khumani. The action plan is specifically designed to follow the mine plan (as approved at day of evaluation). Refer to Table 9 for the Rehabilitation and Closure Action Plan. The action plan is interpreted visually to display planned rehabilitation progression throughout operations (refer to Figure 12 to Figure 15).

The action plan associated with the rehabilitation plan is presented in the following table.



Table 9: Rehab and Closure Action Plan

Component	Location/ Farm	Name	Action	Material Source/ Location
Salvage Yard(s)	Bruce	Bruce Salvage Yard (BSY)	Receive salvage material for sale/ collection	Steel, equipment, fittings, recoverable building materials from Bruce
	King	King Salvage Yard (KSY)	Receive salvage material for sale/ collection	Steel, equipment, fittings, recoverable building materials from King
	Parson	Parson Salvage Yard (PSY)	Receive salvage material for sale/ collection	Steel, equipment, fittings, recoverable building materials from Parson
	Mokaning	KSY	Receive salvage material for sale/ collection	Steel, equipment, fittings, recoverable building materials from Mokaning
Pre-demolition works	Bruce	All buildings and structures	Strip/ recover all salvageable equipment, fittings & materials to salvage yard	BSY
	King	All buildings and structures	Strip/ recover all salvageable equipment, fittings & materials to salvage yard	KSY
	Parson	All buildings and structures	Strip/ recover all salvageable equipment, fittings & materials to salvage yard	PSY
Pits & Voids	Bruce	BA05, BB01, BC01, BC02 & BC03	Construct Enviro Berm (refer to specification in Table 6)	Overburden material on Bruce
	King	KM01 & KM02	Construct Enviro Berm (refer to specification in Table 6)	Overburden material on King
Dumps and Spoils	Bruce	B01 & Pan Handle	Containment berm, shape slopes to 18°, cover with topsoil (150mm)	Topsoil stockpile on Bruce
	King	K01	Containment berm, shape slopes to 18°, cover with topsoil (150mm)	Topsoil stockpile on King
		KM02	Profile slopes, cover with topsoil and install drainage	
	Mokaning	M01	Containment berm, shape slopes to 18°, cover with topsoil (150mm)	Topsoil stockpile on Mokaning
Paste Disposal Facility	King	Compartments 1, 2 & 3	Rip and shape remaining disturbed surfaces	
			Cut to fill from Waste Rock Dump	Dump K01
			Topsoil spreading over area (150mm)	Topsoil stockpiles on King & Mokaning
Railway Lines	King	All belonging to Khumani (incl. Old TFR)	Remove rails and sleepers to salvage yard. Ballast to spoil.	
	Parson	All belonging to Khumani	Remove rails and sleepers to salvage yard. Ballast to spoil.	
Roads	Bruce	Unsurfaced haul roads	Rip and shape, then cover with topsoil	Topsoil stockpile on Bruce
		Surfaced (tarred) roads	Demolish bituminous layers to disposal. Rip, shape and topsoil footprints	
	King	Unsurfaced haul roads	Rip and shape, then cover with topsoil	Topsoil stockpile on King
		Surfaced (tarred) roads	Demolish bituminous layers to disposal. Rip, shape and topsoil footprints.	
	Parson	Unsurfaced haul roads	Rip and shape, then cover with topsoil	Topsoil stockpile on Parson

Component	Location/ Farm	Name	Action	Material Source/ Location
		Surfaced (tarred) roads	Demolish bituminous layers to disposal. Rip, shape & topsoil footprints.	
<b>Steel Structures</b>	Bruce	Heavy internal steel structures	Dismantle to salvage yard for sale/ collection	BSY
		Light to medium height steel structures	Dismantle to salvage yard for sale/ collection	BSY
	King	Heavy internal steel structures	Dismantle to salvage yard for sale/ collection	KSY
		Light to medium height steel structures	Dismantle to salvage yard for sale/ collection	KSY
	Parson	Heavy internal steel structures	Dismantle to salvage yard for sale/ collection	PSY
		Light to medium height steel structures	Dismantle to salvage yard for sale/ collection	PSY
<b>Brick Buildings</b>	Bruce	All pre-stripped brick structures	Demolish, load and spoil on site	Suitable pit/ void or discard dump
	King	All pre-stripped brick structures	Demolish, load and spoil on site	Suitable pit/ void or discard dump
	Parson	All pre-stripped brick structures	Demolish, load and spoil on site	Suitable pit/ void or discard dump
<b>Concrete Structures</b>	Bruce	All reinforced concrete structures	Demolish all reinforced concrete foundations/ bases/ slabs/ floors to spoil	Suitable pit/ void or discard dump
	King	All reinforced concrete structures	Demolish all reinforced concrete foundations/ bases/ slabs/ floors to spoil	Suitable pit/ void or discard dump
	Parson	All reinforced concrete structures	Demolish all reinforced concrete foundations/ bases/ slabs/ floors to spoil	Suitable pit/ void or discard dump
<b>Pipelines, power lines &amp; communication lines</b>	Bruce	All above ground and where known to 0.5m below ground	Dismantle and remove to salvage yard	BSY
	King	All above ground and where known to 0.5m below ground	Dismantle and remove to salvage yard	KSY
	Parson	All above ground and where known to 0.5m below ground	Dismantle and remove to salvage yard	PSY
<b>Fences</b>	Bruce	All non-remaining fences	Dismantle and remove to salvage yard	BSY
	King	All non-remaining fences	Dismantle and remove to salvage yard	KSY
	Parson	All non-remaining fences	Dismantle and remove to salvage yard	PSY
	Mokaning	All non-remaining fences	Dismantle and remove to salvage yard	KSY
<b>Boreholes</b>	King	All non-long-term monitoring boreholes	Cat casing to 0.5m below surface and cap borehole with concrete cap	
<b>Waste Management</b>	Bruce	All soils with elevated Total Petroleum Hydrocarbons (TPH) levels	Cut hazardous/ contaminated soils to disposal facility (Holfontein)	Holfontein H:H Disposal Site
	King	All soils with elevated TPH levels	Cut hazardous/ contaminated soils to disposal facility (Holfontein)	Holfontein H:H Disposal Site

Component	Location/ Farm	Name	Action	Material Source/ Location	
	Parson	All soils with elevated TPH levels	Cut hazardous/ contaminated soils to disposal facility (Holfontein)	Holfontein H:H Disposal Site	
	Mokaning	All soils with elevated TPH levels	Cut hazardous/ contaminated soils to disposal facility (Holfontein)	Holfontein H:H Disposal Site	
<b>General Rehabilitation</b>	<b>Surface</b>				
		Bruce	All disturbed surface areas not covered under other components	Rip and shape	
		King	All disturbed surface areas not covered under other components	Rip and shape	
		Parson	All disturbed surface areas not covered under other components	Rip and shape	
		Mokaning	All disturbed surface areas not covered under other components	Rip & shape	
<b>Maintenance and Aftercare</b>					
	Bruce	As specified in Table 12	As prescribed in the specifications contained in Table 12		
	King	As specified in Table 12	As prescribed in the specifications contained in Table 12		
	Parson	As specified in Table 12	As prescribed in the specifications contained in Table 12		
	Mokaning	As specified in Table 12	As prescribed in the specifications contained in Table 12		

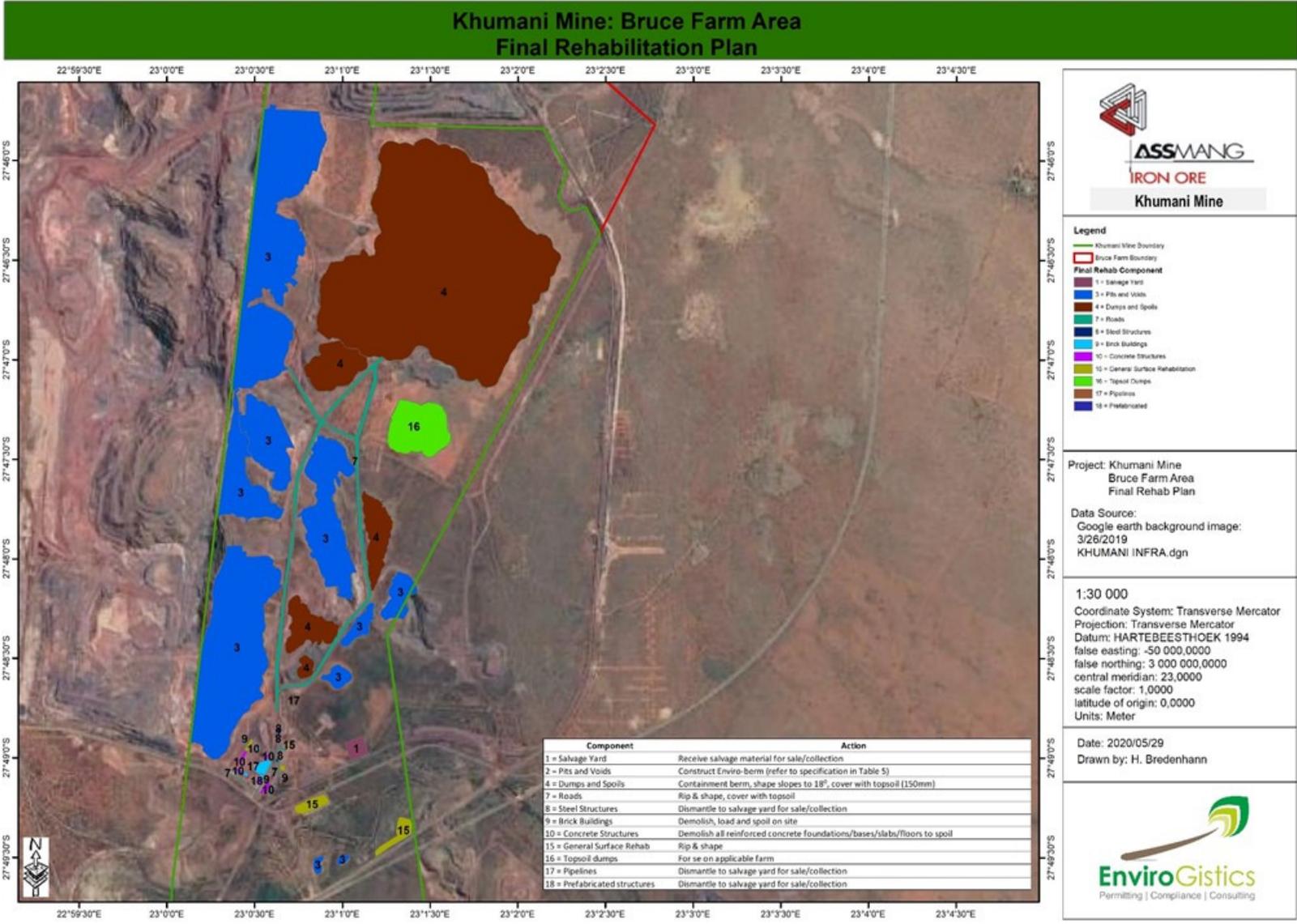


Figure 12: Final Rehabilitation Action Plan - Bruce

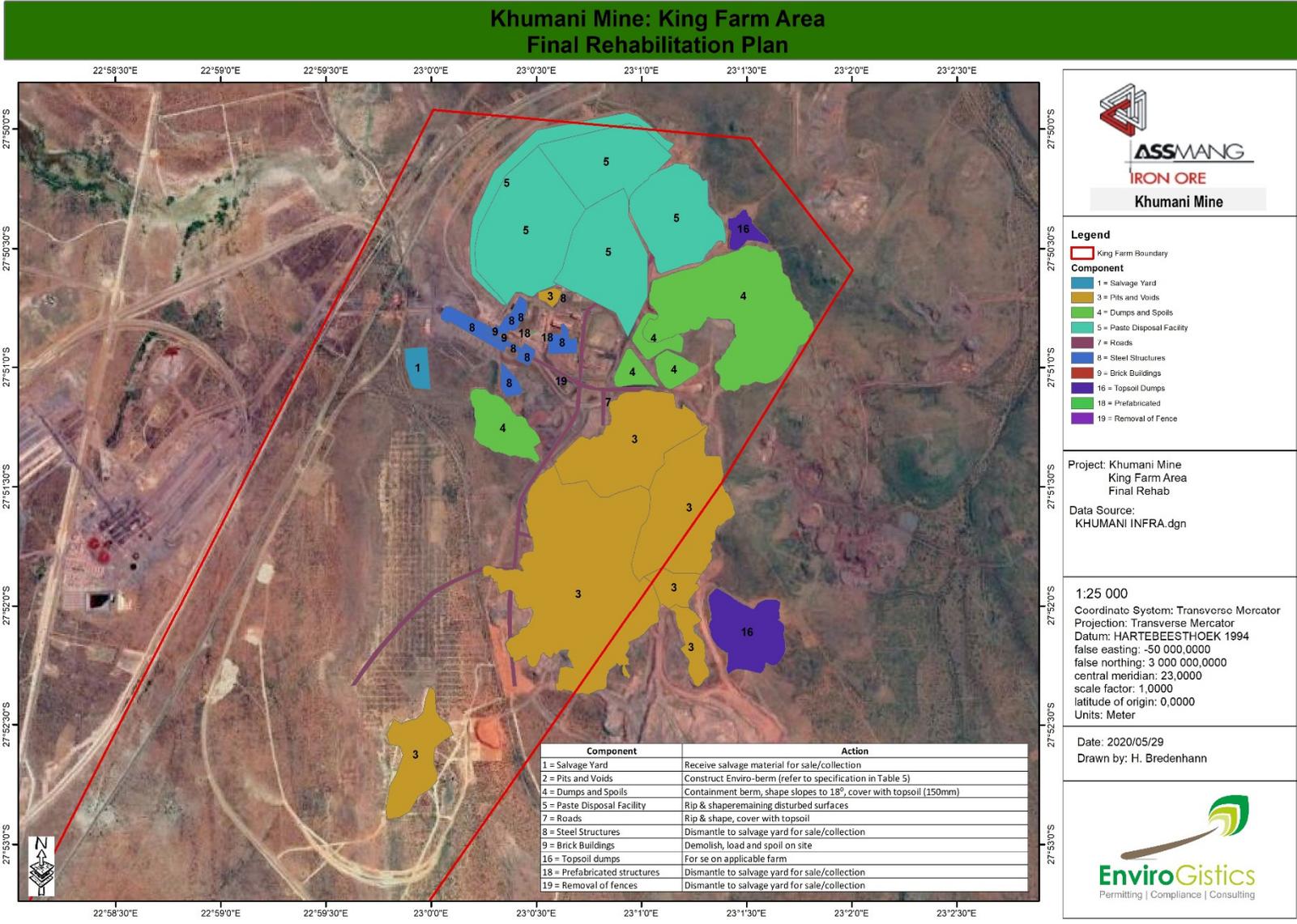


Figure 13: Final Rehabilitation Action Plan - King

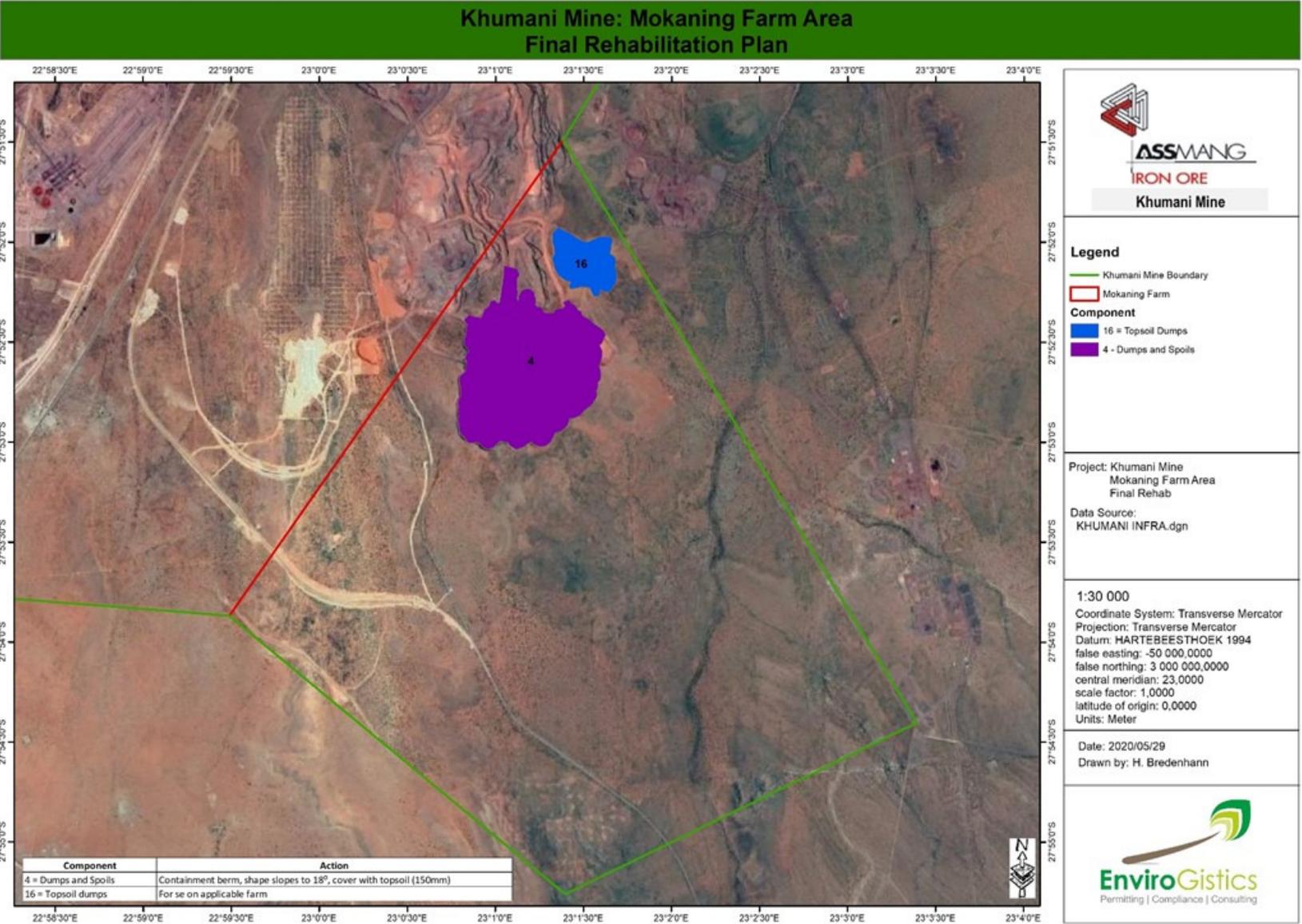


Figure 14: Final Rehabilitation Action Plan - Mokaning

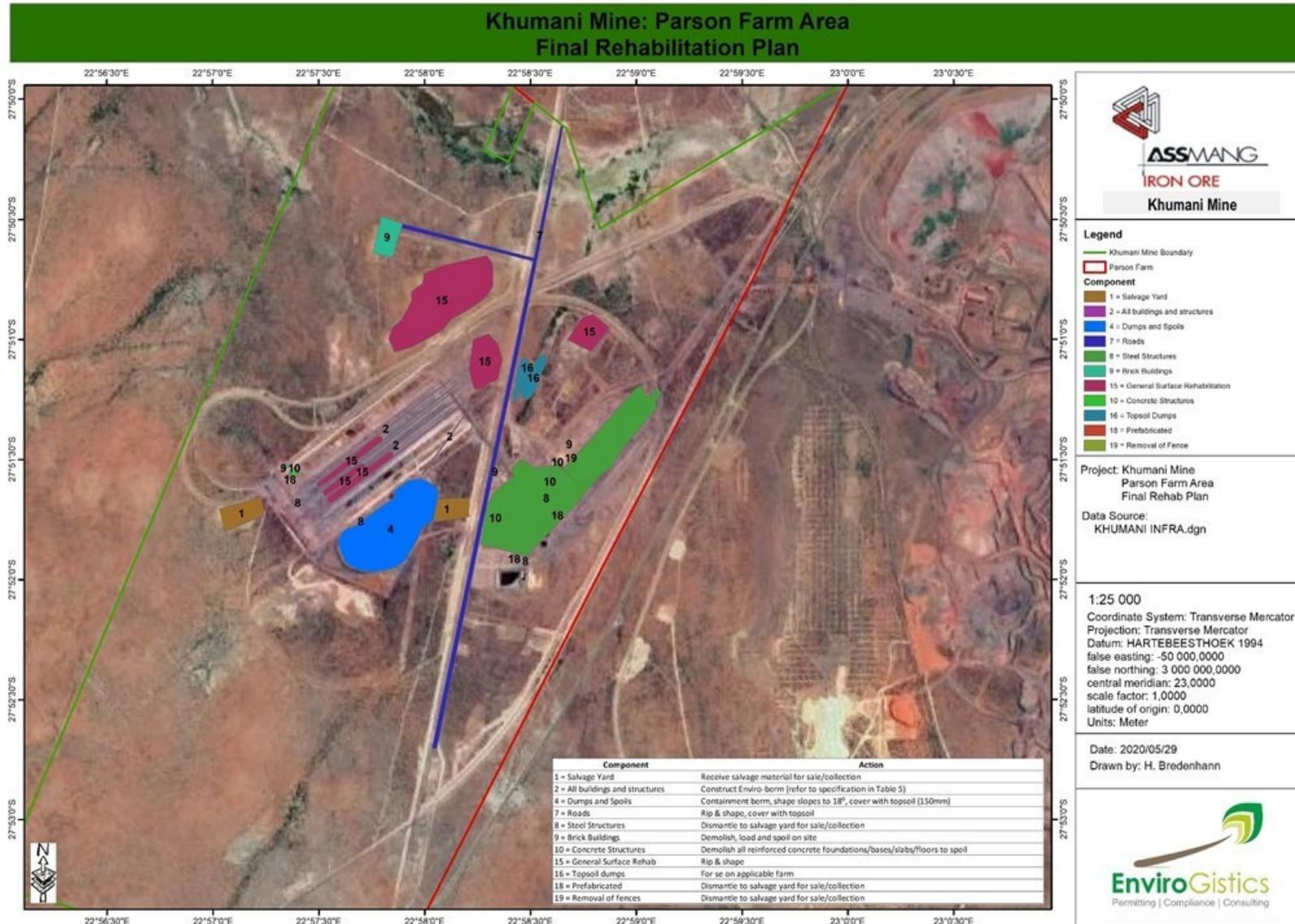


Figure 15: Final Rehabilitation Action Plan - Parsons

## 9 ORGANISATIONAL CAPACITY

### 9.1 Organisational Philosophy

Assmang is committed to conducting its business in a manner that takes into account the social, economic and natural environment in which it operates, as well as integrating environmental management into all its activities. As such all operations are ISO 9002 accredited.

Assmang's environmental policy is to:

- ☞ Promote the education, training and motivation of employees to raise their environmental awareness;
- ☞ Conduct all activities in an environmentally responsible manner to ensure prevention of pollution;
- ☞ Establish environmental management systems at all operations, including environmental auditing and monitoring of these systems;
- ☞ Ensure compliance with regulatory standards, environmental legislation, company policies and philosophy; and
- ☞ Develop and maintain positive relationships with employees and all affected parties, government departments and the public.

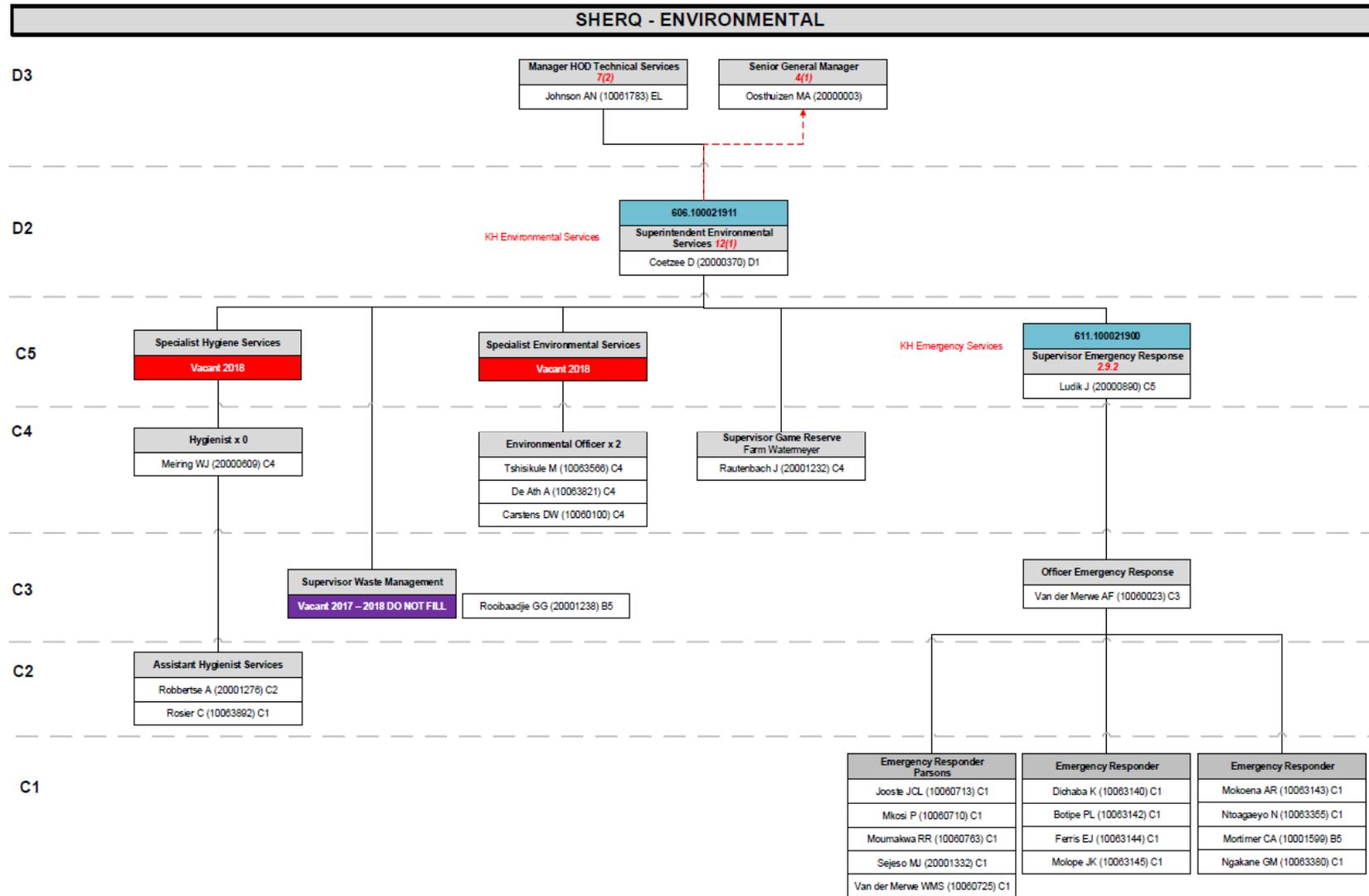
Assmang's business policies in general are to:

- ☞ Embed sustainable development as an integral part of the business;
- ☞ Follow an occupational health and safety approach that views any safety/risk incident in a serious light and any accident as unacceptable;
- ☞ Prevent and manage HIV/AIDS as a key strategic health imperative;
- ☞ Effectively and beneficially rehabilitate all land once mined;
- ☞ Ensure legal compliance, including an effective communication with government and the public, with third party verification of performance reports;
- ☞ Engage in ethical and transparent behaviour and practices based on principles of honesty, equity, freedom and opportunity for everyone;
- ☞ Willing and constructive engagement with employees on matters of mutual concern;
- ☞ Work smartly, responsibly and efficiently to effectively integrate economic, environmental and social needs as a basis for continuously improving performance and ensuring trust;
- ☞ Invest one % of pre-tax profit to seed and sustain development initiatives;
- ☞ Insure the best interest of the public and affected parties are taken into consideration; and
- ☞ Ensure preferential procurement in terms of specific policies and guidelines.

### 9.2 Organisational Structure

The diagram overleaf presents the current organisational structure:

Planned Labour 2018 - 2019



ORG - Technical Services 2018 Rev 24

Friday, May 3, 201

Diagram 1: Organogram



### 9.3 Training

Assmang has an integrated awareness plan (encompassing safety, health, environmental, risk and quality issues) in place, as part of its Safety Health Environmental Risk and Quality (SHERQ) Management System.

The objectives of the SHERQ awareness plan are to:

- Explain to the Assmang employees how the SHERQ policy and objectives are compiled;
- Communicate the SHERQ policy and objectives to all employees with the intent that employees are made aware of their individual SHERQ obligations and that they understand the SHERQ policy and objectives; and
- Explain to the employees what the roles and responsibilities of management, appointed SHERQ Management Representatives and all employees are towards the SHERQ Management System.

The plan consists of the following:

- Procedure for SHERQ Risk Assessment and Management;
- Procedure for SHERQ accident, non-conformance risk investigations and corrective-and preventive action implementation;
- Procedure for emergency preparedness and response;
- Procedure for communication and consultation;
- Procedure for waste management;
- Procedure for monitoring and measuring;
- Procedure for control of document; and
- Procedure for record control.

The following sections briefly describe the procedures for integrated awareness on the mine.

#### a) Induction

Environmental issues related to the operation are addressed in induction sessions. All environmental impacts and their remedial measures are discussed, explained and communicated to employees. The induction sessions are modified according to the level of employee attending the induction session, so that all employees gain a suitable understanding of environmental issues and pollution.

#### b) SHERQ Training

Assmang has developed a procedure for training, which involves attending internal and external training sessions. The procedure is broadly as follows:

The senior training officer consults with the relevant department managers; at which time the training needs for individual tasks are determined. Tasks are divided into various modules, with each module accompanied by a training schedule. An employee is provided with a training manual for the specific module in which he/ she is employed.

#### c) General Training and Skills Development

Human Resources Development Programmes include appropriate training and skills development programmes as required by the workforce in support of operation specific business plans (both mining and non-mining related). Training is offered in portable skills, being competencies that will enable employees to find jobs elsewhere within the mining industry, or to become self-employed.

Assmang has developed a monthly internal training schedule, which is called Indaba. The Indaba serves to inform the employees of relevant topics associated with their working environment. The supervisor or department management organises the Indaba topic discussion. Basic environmental and pollution control skills are included in this training.



d) Incident Reporting Structure

Environmental incident reporting is a vital part of communication for the Environmental Department at the current Beeshoek Mine and will form a further vital role at Khumani. Employees are required to report any and all environmentally related problems, incidents and pollution, so that the appropriate remedial action can be implemented timeously.

e) Internal communication strategy

Communication is a management responsibility. All line supervisors are responsible for effective communication within their own sections. Environmental communication can be divided into four main categories, which include: internal communication, external communication, communication and consultation on SHERQ related issues and communication of SHERQ related issues by means of reports to stakeholders.

Assmang Management has established and is maintaining procedures for the internal communication between the various levels and functions of the organisation, and receiving, documenting and responding to relevant communication from external interested & affected parties. Employees may communicate issues and concerns either in writing or verbally. The communication procedure involves the following media and channels:

The Assmang communication strategy is based on a behavioural approach. Due to the environmental awareness generated by induction, on the job training etc, employees are able to identify environmental problems, issues, concerns and pollution timeously.

Internal communication is further enhanced on the mine by the distribution of the Sibilo newspaper, which is distributed quarterly to inform employees of the current SHERQ status and any new developments regarding Assmang.

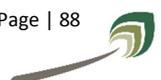
Weekly notices of any new developments and relevant information are also distributed to employees.

The following records are kept to ensure that all communication is effectively stored:

- ☞ E-mail: E-mail communication received must be stored, with replies, in an appropriate folder on a server. E-mail messages, relevant to the environmental management system, should be kept for a minimum of two years before deletion.
- ☞ Mail: Correspondence received by mail must be filed, along with the response (where relevant), within the Environmental Departments filing system for a minimum period of 2 years. Paper correspondence will be archived in this department.
- ☞ Telephone: A register of telephonic environmental queries should be kept by the Environmental Department detailing caller, date, query, action taken and response. Furthermore, the person answering the call will be responsible for logging their particulars against the call, as well as ensuring that all communication that leads to an aspect or an impact, is entered on the Environmental Management System (EMS) database.
- ☞ Storage of Correspondence: the Khumani Environmental Manager must retain all original correspondence for a minimum period of two years.
- ☞ Environmental Reports: Copies of relevant specialist study reports and Environmental Impact Assessments will be available on request from the Environmental Manager.
- ☞ Queries from Interested and Affected Parties: Responses to queries about environmental impacts and aspects will be addressed by the Environmental Department, and approved by the Environmental Manager.
- ☞ Queries and requests from the media: Requests for articles from the media on environmental issues at Khumani will be co-ordinated by the HR Manager, with input from the Environmental Department, as approved by the General Manager, in line with Khumani Communication Strategy.

f) External communication strategy

Environmental Steering Committees: Environmental Steering committees work to increase awareness in the community regarding environmental constraints and opportunities. At corporate level, this includes providing support for Non-Governmental Organisations (NGOs) involved with specific environmental awareness



programmes. Assmang has initiated an environmental focus meeting, which includes representatives from Sishen Mine.

A Future Forum was established. The Future Forum has various unions involved; people from the Municipalities are invited to attend these meetings, at which time they are presented with the opportunity to raise their issues and concerns.

## 10 GAPS AND WAY FORWARD

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It is recommended that the following actions be implemented in order to address the gaps appropriately:

- ☞ The information provided by the mine survey team is assumed accurate and could not be verified due to traveling restrictions issued by the President of South Africa in terms of the Disaster Management Regulations.
- ☞ Contaminated land evaluation to determine extent of hydrocarbon contaminated soils and most appropriate and cost-effective method of treatment and/or disposal (is this required);
- ☞ Declassification of bituminous tar residue as hazardous waste and subsequent suitable on-site treatment and disposal solutions.

## 11 RELINQUISHMENT CRITERIA

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Refer to Section 7 for a detailed list of relinquishment criteria with auditable indicators.

## 12 CLOSURE COST ESTIMATION

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### 12.1 Closure Cost Methodology

#### 12.1.1 Verification of Data

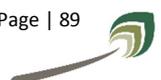
The overarching approach adopted during this evaluation broadly involved conducting a site investigation during which visual observations were made and interviews were held with key personnel, as well as a review and scrutiny of applicable scientific and technical reports, including related information.

The last site visit was undertaken during 7-8 March 2019. Ms. Bekker again undertook a site visit during October 2019 and therefore has a good understanding of the site conditions.

The methodology and approach followed by EnviroGistics in conducting the financial provision assessments commences with a detailed documentation review and then verification on information and site conditions during a site visit.

Due to the current COVID 19 country wide constraints and the lock down regulations issued by the President of South Africa since 26 March 2020 (Regulation 657 of 18 March 2020) severe restraints have been implemented to ensure social distancing, as well as restrict movement across provinces. This is restricted the opportunity to undertake site visits and verify site information.

It is however required that the financial provision studies continue to allow the mining group (Assmang Pty Ltd) to make provision for current rehabilitation liabilities in the end of financial year figures. For this reason, EnviroGistics were commissioned to commence with the remote assessment of survey data (current) and allowance for open channel of communication with the survey departments, planning departments, mining departments, and environmental departments.



### 12.1.2 Information Considered

The development of site-specific costs for final rehabilitation, decommissioning and closure involved the following sequence of evaluations:

- Approved Closure Actions and final land use as part of the approved EMPs, Environmental Authorisations and WUL;
- Review of surveyed information (See Section 1.5.3);
- Collection of waste dump growth survey data from the survey department;
- Adaptation of the base Bill of Quantities (BoQ) (November 2016 and the subsequent studies) by a rehabilitation specialist, utilising observations made during the site inspection and individual measurements made from the scaled aerial photographs and survey data per rehabilitation and closure component;
- Identification of the respective closure components – refer to Table 10;
- Identification of the prescribed post-mining land use requirement for each closure component – refer to Section 7;
- Compilation of a list of activities/ actions, referred to as items, to be implemented to achieve the desired post mining land use objective for each closure component – refer to Table 11.

### 12.1.3 Costing Strategy and Framework

Based on the approved Closure Objectives contained in the EMPs (see Section 6), a costing strategy and framework (refer to Section 7) was developed to ultimately compile a detailed independent rehabilitation and closure solution for the purposes of the action plan and the cost estimate. The outcome of this approach is detailed in the subsequent sections.

### 12.1.4 Calculation Considerations

Government Notice 1147 (20 November 2015) of the NEMA clearly stipulates the requirements for the calculation of costs:

- Section (1) of the Regulations states that the determination, review and assessment contemplated in regulations 4, 5, 6, 7 10 and 11 must be undertaken by a specialist or specialists (Please refer to Annexure A for the Curriculum Vitae of the Professional Team).
- Appendix 4 provides the minimum content of a final rehabilitation, decommissioning and mine closure plan. Section 3 (k)(i) states that cost estimates for operations, or components of operations that are more than 30 years from closure will be prepared as conceptual estimates with an accuracy of  $\pm 50$  per cent. Cost estimates will have an accuracy of  $\pm 70$  per cent for operations, or components of operations, 30 or less years (but more than ten years) from closure and  $\pm 80$  per cent for operations, or components of operations ten or less years (but more than five years) from closure. In addition to this Section 3(k) (ii) (bb) clearly states that the closure cost estimation **must** include – auditable calculations of cost per activity or infrastructure.

The Regulations are specific that rates must be accurate and audible and for this reason the consultant considers the following:

1. Surveyed information (See Section 1.5.3 of this report and Annexure C);
2. Verification of provided data (this is a gap in this year's assessment due to travel restrictions issued as part of the Disaster Management Regulations) (See Section 1.5.2 of this report);
3. Utilisation of published contractor rates (Annexure D).

Rehabilitation and closure costs were determined by undertaking the following:



- ☞ Selection of the most appropriate equipment/ plant type, capacity, time requirement, operator efficiency, fuel requirement, distance of travel, angle of route and height of infrastructure applicable to each item to derive actual costs for each item individually – refer to Annexure D for industry equipment and labour costs;
- ☞ Then, for the purposes of auditable calculations, unit rates are derived mathematically using total item cost divided by the respective item quantity;
- ☞ The base date for the unit rates is 2016 and have subsequently been escalated via year-on-year CPI indexes for the Northern Cape Province. The CPI percentage applied to the 2019 final rehabilitation evaluation was 3.7% (as per Stats SA);
- ☞ Important to note is that decommissioning and rehabilitation activities are almost entirely engineering projects in themselves, therefore the approach to price the project and then to relay the cost estimate information into an auditable format for the purposes of external review and verification; and
- ☞ The cost estimate is derived in the same way as when the rights holder requests a quotation from an external contractor.

Independently verifiable rates are developed for each site-specific application. These rates are considered representative and more accurate as it considers economies of scale (which is site specific) as well as catering for rehabilitation and closure activities and components which are not necessarily customized specifically by a guideline such as the Guideline Document for the Evaluation of the Quantum of Closure-related Financial Provision Provided by a Mine (DME, 2005).

Refer to the following table overleaf for a detailed list of items and actions required to reach a successful rehabilitation and closure solution.



Table 10: Itemised actions and unit rates

ITEMISED RATES FOR DECOMMISSIONING AND REHABILITATION (2020) - KHUMANI IRON ORE MINE				
Ref No.	Cost Item	Rate	Unit	Action Description
<b>1</b>	<b>Steel Infrastructure</b>			
1.1	Dismantle steel structure high with heavy internal steel to salvage yard	R 390.68	m <sup>2</sup>	Includes all structural steel, pipes, gantries, containers requiring 100T crane (i.e. large vehicle workshops)
1.2	Dismantle medium height steel buildings/structures to salvage yard	R 329.29	m <sup>2</sup>	Includes all structural steel, pipes, gantries, containers & conveyors requiring 25T crane
<b>2</b>	<b>Concrete Infrastructure</b>			
2.1	Demolish all reinforced concrete foundations/bases/slabs/floors	R 216.27	m <sup>2</sup>	Includes cut to fill on site.
<b>4</b>	<b>Brick Structures</b>			
4.1	Demolish brick structure, load and spoil (on site)	R 109.39	m <sup>2</sup>	Includes pre-stripping, demolition and spoil to site. Foundations to 1m below surface.
<b>6</b>	<b>Waste Removal/Disposal</b>			
6.3	Cut hazardous material to hazardous disposal site	R 1 576.66	m <sup>3</sup>	Hydrocarbon contaminated materials, asbestos, medical waste.
<b>7</b>	<b>Piping, cables &amp; lines</b>			
7.1	Dismantle and remove piping on surface to stockpile	R 55.81	m	Remove piping on surface, cut to stockpile. Assume 40 days for completion.
7.2	Dismantle and remove overhead powerlines to stockpile	R 4.13	m	Remove overhead powerlines, cut to stockpile. Assume 20 days for completion.
7.3	Dismantle and remove communication lines on surface to stockpile	R 4.13	m	Remove communication lines on surface, cut to stockpile. Assume 20 days for completion.
<b>8</b>	<b>Roads</b>			
8.2	Demolish unsurfaced haul roads, rip and shape	R 12.28	m <sup>2</sup>	Extended width haul roads (avg. width 18-20m). Rip to 500mm depth.
8.3	Demolish surfaced (tarred) roads, rip and shape	R 12.28	m <sup>2</sup>	Remove tar surface to stockpile on-site. 10km free haul limit.
8.4	Topsoil spreading onto haul road footprints	R 21.21	m <sup>3</sup>	Load, haul, tip & spread (150mm) onto haul road footprints. Free-haul distance = 7km.
<b>9</b>	<b>Fences</b>			
9.1	Removal of fences (post closure), cut to stockpile	R 39.07	m	Remove fences to salvage stockpile
10.2	Remove rails, sleepers and ballast	R 150.80	m	8m lengths cut to salvage yard. Cut sleepers to spoil. Cut ballast to spoil.
10.3	Topsoil spreading onto rail footprint	R 21.21	m <sup>3</sup>	Load, haul, tip & spread (150mm) onto rail footprints. Free-haul distance = 7km.
<b>11</b>	<b>Water Management</b>			
11.1	Cut casing and cap borehole	R 3 348.66	Item	Cut casing to 300mm below surface and install concrete cap & plinth
<b>14</b>	<b>Earth Works</b>			
14.1	Containment berms (dumps)	R 28.66	m	50m x 50m paddocks on dump surface.
14.2	Shaping waste dump slopes	R 19.65	m <sup>3</sup>	Shape slopes to 1:3.
14.3	Topsoil spreading over dump surface	R 28.08	m <sup>3</sup>	Load, haul, tip & spread (150mm) onto area. SG = 2.2. Free-haul distance = 5km.
14.4	Enviro Berm	R 343.80	m	3.5m effective height, 2.6m width, with cut-off trench in front (1.5mx1.5m).
14.5	Rip and shape remaining disturbed surfaces	R 3.91	m <sup>2</sup>	Rip & shape generally flat surfaces which have undergone footprint disturbance. Assume 50% of area requirement. Rip to 100mm depth.
14.6	Topsoil spreading over area	R 21.21	m <sup>3</sup>	Load, haul, tip & spread (150mm) onto area. Free-haul distance = 7km.
14.7	Cut to fill from waste rock dump	R 29.02	m <sup>3</sup>	Fill 0.5m layer on top of paste facility - shape for drainage
<b>15</b>	<b>Vegetation Establishment</b>			
15.1	Seed mix & Fertiliser	R 1.95	m <sup>2</sup>	Highveld Mix (5 grass species) R82.00/kg (10-15kg/ha)
15.2	Vegetation establishment (general areas)	R 6.70	m <sup>2</sup>	Planting/hydroseeding
15.3	Vegetation establishment (dumps, spoils, slopes)	R 6.70	m <sup>2</sup>	Planting/hydroseeding
<b>16</b>	<b>Prefabricated Structures</b>			
16.1	Prefabricated buildings and structures	R 40.18	m <sup>2</sup>	Dismantle to salvage yard

ITEMISED RATES FOR DECOMMISSIONING AND REHABILITATION (2020) - KHUMANI IRON ORE MINE				
Ref No.	Cost Item	Rate	Unit	Action Description
<b>19</b>	<b>Environmental Management</b>			
19.1	Surface Water Quality Monitoring	R 278 608.66	Annum	Based on current expenditure incurred by Khumani for this service.
19.2	Groundwater Quality Monitoring	R 66 973.23	Annum	Based on current expenditure incurred by Khumani for this service.
19.3	Air Quality Monitoring (PM2.5 & MP10)	R 46 881.26	Annum	Based on current expenditure incurred by Khumani for this service.
19.4	Vegetation establishment & Distribution Monitoring	R 78 135.44	Annum	Monthly site inspection (year 1), quarterly site inspections (years 2 & 3)
19.5	Land Stability Monitoring	R 122 784.26	Annum	Monthly site inspection (year 1), quarterly site inspections (years 2 & 3)
19.6	Dust suppression	R 334 866.17	Annum	Water tanker for dust dispersion reduction and management
19.9	Social & Labour Plan Commitments	R 558 110.29	Item	
19.10	Post rehabilitation maintenance	R 4 464 882.31	Annum	Contractor yard, site office, 1x ADT, 1x Excavator, 1x Dozer

## 12.2 Rehabilitation & Closure Cost

A summary of the rehabilitation and closure costs for 2020, specifically with regards to final rehabilitation and Life of Mine rehabilitation is depicted in Table 11 below.

*Table 11: Khumani Final Rehabilitation and Closure Costs*

Assmang - Khumani Iron Ore Mine		Assessment date: May 2020
Rehabilitation & Closure Cost Summary		Evaluator: Globesight (Pty) Ltd
Plan Description	Amount (excl. VAT)	
Annual Rehabilitation Plan - 1 June 2020 to 31 May 2021	R 7 996 758,52	
Final Rehabilitation Plan (10 years forthwith)	R 374 402 422,49	
Latent Liability (Post Closure)	None at present	
Financial Provision Requirement	R 382 399 181,01	

Refer to the table overleaf for the final Rehabilitation and Closure Cost for the 2020 assessment.



Table 12: Final Rehabilitation Cost Estimate

Assmang - Khumani Iron Ore Mine		Evaluation Date: May 2020		2020			Decommissioning / Restoration
Final (LOM) Rehabilitation Plan		Evaluator: Globesight (Pty) Ltd					
Rate Nr.	Item Description	Unit	Quantity	Rate	Item Amount		
<b>Steel Structures</b>							
<b>Bruce</b>							
1,1	Dismantle steel structure high with heavy internal steel to salvage yard	m <sup>2</sup>	4141,00	R 390,68	R 1 617 794,29	Decommissioning	
1,2	Dismantle medium height steel buildings/structures to salvage yard	m <sup>2</sup>	10089,00	R 329,29	R 3 322 157,08	Decommissioning	
<b>King</b>							
1,1	Dismantle steel structure high with heavy internal steel to salvage yard	m <sup>2</sup>	2962,00	R 390,68	R 1 157 185,87	Decommissioning	
1,2	Dismantle medium height steel buildings/structures to salvage yard	m <sup>2</sup>	30147,00	R 329,29	R 9 926 957,02	Decommissioning	
<b>Parsons</b>							
1,1	Dismantle steel structure high with heavy internal steel to salvage yard	m <sup>2</sup>	31514,00	R 390,68	R 12 311 801,35	Decommissioning	
1,2	Dismantle medium height steel buildings/structures to salvage yard	m <sup>2</sup>	114287,00	R 329,29	R 37 633 002,85	Decommissioning	
<b>Brick Buildings</b>							
<b>Bruce</b>							
4,1	Demolish brick structure, load and spoil (on site)	m <sup>2</sup>	2161,00	R 109,39	R 236 390,96	Decommissioning	
<b>King</b>							
4,1	Demolish brick structure, load and spoil (on site)	m <sup>2</sup>	15082,00	R 109,39	R 1 649 814,20	Decommissioning	
<b>Parsons</b>							
4,1	Demolish brick structure, load and spoil (on site)	m <sup>2</sup>	30450,00	R 109,39	R 3 330 913,83	Decommissioning	
<b>Prefabricated Buildings and Structures</b>							
<b>Bruce</b>							
16,1	Demolish prefabricated structures to salvage yard	m <sup>2</sup>	334,00	R 40,18	R 13 420,99	Decommissioning	
<b>King</b>							
16,1	Demolish prefabricated structures to salvage yard	m <sup>2</sup>	1172,00	R 40,18	R 47 094,01	Decommissioning	
<b>Parsons</b>							
16,1	Demolish prefabricated structures to salvage yard	m <sup>2</sup>	1716,00	R 40,18	R 68 953,34	Decommissioning	
<b>Roads</b>							
<b>Bruce</b>							
8,2	Demolish unsurfaced haul roads, rip and shape	m <sup>2</sup>	431297,00	R 12,28	R 5 295 648,45	Decommissioning	
8,3	Demolish surfaced (tarred) roads, rip and shape	m <sup>2</sup>	30844,00	R 12,28	R 378 715,78	Decommissioning	
8,4	Topsoil spreading onto haul road footprints	m <sup>3</sup>	64695,00	R 21,21	R 1 372 063,92	Decommissioning	
<b>King</b>							
8,2	Demolish unsurfaced haul roads, rip and shape	m <sup>2</sup>	406489,00	R 12,28	R 4 991 045,25	Decommissioning	
8,3	Demolish surfaced (tarred) roads, rip and shape	m <sup>2</sup>	54527,00	R 12,28	R 669 505,75	Decommissioning	
8,4	Topsoil spreading onto haul road footprints	m <sup>3</sup>	60973,00	R 21,21	R 1 293 127,03	Decommissioning	
<b>Parsons</b>							
8,3	Demolish surfaced (tarred) roads, rip and shape	m <sup>2</sup>	86531,00	R 12,28	R 1 062 464,51	Decommissioning	
8,2	Demolish unsurfaced haul roads, rip and shape	m <sup>2</sup>	11886,00	R 12,28	R 145 941,38	Decommissioning	

Assmang - Khumani Iron Ore Mine		Evaluation Date: May 2020		2020			Decommissioning / Restoration
Final (LOM) Rehabilitation Plan		Evaluator: Globesight (Pty) Ltd					
<b>Railway Lines</b>							
<b>King &amp; Parsons</b>							
10,2	Remove rails, sleepers and ballast	m	31350,00	R 150,80	R 4 727 623,89		Decommissioning
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	627000,00	R 3,91	R 2 449 546,06		Decommissioning
10,3	Topsoil spreading onto rail footprint	m <sup>3</sup>	94050,00	R 21,21	R 1 994 630,36		Decommissioning
10,1	Rip and shape remaining disturbed surfaces	m	19600,00	R 3,91	R 76 572,73		Decommissioning
10,3	Topsoil spreading onto rail footprint	m <sup>3</sup>	17640,00	R 21,21	R 374 112,49		Decommissioning
<b>Concrete Structures</b>							
<b>Bruce</b>							
2,1	Demolish all reinforced concrete foundations/bases/slabs/floors	m <sup>2</sup>	30632,00	R 216,27	R 6 624 713,32		Decommissioning
<b>King</b>							
2,1	Demolish all reinforced concrete foundations/bases/slabs/floors	m <sup>2</sup>	130798,00	R 216,27	R 28 287 387,46		Decommissioning
<b>Parsons</b>							
2,1	Demolish all reinforced concrete foundations/bases/slabs/floors	m <sup>2</sup>	151217,00	R 216,27	R 32 703 358,38		Decommissioning
<b>Pipelines</b>							
<b>Bruce</b>							
7,1	Dismantle and remove piping on surface to stockpile	m	19655,00	R 55,81	R 1 096 965,77		Decommissioning
<b>King</b>							
7,1	Dismantle and remove piping on surface to stockpile	m	46518,00	R 55,81	R 2 596 217,44		Decommissioning
<b>Parsons</b>							
7,1	Dismantle and remove piping on surface to stockpile	m	59409,00	R 55,81	R 3 315 677,42		Decommissioning
<b>Powerlines &amp; Communication Lines</b>							
<b>Bruce</b>							
7,2	Dismantle and remove overhead powerlines to stockpile	m	250245,00	R 4,13	R 1 033 515,89		Decommissioning
<b>King</b>							
7,2	Dismantle and remove overhead powerlines to stockpile	m	426713,00	R 4,13	R 1 762 331,58		Decommissioning
<b>Parsons</b>							
7,2	Dismantle and remove overhead powerlines to stockpile	m	757641,00	R 4,13	R 3 129 069,56		Decommissioning
<b>Fences</b>							
<b>Bruce</b>							
9,1	Removal of fences (post closure), cut to stockpile	m	37016,00	R 39,07	R 1 446 130,73		Decommissioning
<b>King</b>							
9,1	Removal of fences (post closure), cut to stockpile	m	2560,00	R 39,07	R 100 013,36		Decommissioning
<b>Parsons</b>							
9,1	Removal of fences (post closure), cut to stockpile	m	327,00	R 39,07	R 12 775,14		Decommissioning
<b>Boreholes</b>							
<b>King</b>							
11,1	Cut casing and cap borehole	Item	25,00	R 3 348,66	R 83 716,54		Decommissioning
<b>Earthworks</b>							
<b>Opencast Rehabilitation (Enviro Berm)</b>							

Assmang - Khumani Iron Ore Mine			Evaluation Date: May 2020			2020			Decommissioning / Restoration
Final (LOM) Rehabilitation Plan			Evaluator: Globesight (Pty) Ltd						
<b>Bruce</b>									
14,4	Pit BA 05 (BA12, BA 13 & BA15)	m	5483,00	R 343,80	R 1 885 033,13	Restoration			
14,4	Pit BB 01 (BB11, BB12 & BB13)	m	8861,00	R 343,80	R 3 046 375,81	Restoration			
14,4	Pit BC 01 (BC11 & BC12)	m	4309,20	R 343,80	R 1 481 485,46	Restoration			
<b>King</b>									
14,4	Pit KM (KM01)	m	10887,00	R 343,80	R 3 742 906,38	Restoration			
<b>Rehabilitation of Paste Disposal Facility</b>									
<b>King</b>									
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	916000,00	R 3,91	R 3 578 603,17	Decommissioning			
14,7	Cut to fill from waste rock dump	m <sup>3</sup>	458000,00	R 29,02	R 13 291 954,64	Decommissioning			
14,6	Topsoil spreading over area	m <sup>3</sup>	560141,00	R 21,21	R 11 879 577,30	Decommissioning			
<b>Rehabilitation of dumps and spoils</b>									
<b>Bruce</b>									
Dump B 01 (Bruce Waste Dump)									
14,1	Containment berms (dumps)	m	130679,00	R 28,66	R 3 745 854,00	Restoration			
14,2	Shaping waste dump slopes	m <sup>3</sup>	517304,07	R 19,65	R 10 162 687,97	Restoration			
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	582600,50	R 28,08	R 16 361 816,38	Restoration			
Pan Handle									
14,1	Containment berms (dumps)	m	23388,00	R 28,66	R 670 406,37	Restoration			
14,2	Shaping waste dump slopes	m <sup>3</sup>	93764,00	R 19,65	R 1 842 038,99	Restoration			
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	87707,00	R 28,08	R 2 463 173,01	Restoration			
<b>King</b>									
Dump K 01 (KM02)									
14,1	Containment berms (dumps)	m	25840,00	R 28,66	R 740 691,83	Restoration			
14,2	Shaping waste dump slopes	m <sup>3</sup>	356168,50	R 19,65	R 6 997 101,92	Restoration			
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	122127,45	R 28,08	R 3 429 840,71	Restoration			
Dump KM12									
14,1	Containment berms (dumps)	m	2100,00	R 28,66	R 60 195,54	Restoration			
14,2	Shaping waste dump slopes	m <sup>3</sup>	153035,00	R 19,65	R 3 006 446,36	Restoration			
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	28929,30	R 28,08	R 812 453,64	Restoration			
Dump M 01 (KM13)									
14,1	Containment berms (dumps)	m	52063,00	R 28,66	R 1 492 362,18	Restoration			
14,2	Shaping waste dump slopes	m <sup>3</sup>	281805,00	R 19,65	R 5 536 195,10	Restoration			
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	234134,15	R 28,08	R 6 575 449,16	Restoration			
<b>Waste Management &amp; Disposal</b>									
<b>Bruce</b>									
6,3	Cut hazardous material to hazardous disposal site	m <sup>3</sup>	2500,00	R 1 576,66	R 3 941 653,92	Decommissioning			
<b>King</b>									

Assmang - Khumani Iron Ore Mine			Evaluation Date: May 2020			2020			Decommissioning / Restoration
Final (LOM) Rehabilitation Plan			Evaluator: Globesight (Pty) Ltd						
6,3	Cut hazardous material to hazardous disposal site	m <sup>3</sup>	2500,00	R 1 576,66	R 3 941 653,92				Decommissioning
	<i>Parsons</i>								
6,3	Cut hazardous material to hazardous disposal site	m <sup>3</sup>	2500,00	R 1 576,66	R 3 941 653,92				Decommissioning
	<b>General Surface Rehabilitation</b>								
	<i>Bruce</i>								
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	173381,00	R 3,91	R 677 360,04				Restoration
	<i>King</i>								
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	457393,00	R 3,91	R 1 786 930,18				Restoration
	<i>Parsons</i>								
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	1353909,00	R 3,91	R 5 289 413,80				Restoration
	<b>Maintenance and Aftercare</b>								
19,1	Surface Water Quality Monitoring	Annum	2,00	R 278 608,66	R 557 217,31				Restoration
19,2	Groundwater Quality Monitoring	Annum	3,00	R 66 973,23	R 200 919,70				Restoration
19,3	Air Quality Monitoring (PM2.5 & MP10)	Annum	3,00	R 46 881,26	R 140 643,79				Restoration
19,4	Vegetation establishment & Distribution Monitoring	Annum	3,00	R 78 135,44	R 234 406,32				Restoration
19,5	Land Stability Monitoring	Annum	3,00	R 122 784,26	R 368 352,79				Restoration
19,9	Social & Labour Plan Commitments	Annum	3,00	R 558 110,29	R 1 674 330,87				Restoration
19,6	Post rehabilitation maintenance	Annum	3,00	R 4 464 882,31	R 13 394 646,94				Restoration
						<b>Sub-Total</b>			<b>R 317 290 188,55</b>
	<b>Management and Administration</b>								
	Preliminary & General (6%)				R 19 037 411,31				
	Contingency (10%)				R 31 729 018,86				
	Health & Safety				R 6 345 803,77				
						<b>Total (ZAR)</b>			<b>R 374 402 422,49</b>

### 12.3 Year on Year Comparison

The following two tables presents the year on year changes in provision:

Table 13: 2019 Costing

2019 figures for comparison purposes	
Plan Description	Amount (excl. VAT)
Annual Rehabilitation Plan - 1 June 2019 to 31 May 2020	R 3 152 167,78
Final Rehabilitation Plan (10 years forthwith)	R 342 811 320,29
Latent Liability (Post Closure)	None at present
Financial Provision Requirement	R 345 963 488,07

Table 14: 2020 Costing

Assmang - Khumani Iron Ore Mine		Assessment date: May 2020
Rehabilitation & Closure Cost Summary		Evaluator: Globesight (Pty) Ltd
Plan Description	Amount (excl. VAT)	
Annual Rehabilitation Plan - 1 June 2020 to 31 May 2021	R 7 996 758,52	
Final Rehabilitation Plan (10 years forthwith)	R 374 402 422,49	
Latent Liability (Post Closure)	None at present	
Financial Provision Requirement	R 382 399 181,01	

There has been an 9.22% increase in the costing from 2019 to 2020. The following list specifies the extent new developments applicable to the 2019/2020 review outcomes:

- Additions, or increases, to the BoQ are relates largely, but not only, to the expansion in size and height of the following waste rock dumps due to normal operational usage:
  - King Waste Rock Dump (KM02)
  - King Waste Rock Dump (KM12)
  - Bruce Waste Rock Dump (B01)
  - Mokaning Waste Rock Dump (KM13)
- New Infrastructure includes:
  - Low Grade ROM Stockpile Growth;
  - New Concrete Structures;
  - New substation;
  - Brick buildings;
  - Workshop improvements;
  - Change house;
  - training Room;
  - Parking Areas;
  - Roads;
  - New sump and washbay area;
  - Water and Fibre Pipelines;
  - Powerlines;
  - New Steel Structures (reservoirs and tanks).



Table 15: New Infrastructure

New Infrastructure			
Parson	Loadout	Bruce	King
Radioactive drum storage	Effluent water refilling tanks	Mining tea & meeting room	Braithwaite Tank
PU & Gig Panel store	Benchmark Station	Haulage workshop slab	Contamination control slab
Parson store shed		Tyre bay slab	Contamination containment channel LCC
IT Data centre		Soil Contamination slab	King Stores shed
Fire station extension <ul style="list-style-type: none"> <li>Extension on building</li> </ul>		Contractor workshop sump	Training office extension <ul style="list-style-type: none"> <li>Extension to building</li> </ul>
LVD Workshop Project <ul style="list-style-type: none"> <li>Extension on building</li> <li>Tyre bay</li> <li>Heavy fleet carports</li> <li>LDV Carports</li> </ul>		Crusher workshop extension <ul style="list-style-type: none"> <li>Extension to building</li> </ul>	

### 12.3.1 Further Consideration

The following section provides a concise summary of the changes in the rehabilitation obligation from the previous year to the present year of assessment.

**Take note that the 2020 review necessitated that a correction be made to the total disturbed area calculation. The necessity for this correction became apparent when it was determined that the basis for the calculation required alteration to remove an overestimation error. The error has been corrected and the updated (reflected below) total disturbed area was re-measured, based on the latest survey drawing received from Khumani (K0231), and correlates accurately. The incorrect total disturbed area, as reflected in the 2019 review, was 5664.31ha. The adjusted total disturbed area is approximately 3232,61ha. The mine plans to rehabilitate an area of approximately 22.47ha during the 2020/2021 financial year. It should however be noted that the mine is an active opencast operation and ongoing mining expansions are taking place.**

The following table presents a summary of these outcomes:

Table 16: Rehabilitation Statistics

Khumani Rehabilitation Statistics - 2020 review period	Quantity	Unit
<b>Total volume backfilled since previous assessment (2019)</b>	<b>173974</b>	<b>m<sup>3</sup></b>
<b>Total area planned to be rehabilitated during 2020/2021 period</b>	<b>224740</b>	<b>m<sup>2</sup></b>
BC02 Pit footprint	60000	m <sup>2</sup>
BC03 Pit footprint	43000	m <sup>2</sup>
Progressive rehabilitation at Paste Disposal Facility	1740	m <sup>2</sup>
Shaping western limb of KM02 Waste Dump	120000	m <sup>2</sup>
BC12 Backfilling (15%)	41260	m <sup>2</sup>
KM03/KM04 & KM11 Pit footprint	743108	m <sup>2</sup>
<b>Entire area disturbed by mine (at present date)</b>	<b>3232,61</b>	<b>ha</b>
Bruce	1215,55	ha
King	1010,20	ha
Mokaning	318,06	ha
Parson	688,80	ha



## 12.4 Cost Assumptions

- Rates are provided excluding VAT;
- Rates were inflated by 4.1% as per CPI change (StatsSA);
- Data received from the mining operation could not be verified independently due to the Covid-19 lockdown restrictions;
- Rates and costs include all services and supplies to/ at site;
- Rates and costs are based on the premise of premature/ third party closure;
- Costs are based on the present currency (ZAR) value, i.e. at “day of assessment”;
- Previous methodologies for the determination of rehabilitation and closure costs, such as the recently repealed DMR’s Regulations and by implication its guidelines and master rates are viewed as obsolete;
- Although significant value is likely recoverable from the sale of salvageable materials (fittings, fixtures, equipment, scrap steel, plant etc.) no resale values have been offset against the overall rehabilitation and closure cost estimate;
- The rehabilitation and closure cost estimate is based on a two (2) year decommissioning, rehabilitation and closure schedule with a three (3) year post-closure maintenance and aftercare period;
- Information on the socio-economic requirements linked to the rehabilitation and closure of Khumani are unknown at present;
- Costing does not provide for bituminous tar waste (classified as hazardous construction waste) to be disposed of at Holfontein H:H Landfill site due to the excessive transport costs. It is assumed that the bituminous tar waste can be disposed of legally on site within an already lines facility; subject to approvals in terms of relevant legislation at the time;
- The Discard Dump is classified as a low-grade stockpile, and therefore assumed to have resale value and thus excluded, at this stage, from the rehabilitation cost estimation;
- The post-operational land use is aimed at returning the entire Khumani footprint area to low intensity grazing land (apart from opencast voids/ pits and the side slopes of the Paste Disposal Facility (as per EMP)
- A free-haul rate of up to 1km;
- All salvageable material stockpiled temporarily on site will be sold off and collected by third party buyers;
- Health, Safety and Security will be required during the decommissioning and closure phase with only reduced security services being required during the post-closure aftercare and maintenance period;
- The services of a professional civil engineer will be required for independent monitoring of the paste disposal facility rehabilitation process and said services are excluded from this valuation;
- Economies of scale are based on the rehabilitation and closure of the entire Khumani as a single encompassing exercise; rehabilitation and closure of individual components within Khumani will price higher; and
- In Section 1.4 of this report the details on potential future planned projects are listed. These projects have not been approved in terms of Environmental Legislation and therefore have not been incorporated into the financial provision studies or rehabilitation strategies. These must again be assessed during the next assessment to determine the status of implementation.



## 13 MONITORING, AUDITING AND REPORTING REQUIREMENTS

### 13.1 Audit Schedule

The following table presents the audit schedule the mine needs to follow:

Table 17: Audit Schedule

Audit	Regulatory Requirement	External Responsibility	Internal Responsibility
MPRDA Performance Assessments	Once every year	To be appointed	SHEQ Department (Mr. Dirk Coetzee)
NWA Performance Assessment	Once every year	To be appointed	SHEQ Department (Mr. Dirk Coetzee)
Closure Cost Assessment	Once every year	To be appointed	SHEQ Department (Mr. Dirk Coetzee)
Annual Rehabilitation Plan	Once every year	To be appointed	SHEQ Department (Mr. Dirk Coetzee)
NEM:WA Performance Assessment	Once every two years	To be appointed	SHEQ Department (Mr. Dirk Coetzee)
Internal Assessment of Annual Plan	Every second month	-	SHEQ Department (Mr. Dirk Coetzee)

In addition to this, the mine is also undertaking biennial Environmental Legal Compliance and Directors Liability Audits.

### 13.2 Reporting Requirements

The following table presents the reporting requirements the mine needs to follow:

Table 18: Reporting Requirements

Audit	Regulatory Requirement	Timeframe in which to submit	Regulatory Authority	Comment
MPRDA Performance Assessments	Once every year	30 days after finalisation	DMR	These reports should be presented to Stakeholders during a feedback forum in the event that the findings of the audits detect that the approved measures are no longer suitable to address the activities of the mine and that stakeholders may be negatively impacted as a result. <u>or</u> Upon instruction of the DMR.
NWA Performance Assessment	Once every year	30 days after finalisation	DWS	
Closure Cost Assessment	Once every year	Once audited by external financial auditors	DMR	
Annual Rehabilitation Plan	Once every year	Once audited by external financial auditors	DMR	
NEM:WA Performance Assessment	Once every two years	30 days after finalisation	DMR	
Internal Assessment of Annual Plan	Every second month	Upon Departmental Request	DMR	

### 13.3 Monitoring Plan

The monitoring plan for surface water, groundwater and air must be undertaken in accordance to the approved EMP and WUL and for closure must consider the requirements as set in Section 6.5.4.

The activities undertaken as part of ongoing rehabilitation falls within the mine's monitoring boundaries, and therefore no additional monitoring costs for this annual assessment have been identified.



Monitoring in terms of water, air, vegetation and land stability have been included into the final rehabilitation costing.

## **14 AMENDMENTS TO FINAL REHABILITATION PLAN**

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There has been no amendment to the following since the last (2019) assessment:

- Risk Assessment;
- Monitoring requirements; or
- Rehabilitation strategy or objectives.

As per the Regulations, this report will be assessed and updated annually to assist the operation in planning towards closure and implementing concurrent rehabilitation practices as part of the mining operations.



## **Annexure A: Curriculum Vitae**



## Curriculum vitae: Ms Tanja Bekker

Name : Bekker, Tanja  
Date of Birth : 23 June 1980  
Profession/Specialisation : Environmental Project Manager / Cert. Environmental Assessment Practitioner  
Nationality : South African  
Years' Experience : 18 Years

## Key qualifications

Ms Tanja Bekker has more than 18 years' working experience in the Environmental Consultancy Industry. Her key focus is environmental management and compliance with extensive experience in the mining industry. Project Management and Coordination form a critical component of her duties, which include environmental gap analysis, project planning, initiation of projects, client, authority and stakeholder consultation, specialist coordination, budget control, process control, quality control and timeframe management.

Her interest lies in a client advisory capacity, being involved during due diligence investigations, pre-project development and assisting the client and engineering team in adding value to develop a project in and environmental sustainable manner, considering client costs and liabilities, as well as the implication of environmental regulatory requirements and conditions on project deliverables.

Her involvement in projects has spanned over the project life cycle from Due Diligence Investigations, Pre-Feasibility Investigation's, Prospecting Right Applications, Mining Right Applications, Environmental Impact Assessments, Environmental Management Plans and implementation and auditing of Environmental Management Plans and Authorisations.

Ms Bekker has significant experience in integrated environmental management processes, such as Environmental Scoping Assessment, Environmental Impact Assessments (EIAs) and Basic Assessment Reports (BARs), and the development of Environmental Management Plans (EMP). Her experience further spans into the formulation and management of Water Use License Applications and Integrated Water and Waste Management Plans. Her experience and professional registrations have resulted in her capabilities to act as a Project Manager and Peer Reviewer for Environmental Authorisation Projects ensuring the independence of such projects, as well as Project undertaken in terms of IFC/World Bank Requirements.

She has comprehensive experience and thorough understanding of the National Environmental Act, 1998 and subsequent Regulations; National Environmental Management: Waste Act, 2008; National Environmental Management: Air Quality Act, 2004; National Water Act, 1998 and the Mineral and Petroleum Resources Development Act, 2002. She is a certified ISO 14001 Lead Auditor and has been involved in conducting environmental audits and site assessments, implementing of EMPs, as well as assessing environmental compliance. She has acted as the Large Account Manager for various mining companies including Total Coal South Africa (involved for 7 year), as well as for Assmang's Ferrous Division (involved for 12 years).

Ms. Bekker acts as a Guest Lecturer at the University of Johannesburg at the Department of Geography and Environmental Management, where she lectures 3<sup>rd</sup> and 4<sup>th</sup> year students on matters regarding Environmental Management and the implementation of knowledge into the Environmental Consulting Field.

Ms Bekker is a registered Professional Natural Scientist with the South African Council of Natural Science Professional Board and is also a Certified Environmental Assessment Practitioner with the Board of Environmental Practitioner Association of South Africa (EPASA) a legal requirement of the National Environmental Management Act, 1998.

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 082 412 1799

 086 551 5233



## Employment Record

02/2015 to current:	EnviroGistics – Owner
01/2007 to 04/2014:	GCS (Pty) Ltd – Project Manager; Environmental Unit Manager
06/2006 to 12/2006:	WSP Environmental (Pty) Ltd – Environmental Scientist
09/2003 to 05/2006:	GCS (Pty) Ltd – Environmental Scientist
08/2002 to 08/2003:	Digby Wells and Associates – Junior Environmental Scientist
04/2001 to 07/2002 (Part time):	UWP Engineers – Part Time Digitizer – GIS (Arc View)

## Education

B.Sc. Earth Sciences (Geography & Geology) – RAU (University of Johannesburg)  
 B.Sc. Geography Honours - RAU (University of Johannesburg)  
 M.Sc. Environmental Management - RAU (University of Johannesburg)

## Career Enhancing Courses

ISO 14000 Lead Auditors Course (WTH Management)  
 Certificate in Project Management (Pretoria University)  
 Management Advance Programme (MAP 81) (Wits Business School)  
 Certificate in Customer Service Excellence (Pretoria University Enterprises)  
 IWRM, the NWA and Water Use Authorisations (Carin Bosman Sustainable Solutions)

## Professional Affiliations

Registered Environmental Assessment Practitioner of South Africa (EAPSA)  
 Certified ISO 14001 Environmental Management System Auditor  
 Registered as a Professional Natural Scientist (SACNASP),  
 Member of the South African affiliate of the International Association for Impact Assessment  
 Member of the Environmental Law Association of South Africa (ELA).

## Languages

	Reading	Writing	Speaking
English	Excellent	Excellent	Excellent
Afrikaans	Excellent	Excellent	Excellent

## Experience Record

### 1. National Water Act, 1998

- ☞ Water Use License Application in terms of the National Water Act, 1998 – Compilation of the Water Use License Application for Eden Districts Municipality (2004)
- ☞ Senior Review of the Total Coal South Africa, DCM East Water Use License Application (2011)
- ☞ Assmang Ltd, Khumani Iron Ore Mine, Senior Project Manager in the application for a holistic Water Use License for the Khumani Iron Ore Mine (2012)
- ☞ Assmang Ltd, Beeshoek Iron Ore Mine, Senior Project Management in the application for a holistic Water Use License for the Beeshoek Iron Ore Mine (2013)
- ☞ Assmang Ltd, Khumani Iron Ore Mine, Senior Project Manager in the amendment of approved Water Use License with the inclusion of strategic water uses to streamline the application process (2013)
- ☞ Senior Consultant in the addressing the appeal of the Total Coal South Africa, DCM East Water Use License Application (2013)
- ☞ Water Use License Application for Dwarsrivier Chrome Mine (2016);
- ☞ Water Use License Application for Beeshoek Iron Ore Mine (2018);
- ☞ Water Use License Application for NWK Liquid Fertiliser (2018);
- ☞ Water Use Licence Application for emergency water abstraction for Khumani Iron Ore Mine (2016-current).
- ☞ Formulation of Integrated Water and Waste Management Plan for Beeshoek Iron Ore Mine (2016)
- ☞ Formulation of Integrated Water and Waste Management Plan for Dwarsrivier Chrome Mine (2016)

- Management of Risk Assessment for a General Authorisation of River Crossings in the Steelpoort area (2017)
- Water Use License Application for Dwarsrivier Chrome Mine (2018 – current)
- Water Use License Application Amendment for DCM Mine, Burgersfort (2018 – current)
- Water Use License Application Amendment for Samancor, TAS Smelter (2018 – current)
- Water Use License Application Amendment for Dwarsrivier Chrome Mine (2019 – current)
- Water Use License Application Amendment for Khumani Iron Ore Mine (2019 – current)
- Integrated Water and Waste Management Plan for Dwarsrivier Chrome Mine (2016)
- Integrated Water and Waste Management Plan for Dwarsrivier Chrome Mine (2017)
- Integrated Water and Waste Management Plan for Beeshoek Iron Ore Mine (2016)
- Integrated Water and Waste Management Plan for Beeshoek Iron Ore Mine (2017)
- Integrated Water and Waste Management Plan for Wonderkop Smelter (2017)
- Integrated Water and Waste Management Plan for DRD Ergo Mine (2018-current)
- Integrated Water and Waste Management Plan for Khumani Iron Ore Mine (2018-current)

## 2. Mineral and Petroleum Resources Development Act, 2002

- Prospecting Right Application and Environmental Management Plan – Project manager and coordination of the environmental authorisation process on the farm McCarthy for Assmang Ltd for the prospecting of iron ore in the Northern Cape Province. Responsibilities included the overall management of the project with the compilation of the application and subsequent Environmental Management Plan (2004)
- Prospecting Right Application and Environmental Management Plan – Project manager and coordination of the environmental authorisation process on the farm Doornfontein for Assmang Ltd for the prospecting of iron ore in the Northern Cape Province. Responsibilities included the overall management of the project with the compilation of the application and subsequent Environmental Management Plan (2004)
- Prospecting Right Application – Main responsibility involved the compilation and submission of a Prospecting Right Application and associated Environmental Management Plan for Rovic (Pty) Ltd on the farm Rietkuil (2005)
- Prospecting Right Application – Main responsibility involved the compilation and submission of a Prospecting Right Application and associated Environmental Management Plan for Rovic (Pty) Ltd on the farms Ou Damplaats, Mineside, Redhills, Woolcott and Prospect (2005)
- Prospecting Right Application – Project manager for the environmental authorisation process for a Prospecting Right Application for Khusela Womens Investments (Pty) Ltd on the farm Loopspruit in the Mpumalanga Province. Main responsibility involved the coordination of the public participation process and associated Environmental Management Plan (2005)
- Prospecting Right Application – Project manager for the environmental authorisation process for a Prospecting Right Application for Khusela Womens Investments (Pty) Ltd on the farm Van Kolderskop in the Mpumalanga Province. Main responsibility involved the coordination of the public participation process and associated Environmental Management Plan (2005)
- Mining Right Application, Environmental Authorisation and Rehabilitation Fund - Project manager and co-ordination of the environmental authorisation process for the green fields Khumani Iron Ore Mine for Assmang Ltd. Main responsibilities involved the application for the Mining Right Application and subsequent liaison with the relevant authorities; coordination and management of sub consultants; liaison with the relevant stakeholders, which included the consultation in terms of purchasing of land and utilisation of bulk services; coordination and management of the public participation process; overview of the Water Use License Application; Environmental Feasibility Reporting; Site Selection process for the location of a paste disposal facility; Scoping Reporting, interpreting of specialist investigations and results and Environmental Impact Assessment and Management Reporting and the compilation of the rehabilitation fund (2006)
- Environmental Programme Addendum – Project manager and coordination of the addendum of the Harmony Randfontein Operation's approved Environmental Management Programme to align the report with the requirements of the Mineral and Petroleum Resources Development Act, 2002, as well as the undertaking of the relevant public participation process
- Environmental Programme Addendum – Project manager and coordination of the addendum of the Harmony Randfontein Operation's approved Environmental Management Programme to align the report with the requirements of the Mineral and Petroleum Resources Development Act, 2002, as well as the undertaking of the relevant public participation process (2006)



- ☞ Environmental Programme Amendment - Project manager and coordination of the Merensky Environmental Management Programme Amendment for Anglo Platinum in Amandelbult. Main responsibilities involved the coordination of sub consultants, interpreting of specialist investigations and results, quality control, coordination of the public participation process and client liaison (2006)
- ☞ Environmental Programme Amendment - Project manager and coordination of the UG2 Environmental Management Programme Amendment for Anglo Platinum in Amandelbult. Main responsibilities involved the coordination of sub consultants, interpreting of specialist investigations and results, quality control, coordination of the public participation process and client liaison (2006)
- ☞ Environmental Programme Amendment - Project manager and coordination of the Khumani Iron Ore Mine Amendment for the inclusion of the mining of the barrier pillar between the mine and Sishen Iron Ore Mine for Assmang Limited. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost (2007)
- ☞ Mining Right Application and Environmental Management Programme - Project manager and coordination for a mega tailings dam extension for Mine Waste Solutions, First Uranium South Africa in the Northwest Province. Main responsibilities involved the coordination and management of the project, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost (2007)
- ☞ Environmental Management Programme - Project manager and coordination of the green fields East Mine Expansion Project for Total Coal South Africa for the establishment of new opencast and underground operations with the associated plant and ancillary infrastructure, including a railway line link to the Richard Bay Coal Terminal. Main responsibilities involved the coordination and management of the project, compilation of the environmental feasibility report, interpreting of specialist investigations and results, site selection for a co-disposal facility and new railway line, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost (2008)
- ☞ Environmental Programme Amendment – Project manager and coordination of the amendment of the Harmony Kalgold Operation’s approved Environmental Management Programme to align the report with the requirements of the Mineral and Petroleum Resources Development Act, 2002. Main responsibilities involved the coordination and management of the project, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost, as well as the undertaking of the relevant public participation process (2008)
- ☞ Environmental Management Programme Amendment - Project manager and coordination of the East Mine Option 1 Project for Total Coal South Africa for the establishment of conveyor line link to the Richard Bay Coal Terminal. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, quality control, and client liaison, as well as the formulation of the financial closure cost (2009)
- ☞ Environmental Management Programme Amendment - Project manager and coordination of the West Mine Project for Total Coal South Africa for the establishment of new opencast and underground operations with the associated plant and ancillary infrastructure. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, quality control and client liaison (2009)
- ☞ Environmental Management Programme Amendment – Project manager and coordination of the Black Rock Manganese Mines for Assmang Ltd to align the report with the requirements of the Mineral and Petroleum Resources Development Act, 2002 and to include activities such as a new plant, water treatment facility, footprint increases, etc. Main responsibilities involved the coordination and management of the project, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost (2009)
- ☞ Total Coal Service Level Agreement – Responsible for the coordination of the environmental projects and legal requirements for the Total Coal operations (2010 to current)
- ☞ Environmental Management Programme Amendment - Project manager and coordination of the Khumani Iron Ore Amendment project (2012)
- ☞ Environmental Management Programme Amendment (Low Grade Stockpile) – Project Management and coordination for the Khumani Iron Ore Mine (2016)



- 🔗 Environmental Management Programme Amendment – Project Management and coordination for Beeshoek Iron Ore Mine (2018)
- 🔗 Mukulu PFS Planning Project with Hatch - Project Management and coordination (2013)
- 🔗 DRA Project Planning and Client Advisory Role – Ad Hoc Appointment (2013)
- 🔗 Sable Metal and Minerals, Sandbult Prospecting Right Application Environmental Management Plan (2014)
- 🔗 Sable Metal and Minerals, Bierkraal Prospecting Right Application Environmental Management Plan (2014)
- 🔗 Sable Metal and Minerals, Doornpoort Prospecting Right Application Environmental Management Plan (2014)
- 🔗 Assore Wonderstone EMP Amendment Gap Analysis (2017);
- 🔗 Assore Zeerust EMP Amendment Gap Analysis (2018);
- 🔗 Assore RDCM EMP Amendment Gap Analysis (2018).

### 3. Closure Assessments and Financial Provision in terms of the Mineral and Petroleum Resources

#### Development Act, 2002

- 🔗 Glossam Closure Assessment - Project manager of the historic Glossam Mine operations for Assmang Ltd to obtain closure in terms of the requirements of the Mineral and Petroleum Resources Development Act, 2002 Main responsibilities involve the coordination and management of the project, quality control, client liaison, as well as the formulation of the financial closure cost (2009)
- 🔗 Japiesrus Closure Assessment - Project manager of the historic Glossam Mine operations for Assmang Ltd to obtain closure in terms of the requirements of the Mineral and Petroleum Resources Development Act, 2002 Main responsibilities involve the coordination and management of the project, quality control, client liaison, as well as the formulation of the financial closure cost (2011)
- 🔗 Financial Provision Assessment – Responsible for the assessment of and reporting on the financial closure cost for Assmang Ltd for the Beeshoek Iron Ore Mine, Northern Cape (2007)
- 🔗 Financial Provision Assessment – Responsible for the assessment of and reporting on the financial closure cost for Simmer and Jack Ltd for the Buffelsfontein Gold Mine, Northwest Province (2007)
- 🔗 Financial Provision Assessment – Responsible for the assessment of and reporting on the financial closure cost for Simmer and Jack Ltd for the Buffelsfontein Gold Mine, Northwest Province (2008)
- 🔗 Financial Provision Assessment – Responsible for the assessment of and reporting on the financial closure cost for Assmang Ltd for the Beeshoek Iron Ore Mine, Northern Cape (2009)
- 🔗 Financial Provision Assessment – Responsible for the assessment of and reporting on the financial closure cost for Assmang Ltd for the Khumani Iron Ore Mine, Northern Cape (2009)
- 🔗 Financial Provision Assessment – Responsible for the assessment of and reporting on the financial closure cost for Assmang Ltd for the Black Rock Manganese Mine, Northern Cape (2009)
- 🔗 Financial Provision Assessment – Responsible for the assessment of and reporting on the financial closure cost for Simmer and Jack Ltd for the Buffelsfontein Gold Mine, Northwest Province (2009)
- 🔗 Financial Provision Assessment - Responsible for the assessment of and reporting on the financial closure cost for Total Coal South Africa for the Dorstfontein East Project, Mpumalanga (2009)
- 🔗 Financial Provision Assessment - Responsible for the assessment of and reporting on the financial closure cost for Total Coal South Africa for the Forzando West Project, Mpumalanga (2011)
- 🔗 Financial Provision Assessment - Responsible for the assessment of and reporting on the financial closure cost for Khumani Iron Ore Mine (2014)
- 🔗 Financial Provision Assessment - Responsible for the assessment of and reporting on the financial closure cost for Sable Metals and Minerals, Bierkraal Prospecting Area (2014)
- 🔗 Financial Provision Assessment - Responsible for the assessment of and reporting on the financial closure cost for Sable Metals and Minerals, Sandbult Prospecting Area (2014)
- 🔗 Financial Provision Assessment - Responsible for the assessment of and reporting on the financial closure cost for Sable Metals and Minerals, Doornpoort Prospecting Area (2014)
- 🔗 Financial Provision Assessment for Beeshoek Iron Ore Mine 2015;
- 🔗 Financial Provision Assessment for Khumani Iron Ore Mine, 2015;
- 🔗 Financial Provision Assessment for Petra Diamonds Prospecting Right, 2016;
- 🔗 Financial Provision Assessment for Beeshoek Iron Ore Mine, 2016;
- 🔗 Financial Provision Assessment for Khumani Iron Ore Mine, 2016;

- 🔗 Financial Provision Assessment in terms of the NEMA Regulations for the ARM Ferrous Operations, Northern Cape, 2016;
- 🔗 Financial Provision Assessment in terms of the NEMA Regulations for the ARM Ferrous Operations, Northern Cape, 2017;
- 🔗 Sebilo Resources Closure Plan Development, 2017
- 🔗 Financial Provision Assessment for Beeshoek Iron Ore Mine, 2016;
- 🔗 Financial Provision Assessment for Khumani Iron Ore Mine, 2016;
- 🔗 Financial Provision Assessment for Beeshoek Iron Ore Mine, 2017;
- 🔗 Financial Provision Assessment for Khumani Iron Ore Mine, 2017;
- 🔗 Financial Provision Assessment for Black Rock Manganese Mine, 2017
- 🔗 Financial Provision Assessment for Beeshoek Iron Ore Mine, 2018;
- 🔗 Financial Provision Assessment for Khumani Iron Ore Mine, 2018;
- 🔗 Financial Provision Assessment for Black Rock Manganese Mine, 2018

#### **4. Environmental Conservation Act, 1989**

- 🔗 Environmental Authorisation - Project manager and co-ordination of the environmental authorization process for the green fields Khumani Iron Ore Mine for Assmang Ltd to obtain approval for listed activities (2005)
- 🔗 Environmental Authorisation – Compilation of the Environmental Impact Assessment Report for the Gerus-Murani Power line in Namibia for NamPower (2006)
- 🔗 Environmental Authorisation – Project manager and co-ordination of the environmental authorization for Blue Horizons Investments for the Paarl eco-estate development in Lephallale, Limpopo Province. Main responsibilities involved the coordination of sub consultants, quality control, coordination of the public participation process and client liaison (2006)
- 🔗 Environmental Authorisation – Project manager and co-ordination of the environmental authorization for Blue Horizons Investments for the Madulakgogo eco-estate development in Burgersford, Mpumalanga Province. Main responsibilities involved the coordination of sub consultants, quality control, coordination of the public participation process and client liaison (2006)

#### **5. National Environmental Management Act, 1998 and National Environment Management: Waste Act, 2008**

- 🔗 Environmental Authorisation for listed activities - Project manager and coordination for a mega tailings dam extension and associated listed activities (linear, plant, areas greater than 20ha, etc.) for Mine Waste Solutions, First Uranium South Africa in the Northwest Province. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost (2007)
- 🔗 Environmental Authorisation for listed activities - Project manager and coordination of the green fields East Mine Expansion Project for Total Coal South Africa for the authorisation of listed activities that included areas greater than 20ha, railway lines, conveyors, mining within wetland and watercourse areas, etc. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, site selection for a co-disposal facility and new railway line, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost (2008)
- 🔗 Basic Assessment for listed activities - Project manager and coordination for Assmang Ltd for the Khumani Iron Ore Mine for the temporary storage of diesel along the railway line. Main responsibilities involved the coordination and management of the project, site selection for a co-disposal facility and new railway line, interpreting of specialist investigations and results, quality control, coordination of the public participation process and client liaison, as well as the formulation of the financial closure cost (2008)
- 🔗 Basic Assessment for listed activities - Project manager and coordination for Harmony Gold Mines Limited for the Evander Operations for the closure of a domestic waste disposal site. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, coordination of specialists, closure alternatives, quality control, coordination of the public participation process and client liaison (2008)



- ☞ Environmental Authorisation for listed activities - Project manager and coordination of the West Mine Expansion Project for Total Coal South Africa for the authorisation of listed activities that included areas greater than 20ha, conveyors, mining within wetland and watercourse areas, etc. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, quality control, coordination of the public participation process and client liaison (2009)
- ☞ Environmental Authorisation for listed activities - Project manager and coordination of the of the East Mine Option 1 Project for Total Coal South Africa for the authorisation of listed activities that involve conveyors, activities within wetland and watercourse areas, etc. Main responsibilities involved the coordination and management of the project, interpreting of specialist investigations and results, quality control, and client liaison, as well as the formulation of the financial closure cost (2009)
- ☞ Environmental Authorisation for listed activities - Project manager and coordination of the Black Rock Manganese Mines for Assmang Ltd for the authorisation of listed activities that included diesel storage and generation etc. Main responsibilities involved the coordination and management of the project, quality control, coordination of the public participation process and client liaison (2009)
- ☞ Environmental Authorisation for listed activities - Project manager and coordination of the Black Rock Manganese Mines for Assmang Ltd for the authorisation of listed activities, which include a new Eskom power line. Main responsibilities involve the coordination and management of the project, quality control, coordination of the public participation process and client liaison (2009)
- ☞ Environmental Management Programme Amendment - Project manager and coordination of the Khumani Iron Ore Amendment project (2011)
- ☞ Risk Assessments for current Total Coal Operations
- ☞ Khumani Low Grade Stockpile Environmental Authorisation – Peer Review and Overall Advisory Capacity (2014-2015)
- ☞ Nederburg (Distell Ltd) Mixed Land Use Environmental Authorisation – Principal Environmental Practitioner (2014 -2015)
- ☞ Basic Assessment Application for the upgrade of a Storm Water Dam for Beeshoek Iron Ore Mine, 2016;
- ☞ Basic Assessment Application for a Prospecting Right Application for Barkley West, Petra Diamonds, 2015;
- ☞ Basic Assessment Application for a Prospecting Right Application for Carter Block, Petra Diamonds, 2015;
- ☞ Basic Assessment Application for a Prospecting Right Application for Farm 87&88, Petra Diamonds, 2015;
- ☞ Environmental Impact Assessment for the storage of dangerous goods for NWK Liquid Fertiliser, 2016.
- ☞ Basic Assessment Application for an upgrade to a Storm Water Dam on an Iron Ore Mine, 2016.
- ☞ Basic Assessment Application for the expansion of mining activities and infrastructure at the Khumani Iron Ore Mine, 2017-current.
- ☞ Basic Assessment Application for a Prospecting Application near Loeriesfontein, 2017.
- ☞ Environmental Gap Analysis for industrial development near Steelpoort, 2017;
- ☞ Environmental Gap Analysis and Environmental Management Programme Development for Assore Wonderstone Operations (2017);
- ☞ Environmental Gap Analysis and Environmental Management Programme Development for Assore Zeerust Operations (2017);
- ☞ Integrated Basic Assessment Application for a Waste Rock Dump Extension, Dwarsrivier Chrome Mine (2017)
- ☞ Integrated Environmental Impact Assessment for Dwarsrivier Chrome Mine for new Exploration Activities and the extension of Capital Projects (2018-current);
- ☞ Integrated Environmental Impact Assessment for Dwarsrivier Chrome Mine for a new Tailings Storage Facility (2019-current);
- ☞ Environmental Impact Assessment for Khumani Iron Ore Mine for a new Return Water Dam, Pipelines and amendments to the Water Use Licence (2018-current);
- ☞ Environmental Gap Analysis for expansion projects at Beeshoek Iron Ore Mine (2018-current).
- ☞ Environmental Impact Assessment for Assmang Chrome, Machadodorp Smelter (2019-current).

## 6. Crack Surveys



- Mining Related Crack Survey – Responsible for the establishment of the potential impact on surrounding farm houses for Assmang Ltd for the Khumani Iron Ore Mine with relation to blasting activities. Main responsibility was the establishment of methodology and associated consultation with relevant specialists in the field and the associated reporting (2005)
- Residential Crack Survey – Responsible for determining the current status of houses in an area earmarked for business expansion in Hyde Park For Impafa Technologies (2006)

## 7. Air Emission Licenses

- Khumani Iron Ore Mine, Diesel Tank Atmospheric Emission License (2014)
- Coordination of LDAR Monitoring at the Khumani Iron Ore Mine (2017)
- Assistance in NAIES Reporting for the Assmang Chrome Machadodorp Operations (2017)
- Assistance in NAIES Reporting for the Assmang Chrome Machadodorp Operations (2018)

## 8. Audits, Gap Analysis and Due Diligence

- Due Diligence - Formed part of the audit team to assess the environmental liabilities as part of two Phase 1 Environmental Site Assessments for both the manufacturing site, as well as the warehouse. Main responsibility was the assessment of the environmental legal compliance in terms of the national, provincial and municipal legislation (2004)
- Participated as part of the audit team. The audit involved an ISO 14000 assessment in terms of the environmental, health and safety. Main areas of responsibility were to provide guidance in terms of the environmental statutes of the South African Legislation (2005)
- Expert Summary on Environmental Legal Issues - The Total vs. Tavistock Arbitration assessment involved the environmental legal assessment of the two companies in question's legal status in terms of environmental compliance with specific reference to legal administration and water management. Main responsibility was the provision of an expert summary regarding the environmental legal compliance in terms of the South African Legislation (2006)
- Environmental Audits as part of the requirements of the Environmental Conservation Act, 1989 and the Mineral and Petroleum Resources Development Act, 2002 - Responsible for the formulation of the audit protocols and feedback procedures for the implementation of the environmental management programme for the Khumani Iron Ore Mine, Northern Cape. The assessment involved six month audit programme during the start of the operational phase of the mine. As part of the assessment the responsibilities involve the provision of action plans to address areas of definite and potential non-compliance. The performance assessments were later extended into the operational phase (2007)
- Environmental, Health and Safety Audit - Participated as the lead auditor for eight mining operations within South Africa for African Rainbow Minerals. The audit addressed all aspects of environmental, safety and financial closure cost within the South African Legislation. The assessment involved the formulation of the audit protocols and audit papers (2007)
- Performance Assessment as part of the requirements of the Mineral and Petroleum Resources Development Act, 2002 - Participated as part of the audit team for Assmang Ltd, the Black Rock Manganese Mine, Northern Cape. Responsible for assessing the compliance to environmental aspects in terms of the broader South African Legislation, as well as the assessment of the financial rehabilitation fund (2007)
- Performance Assessment as part of the requirements of the Mineral and Petroleum Resources Development Act, 2002 - Participated as part of the audit team for Total Coal South Africa for the Forzando North and South Mine Operations. Main responsibility was the assessment of the financial rehabilitation fund (2008).
- Performance Assessment as part of the requirements of the Mineral and Petroleum Resources Development Act, 2002 - Annual environmental audit for Assmang Ltd, the Khumani Iron Ore Mine, Northern Cape. Responsible for assessing the compliance to environmental aspects on site (2008)
- Performance Assessment as part of the requirements of the Environmental Conservation Act, 1989 – Annual environmental audits for Assmang Ltd, the Khumani Iron Ore Mine, Northern Cape. Responsible for assessing the compliance to environmental aspects on site (2008)
- Environmental Implementation for the Assmang Khumani Iron Ore Operations (2010 and contract to 2014)



- ☞ Performance Assessments for the Total Coal South Africa Operations (2009 to current – part of Service Level Agreement)
- ☞ Mooihoek Due Diligence (2013) for RSV Enco;
- ☞ Gap Analysis in terms of IFC and World Bank Operational Policies for Greenfield Madagascar Graphite Mine (2013/2014)
- ☞ Khumani Iron Ore Mine Environmental Performance (NEMA, NEM:WA, NWA and MPRDA) Assessments (2014)
- ☞ Northam Platinum: Zondereinde Division Environmental Performance (NEMA, MPRDA and NWA) Assessments (2014)
- ☞ Northam Platinum: Zondereinde Division Environmental Performance (NEM:WA) Assessments (2014)
- ☞ Dwarsrivier Platinum Mine: Water Management Gap Analysis (2014-2016)
- ☞ Khumani Iron Ore Mine Dust Monitoring Gap Analysis (2014)
- ☞ DRA Global (2014): Molo Greenfields Mine IFC and World Bank Gap Analysis and project scope formalisation;
- ☞ GEM Diamonds Botswana: Ghaghoo Diamond Mine (2015): Waste Management Gap Analysis and Action Plan formalisation
- ☞ ASA Metals WUL Performance Assessment, 2015;
- ☞ Khumani Iron Ore Mine Environmental Performance (NEMA, NEM:WA, NWA and MPRDA) Assessments (2015);
- ☞ Beeshoek Iron Ore Mine Environmental Performance (NEMA, NEM:WA, NWA and MPRDA) Assessments (2015)
- ☞ GEM Diamonds Botswana: Ghaghoo Diamond Mine (2015): SEIA Performance Assessment;
- ☞ Petra Diamonds Prospecting Right Application Annual Performance Assessment, 2016;
- ☞ Glencore WUL Audit, 2016;
- ☞ Beeshoek Iron Ore Mine Environmental Performance (NEMA, NEM:WA, NWA and MPRDA) Assessments (2016);
- ☞ Khumani Iron Ore Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2016);
- ☞ GEM Diamonds Botswana: Ghaghoo Diamond Mine (2017): SEIA Performance Assessment;
- ☞ Beeshoek Iron Ore Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2016);
- ☞ Dwarsrivier Chrome Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2016);
- ☞ Sable Metals (2016) Waste Management Gap Analysis and project scope formalisation.
- ☞ Glencore Magareng, Thorncliffe and Helena Performance Assessments (NEMA, NEM:WA, NWA) (2016);
- ☞ Glencore Wonderkop Performance Assessment (NWA) (2016)
- ☞ Transvaal Gold Mining Enterprises Performance Assessment (NEMA and NWA) (2017);
- ☞ Dwarsrivier Chrome Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2017);
- ☞ Glencore Magareng, Thorncliffe and Helena Biannual Performance Assessments (NEMA, NEM:WA, 2017);
- ☞ Pascua Lama: Argentina Environmental Gap Analysis (2017);
- ☞ Yzermyn WUL Audit, 2017;
- ☞ Beeshoek Iron Ore Mine Environmental Performance (NEMA, NEM:WA, NWA and MPRDA) Assessments (2017);
- ☞ Khumani Iron Ore Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2017);
- ☞ Yzermyn WUL Audit, 2018.
- ☞ Beeshoek Iron Ore Mine Environmental Performance (NEMA, NEM:WA, NWA and MPRDA) Assessments (2018);
- ☞ Khumani Iron Ore Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2018);
- ☞ Dwarsrivier Chrome Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2018);
- ☞ Glencore Magareng, Thorncliffe and Helena Biannual Performance Assessments (NEMA, NEM:WA, 2018);
- ☞ Anglo Mototolo Mine Performance (NEMA, MPRDA, NEM:WA) Assessments (2018)

- Dwarsrivier Chrome Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (2019 –renewed);
- Anglo Mototolo Mine Performance (NEMA, MPRDA, NEM:WA) Assessments (2019 – renewed)
- Glencore Magareng, Thorncliffe and Helena Biannual Performance Assessments (NEMA, NEM:WA, 201-2021) (three year contract);
- Dwarsrivier Chrome Mine Environmental Performance (NEMA, NWA and MPRDA) Assessments (three year contract 2019-2021);
- Beeshoek Iron Ore Mine Environmental Performance (NEMA, NEM:WA, NWA and MPRDA) Assessments (2019 renewed);
- Assore Wonderstone EMP Compliance Audit (2019).

#### **9. GN704 Applications**

- Beeshoek Iron Ore Mine, 2018
- Khumani Iron Ore Mine (2018-current)

#### **10. Guest Lecture**

- University of Johannesburg: August 2015 to August 2017: Environmental Impact Assessment Practices and Principles

#### **11. Environmental Coordination and Management**

- Environmental Coordination for Assmang Chrome Machadodorp Works Operation to ensure the effective implementation of environmental compliance 2015-2017 & renewed for 2017-2018 & renewed for 2018-2019 & renewed for 2019-2020.

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Name

Ferdi Pieterse

Date of birth

1 May 1979

Citizenship

Republic of South Africa

Gender

Male



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## Personal Branding

*Ferdi has more than 15 years' experience in the Environmental Management field. He has a strong background in providing environmental solutions, having completed numerous projects from concept and pre-feasibility phases to full completion and implementation phases. Ferdi has undertaken and completed projects in a variety of sectors including tourism, mining, manufacturing, energy, oil & gas and industrial.*

*Ferdi's main strengths are focused within the environmental management and sustainable development spheres. Significant experience within the primary, secondary and business economic sectors include strategic planning and advisory, project management and coordination, client interaction and management, capacity building, providing innovative solutions, compliance assurance and reporting, liability valuations, sound advice and objectivity. Ferdi spent the past 8 years developing markets and solutions on the African continent and have been involved extensively in projects in Lesotho, Zambia, Angola, Kenya, Namibia, Madagascar, Tanzania, Argentina, Mali and Ghana.*

*Ferdi is passionate about creating value and growth for people and projects on the African continent. He thrives on the challenge of integrating his experience and knowledge with new people and project teams and is naturally motivated through the adventure, exploration, learning, engagement and travel which is associated with the developing economies in Africa.*

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## Educational qualifications

*B.Sc Geography, Environmental Science and Informatics: Rand Afrikaans University, Johannesburg, South Africa*

*B.Sc Hons Geography and Environmental Management: Rand Afrikaans University, Johannesburg, South Africa*

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**Employment history & experience**

***Employment History (Organisation and final position held):***

<b><i>September 2014 – Present</i></b>	<b><i>Founder and Managing Director of Globesight (Pty) Ltd</i></b>
<b><i>June 2009 – August 2014</i></b>	<b><i>Director at GCS Water and Environment (Pty) Ltd</i></b>
<b><i>March 2009 – June 2009</i></b>	<b><i>Senior Environmental Scientist at Zitholele Consulting (Pty) Ltd</i></b>
<b><i>Sept 2007 – Sept 2008</i></b>	<b><i>Environmental Manager at Eskom Holdings Limited's Primary Energy Division</i></b>
<b><i>Jan 2004 – Aug 2007</i></b>	<b><i>Project Manager at GCS Water and Environment (Pty) Ltd</i></b>
<b><i>Jan 2002 – Dec 2003</i></b>	<b><i>Junior Environmental Scientist at Digby Wells &amp; Associates (Pty) Ltd</i></b>

***SPECIALIZATION***

- *Project Management and technical input into complex and integrated projects (concept, pre-feasibility, feasibility [Detailed and Bankable], implementation/execution and closure);*
- *Application of Equator Principals, World Bank and IFC Standards within South Africa and abroad;*
- *Advisor and external reviewer on national and international projects;*
- *Management of strategic partnerships;*
- *Reporting according to international stock exchange requirements;*
- *Prospecting and Mining Rights;*
- *Public/Stakeholder Participation;*
- *Environmental Management Plans;*
- *Environmental Impact Assessment and Management Programmes;*
- *Environmental Reporting on compliance targets and performance;*
- *Environmental Due Diligence Assessments and Reporting;*
- *Mine Closure Planning and Cost Estimations;*
- *ISO 14001 Audits; and*
- *Environmental Compliance Auditing.*

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### **COUNTRIES WORKED IN**

- *South Africa*
- *Lesotho*
- *Angola*
- *Swaziland*
- *Namibia*
- *Zambia*
- *Madagascar*
- *Mali*
- *Ghana*
- *Argentina*

### ***Environmental & Social Permitting related project experience:***

*Energizer Resources – Environmental and related permitting for the Molo Graphite Mine, Fotadrevo, Madagascar (ongoing)*

*Stonewall Resources – Environmental and Social Impact Assessment and Environmental Authorisation application for the SABIE Project (2017), Mpumalanga, South Africa*

*Stonewall Resources – Environmental and Social Impact Assessment and Environmental Authorisation application for the TGNE Project (2017), Mpumalanga, South Africa*

*PMG Mining (Pty) Ltd – Paling Manganese Mine, Prefeasibility Study and environmental & social permitting (2016)*

*Scorpion Mineral Processing – AEMR Iron Ore Mine, Huila Province, Angola (2012-2013)*

*Gem Diamonds, Letseng Diamond Mine – Project Kholo – TSF Site Selection and Environmental Sensitivity Study (2011-2012)*

*Simmer & Jack Mines Limited – Tau Lekoa Gold Mine, North West Province (2009)*

*PTM – Ngonyama Platinum Mine, North-West Province (2007)*

*Total Coal – Dorstfontein Coal Mine Expansion, Mpumalanga (2006 – 2007)*

*Somkhele Anthracite Mine (Phase 1), Kwazulu-Natal (2005 – 2006)*

*Exxaro, Matla Colliery (coal) EMPR Amendment for Underground shortwall mining and E'Tingweni Section, Mpumalanga (2004 – 2007)*

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*Somkhele Anthracite Mine (Phase 1), EMPR Amendment for opencast anthracite mine, Kwazulu-Natal (2006 – 2007)*

*Springlake Colliery (coal) EMPR Amendment for Besterdale Section opencast operations, Kwazulu-Natal (2005)*

*Kangra Coal, EMPRs for Umgala/Knights Hill, Klipspruit and Aasvoëlkrans Collieries, Kwazulu Natal (2006)*

*NuCoal Mining, EMPR Amendment for Klipbank Opencast Section, Mpumalanga (2006 – 2007)*

*Harmony Kalgold EMPR Amendment and Re-alignment, North-West Province (2006 – 2007)*

*KAO Diamond Mine EMPR, Lesotho (2004 – 2005)*

*Apollo Brick EMPR Re-alignment, Gauteng (2007)*

*TGME – Hermansburg Opencast Gold Mine, Mpumalanga, (2009)*

*TGME – Rietfontein Underground Gold Mine, Mpumalanga (2009-2010)*

*TGME – Glynn’s Lydenburg Heap Leach Pad Project, Mpumalanga (2009)*

*TGME - Pilgrims Trend Deposits, Mpumalanga (2009)*

*TGME – EIA/EMP Amendment (Pad 1), Mpumalanga (2009)*

*Simmer & Jack – Tau Lekoa Mine Section 11, Section 102 & EIA/EMP, North West Province (2009)*

*First Uranium – Mine Waste Solutions: Tailings Reclamation Project, North West Province, (2009-2010)*

*TGME – Integrated Water Use License Application, Rietfontein Underground Gold Mine, Mpumalanga (2011)*

*TGME – Integrated Water Use License Application, Glynn’s Lydenburg Heap Leach Pad Project, Mpumalanga (2011)*

*TGME – Integrated Water Use License Application, Pad 1 & Pilgrims Trend Deposits, Mpumalanga (2011)*

*TGME – Integrated Water Use License Application, Beta Mine, Mpumalanga (2011)*

*Shanduka, Springlake Colliery, Consolidated EIA/EMP and IWULA, Kwazulu-Natal (2010/2011)*

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***Auditing and Compliance Assurance related project experience:***

*Environmental & Water Compliance Audits for Stonewall Mining's TGME & Bosveld Operations (2017 & 2018)*

*Environmental, Water, Waste & Air Quality Compliance Audits for ASA Metals & Dilokong Chrome Mine (2016)*

*EHS Risk Assessments and Management Plans for the Molo Graphite Project's Bankable Feasibility Study (IFC, World Bank and Equator Principals) and legal permitting (in country), Madagascar (2014 - date);*

*SD-HSSE Gap Analysis for Barrick Gold's Lama Gold Mining Project in Argentina and Chile (IFC, World Bank and Equator Principals, ISO, corporate) (2016);*

*Environmental & Water Compliance Audits for Stonewall Mining's TGME & Bosveld Operations (2015)*

*Environmental, Water and Waste Compliance Audits for Mpact's Piet Retief Operation (2013 & 2014)*

*Environmental Due Diligence Investigation on ERPM, Gauteng (2014)*

*AECOM GmbH (Germany) PPG EHS/PSM Development of Audits and Protocols on OPIC, Equator Principals, World Bank and IFC Standards (2012 – 2013)*

*Environmental Compliance Review in terms of OPIC, Equator Principals, World Bank and IFC Standards on the Bumbuna Hydroelectric Power Project, Sierra Leone (2013)*

*Environmental Due Diligence Investigation on BHP Billiton's Bayside Smelter, Richards Bay, KwaZulu-Natal (2013)*

*Environmental Due Diligence Investigation on Petrex Grootvlei Mine, Gauteng (2006)*

*Environmental Due Diligence Investigation on Mashala Delta Coal, Mpumalanga, (2006)*

*Environmental Compliance Assessment of Booyendal Platinum Mine, Limpopo (2011 - 2012)*

*Environmental Compliance Assessment of Modikwa Platinum Mine, Limpopo (2012 - 2013)*

*Environmental Compliance Review on the sealed section of the Gautrain System in support of a court case, Gauteng (2012)*

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*Environmental Compliance Assessment of Village Main Gold Mine, Gauteng (2004)*

*Group Environmental Compliance Assessment of Stonewall Mining, Mpumalanga and KwaZulu-Natal (2009 - 2014)*

*Lear Sewing Environmental Compliance Audit, East London, Eastern Cape Province (2011)*

*ArcelorMittal, Vanderbijlpark Works, Main Water Treatment Plant Record of Decision (RoD) Compliance audit (2011)*

*African Rainbow Minerals – Group SHE Audit, Northern Cape, Kwazulu-Natal, Mpumalanga and Limpopo Province (2007)*

*Sumo Coal Opencast Rehabilitation Audit, Mpumalanga (2007)*

*Legal Compliance Audit for Pinnacle Micro, Gauteng (2006)*

*Total Coal ISO 14001 Implementation Pre-certification Audit and Compliance Assessment, Dorstfontein and Forzando Mines (2006)*

*Anglo Coal Bank Colliery EMP Performance Audit, Mpumalanga (2005)*

*Environmental Compliance Assessment for General Electric, Gauteng (2006)*

*Environmental Compliance Assessment for Delphi Catalytic Converters, Eastern Cape (2006)*

*Environmental Compliance Assessment for Peterstow Aquapower, Swaziland (2007)*

*Environmental Compliance Assessment for Tech Ink, Western Cape (2006)*

***Rehabilitation and Closure Evaluation related project experience:***

*Financial Provision Evaluation for Assmang's Beeshoek Iron Ore Mine, Northern Cape Province (2016, 2017 & 2018);*

*Financial Provision Evaluation for Assmang's Khumani Iron Ore Mine, Northern Cape Province (2016, 2017 & 2018);*

*Financial Provision Evaluation for ASA Metals & Dilokeng Chrome Mine, Limpopo Province (2016, 2017 & 2018);*

*Mine Rehabilitation and Closure assessment and costing for Resolute Mining's Syama Gold Mine in Mali, West Africa (2017);*

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*Mine Rehabilitation and Closure assessment and costing for Resolute Mining's Bibiani Gold Mine in Ghana, West Africa (2017);*

*Environmental Liability Assessment for Stonewall Resources' TGME and Bosveld Gold Mining Projects, Mpumalanga Province (2015, 2016, 2017 & 2018).*

*Environmental Liability Assessment for the Feasibility Study for the Energiser Resources Molo Graphite Mine, Madagascar (2014 & 2017).*

*Environmental Liability Assessment for the Donkerhoek Quarry, Gauteng, 2011.*

*Environmental Liability Assessment for Assmang Black Rock Manganese Mine, Northern Cape Province (2011).*

*Environmental Liability Assessment for Assmang's Khumani Iron Ore Mine, Northern Cape Province, 2010;*

*Environmental Liability Assessment for Assmang's Beeshoek Iron Ore Mine, Northern Cape Province, 2010;*

*Environmental Liability Assessment for the Greater TGME Gold Mine, Mpumalanga, 2010*

*Environmental Liability Assessment for Simmer & Jack's Buffelsfontein Gold Mine, North West Province, 2009;*

*Environmental Liability Assessment for First Uranium's Mine Waste Solutions Mining Operations, North West Province, 2009;*

*Environmental Liability Assessment for Assmang Black Rock Manganese Mine, Northern Cape Province (2005 – 2007);*

*Environmental Liability Assessment for Assmang Beeshoek Iron Ore Mine, Northern Cape Province (2007);*

*Long Term Environmental Liability Assessment (15 years) for Mine Waste Solutions and First Uranium, North West Province (2007);*

*Environmental Liability Assessment for Simmer & Jack Buffelsfontein Gold Mine, North West Province (2007);*

*Due Diligence Investigation on Petrex Grootvlei Mine, Gauteng (2006);*

*Due Diligence Investigation on Mashala Delta Coal, Mpumalanga, (2006);*

---

*Environmental Liability Assessment for Assmang Khumani Iron Ore Mine, Northern Cape Province (2005);*

*Environmental Assessment of Village Main Gold Mine, Gauteng (2004);*

---

**Hobbies**

**Outside of work Ferdi recharges and gets energised via the following activities:**

**Sailing & other water sports**

**Travelling (locally and abroad)**

**Reading for knowledge and / or skills improvement**

**Hunting and outdoors**

**Mountain biking**

**Working with his hands**

---

# Annexure B: Survey Data

## Tanja Bekker

---

**From:** Sindie Esterhuizen <Sindie.Esterhuizen@assmang.co.za>  
**Sent:** 26 April 2020 11:03 AM  
**To:** Tanja Bekker; Dirk Coetzee; ferdi@globesight.co.za  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request  
**Attachments:** Infrastructure Developments April 2019 to April 2020.dwg

Infrastructure Developments April 2019 to April 2020

I would have liked to check it against the list from the Projects Office, but we can always add onto the drawing if something was missed.

Let me know if there is anything else you need.

Sindie

---

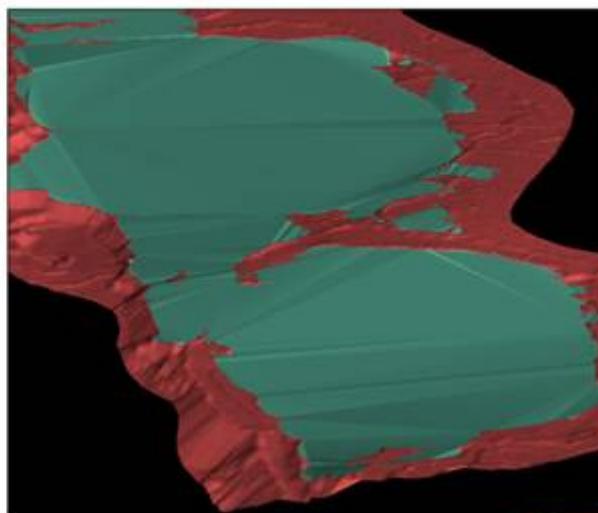
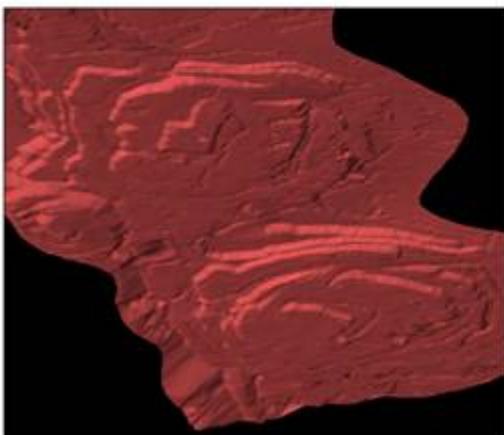
**From:** Sindie Esterhuizen  
**Sent:** Saturday, 25 April 2020 1:04 PM  
**To:** 'Tanja Bekker'; Dirk Coetzee; 'ferdi@globesight.co.za'  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request

- Backfilling for Pits BB, BA and KM

### Query: Backfilling of Pits

**Backfill volumes:**  
Surfaces of March 2020 (red) vs Backfilled Surfaces (blue)

Pit BA: 20 525 608 m<sup>3</sup>  
Pit BB: 22 786 345 m<sup>3</sup>  
Pit KM: 45 754 146 m<sup>3</sup>



---

**From:** Sindie Esterhuizen  
**Sent:** Saturday, 25 April 2020 9:59 AM  
**To:** 'Tanja Bekker'; Dirk Coetzee; 'ferdi@globesight.co.za'  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request

- Backfilling of Pit BC12

---

**From:** Sindie Esterhuizen  
**Sent:** Saturday, 25 April 2020 9:58 AM  
**To:** 'Tanja Bekker'; Dirk Coetzee; 'ferdi@globesight.co.za'  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request

Good day

The following has been done and is attached:

- 5c) PDF data (sections)
- Outline of current facilities:
  - o Pits
  - o Waste dumps
  - o Discard
  - o PDF compartments

Outstanding:

- Backfilling for Pits BB, BA and KM
- Linear Infrastructure Developments April 2019 to April 2020

Sindie

---

**From:** Sindie Esterhuizen  
**Sent:** Friday, 24 April 2020 12:28 PM  
**To:** 'Tanja Bekker'; Dirk Coetzee; [ferdi@globesight.co.za](mailto:ferdi@globesight.co.za)  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request

Hi Tanja / Ferdi

I am sending you the info that I did already, let me know if I missed anything on these points.

- 5a) Pit volumes + dwg file (toes and crests)
- 5b) WD volumes + dwg file (1m contours)

The rest I will send as I am done with it...

OneDrive link: <https://1drv.ms/u/s!Ao4BwRx145CrhRTJYikTWq4-YZ3b?e=4K7ijf>

Sindie

---

**From:** Tanja Bekker [<mailto:tanja@envirologistics.co.za>]  
**Sent:** Friday, 24 April 2020 9:55 AM  
**To:** Dirk Coetzee; Sindie Esterhuizen; [ferdi@globesight.co.za](mailto:ferdi@globesight.co.za)  
**Subject:** RE: Closure Cost Information request

Dankie Sindie.

---

**From:** Dirk Coetsee <[DIRKC@assmang.co.za](mailto:DIRKC@assmang.co.za)>  
**Sent:** 23 April 2020 03:58 PM  
**To:** Sindie Esterhuizen <[sindiee@assmang.co.za](mailto:sindiee@assmang.co.za)>; Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Sindie

No problem

Regards

Dirk

---

**From:** Sindie Esterhuizen  
**Sent:** Thursday, 23 April 2020 15:50  
**To:** Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>; Dirk Coetsee <[DIRKC@assmang.co.za](mailto:DIRKC@assmang.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Tanja

Die periode wat julle soek is April 2019 tot April 2020.

April 2020 sou niks verander het nie, so kan ek die volumes en developments trek op Month-End March 2019 tot Month-End March 2020?

Sindie

---

**From:** Tanja Bekker [<mailto:tanja@envirogistics.co.za>]  
**Sent:** Thursday, 23 April 2020 10:12 AM  
**To:** Sindie Esterhuizen; Dirk Coetsee  
**Cc:** Nompumelelo Mabunda; [ferdi@globesight.co.za](mailto:ferdi@globesight.co.za)  
**Subject:** RE: Closure Cost Information request

Dear Sindie,

If you can kindly provide the information is dwg. But then also a pdf version for record.

In terms of the areas, Ferdi will require the current outline of the facilities for current costing purposes. Volumes of the pits and paste disposal facility (depth), as well as volumes of the waste rock dump heights (current) will also be required.

These will have to be compared in terms of increase from last year April to this year.

Please see the detailed information request attached.

Thank you for your assistance,  
Tanja

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**From:** Sindie Esterhuizen <[Sindie.Esterhuizen@assmang.co.za](mailto:Sindie.Esterhuizen@assmang.co.za)>  
**Sent:** 23 April 2020 08:03 AM  
**To:** Dirk Coetsee <[Dirk.Coetsee@assmang.co.za](mailto:Dirk.Coetsee@assmang.co.za)>; Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>  
**Cc:** Nompumelelo Mabunda <[Nompumelelo.Mabunda@assmang.co.za](mailto:Nompumelelo.Mabunda@assmang.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Dirk / Tanja

Just a clarification on Point 5, the Survey Data request:

Do you want this data in dwg format and for example the *Developments w.r.t. the tailings storage facility(s)*

Do I just give you the outline of the new compartment 3b or do you want the point clouds or volumes, areas?

Sindie

---

**From:** Dirk Coetzee

**Sent:** Wednesday, 22 April 2020 10:55 AM

**To:** Johannes Shuping; Martin Engelbrecht; Kotie Coetzer; Nompumelelo Mabunda; Sindie Esterhuizen; Cornelius Kgope; Gosego Makatong

**Cc:** Andre Johnson; Wilhemina Ngcobo; Wilson Smith; Mark Oosthuizen

**Subject:** FW: Closure Cost Information request

Good day

With reference to the attached letter.

EnviroGistics has been appointed to do the annual closure cost assessment. The first phase will be a desktop study and they will need your assistance to provide them with information. The contact persons will be Ferdi Pieterse or Tanja Bekker. Can you please provide the data asap because the final report must be available by the end of May.

Cornelius and Gosego

Is it possible to give feedback on point 4 and 5 regarding rehabilitation progress on the annual plan.

Your assistance in this regards will be appreciated

Regards

Dirk

---

**From:** Tanja Bekker [<mailto:tanja@envirogistics.co.za>]

**Sent:** Thursday, 16 April 2020 12:03

**To:** Dirk Coetzee <[Dirk.Coetzee@assmang.co.za](mailto:Dirk.Coetzee@assmang.co.za)>

**Subject:** Closure Cost Information request

Hi Dirk,

Vind asb aangeheg die lys van inligting vir die closure assessment.

Ons stel voor dat Ferdi solank begin hiermee "remotely" aangesien ons nie weet hoe lank die COVID situasie ons sal vertraag nie.

Sal jy asb vir ons die inligting kan aanstuur en ook kontakbesonderhede waar moontlik?

Kind Regards,

**Tanja Bekker**

MSc. Environmental Management

EAPASA Reg. 2019/306; PrSci. Reg. 400123/09



EnviroGistics (Pty) Ltd

PO Box 22014, Helderkruijn, 1733

Email: [tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)  
Cell: 082 412 1799  
Fax: 086 551 5233

*“Driven to achieve Environmental Compliance and Excellence throughout the life cycles of a project and enabling clients to focus on operating a successful business within a sustainable environment.”*

## Tanja Bekker

---

**From:** Sindie Esterhuizen <Sindie.Esterhuizen@assmang.co.za>  
**Sent:** 25 April 2020 01:04 PM  
**To:** Tanja Bekker; Dirk Coetzee; ferdi@globesight.co.za  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request

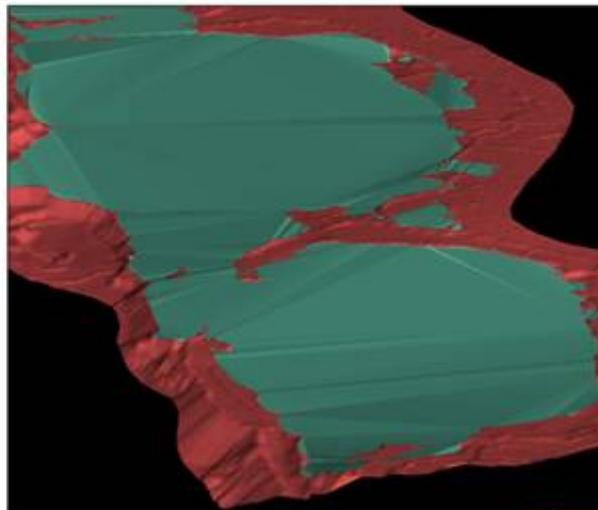
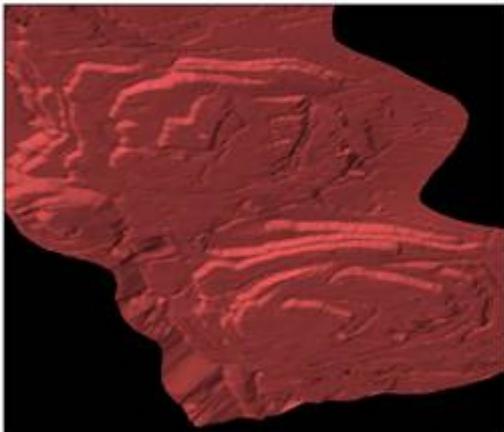
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Surfaces of March 2020 (red) vs Backfilled Surfaces (blue)

Pit BA: 20 525 608 m<sup>3</sup>  
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13



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**Sent:** Saturday, 25 April 2020 9:59 AM  
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**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request

- Backfilling of Pit BC12

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Good day

The following has been done and is attached:

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Sindie

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Hi Tanja / Ferdi

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- 5b) WD volumes + dwg file (1m contours)

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Sindie

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**Subject:** RE: Closure Cost Information request

Dankie Sindie.

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**To:** Sindie Esterhuizen <[sindiee@assmang.co.za](mailto:sindiee@assmang.co.za)>; Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Sindie

No problem

Regards

Dirk

---

**From:** Sindie Esterhuizen  
**Sent:** Thursday, 23 April 2020 15:50

**To:** Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>; Dirk Coetzee <[DIRKC@assmang.co.za](mailto:DIRKC@assmang.co.za)>  
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Hi Tanja

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Sindie

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**Sent:** Thursday, 23 April 2020 10:12 AM  
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**Cc:** Nompumelelo Mabunda; [ferdi@globesight.co.za](mailto:ferdi@globesight.co.za)  
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**Cc:** Nompumelelo Mabunda <[Nompumelelo.Mabunda@assmang.co.za](mailto:Nompumelelo.Mabunda@assmang.co.za)>  
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**Cc:** Andre Johnson; Wilhemina Ngcobo; Wilson Smith; Mark Oosthuizen  
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**Tanja Bekker**

*MSc. Environmental Management*

*EAPASA Reg. 2019/306; PrSci. Reg. 4001/2010*



EnviroGistics (Pty) Ltd

PO Box 22014, Helderkruijn, 1733

Email: [tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)

Cell: 082 412 1799

Fax: 086 551 5233

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## Tanja Bekker

---

**From:** Sindie Esterhuizen <Sindie.Esterhuizen@assmang.co.za>  
**Sent:** 25 April 2020 09:58 AM  
**To:** Tanja Bekker; Dirk Coetzee; ferdi@globesight.co.za  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request  
**Attachments:** PDF Sections March 2019 vs Febr 2020.pdf; PDF Sections March 2019 vs Febr 2020.dwg; Outline of current Facilities.dwg

Good day

The following has been done and is attached:

- 5c) PDF data (sections)
- Outline of current facilities:
  - o Pits
  - o Waste dumps
  - o Discard
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Outstanding:

- Backfilling for Pits BB, BA and KM
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Sindie

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Sindie

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**Sent:** Friday, 24 April 2020 9:55 AM  
**To:** Dirk Coetzee; Sindie Esterhuizen; [ferdi@globesight.co.za](mailto:ferdi@globesight.co.za)  
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**To:** Sindie Esterhuizen <[sindiee@assmang.co.za](mailto:sindiee@assmang.co.za)>; Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Sindie

No problem

Regards

Dirk

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**From:** Sindie Esterhuizen  
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**To:** Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>; Dirk Coetsee <[DIRKC@assmang.co.za](mailto:DIRKC@assmang.co.za)>  
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Sindie

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**Sent:** Wednesday, 22 April 2020 10:55 AM

**To:** Johannes Shuping; Martin Engelbrecht; Kotie Coetzer; Nompumelelo Mabunda; Sindie Esterhuizen; Cornelius Kgope; Gosego Makatong

**Cc:** Andre Johnson; Wilhemina Ngcobo; Wilson Smith; Mark Oosthuizen

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Kind Regards,

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MSc. Environmental Management

EAPASA Reg. 2019/306; PrSci. Reg. 400125709



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Cell: 082 412 1799

Fax: 086 551 5233

*“Driven to achieve Environmental Compliance and Excellence throughout the life cycles of a project and enabling clients to focus on operating a successful business within a sustainable environment.”*

## Tanja Bekker

---

**From:** Sindie Esterhuizen <Sindie.Esterhuizen@assmang.co.za>  
**Sent:** 24 April 2020 12:28 PM  
**To:** Tanja Bekker; Dirk Coetzee; ferdi@globesight.co.za  
**Cc:** Nompumelelo Mabunda  
**Subject:** RE: Closure Cost Information request  
**Attachments:** Rehabilitation Cost Review 2020 - Survey Dept V1.pdf

Hi Tanja / Ferdi

I am sending you the info that I did already, let me know if I missed anything on these points.

5a) Pit volumes + dwg file (toes and crests)

5b) WD volumes + dwg file (1m contours)

The rest I will send as I am done with it...

OneDrive link: <https://1drv.ms/u/s!Ao4BwRx145CrhRTJYikTWq4-YZ3b?e=4K7ijf>

Sindie

---

**From:** Tanja Bekker [mailto:[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)]  
**Sent:** Friday, 24 April 2020 9:55 AM  
**To:** Dirk Coetzee; Sindie Esterhuizen; ferdi@globesight.co.za  
**Subject:** RE: Closure Cost Information request

Dankie Sindie.

---

**From:** Dirk Coetzee <[DIRKC@assmang.co.za](mailto:DIRKC@assmang.co.za)>  
**Sent:** 23 April 2020 03:58 PM  
**To:** Sindie Esterhuizen <[sindiee@assmang.co.za](mailto:sindiee@assmang.co.za)>; Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Sindie

No problem

Regards

Dirk

---

**From:** Sindie Esterhuizen  
**Sent:** Thursday, 23 April 2020 15:50  
**To:** Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>; Dirk Coetzee <[DIRKC@assmang.co.za](mailto:DIRKC@assmang.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Tanja

Die periode wat julle soek is April 2019 tot April 2020.

April 2020 sou niks verander het nie, so kan ek die volumes en developments trek op Month-End March 2019 tot Month-End March 2020?

Sindie

---

**From:** Tanja Bekker [<mailto:tanja@envirogistics.co.za>]  
**Sent:** Thursday, 23 April 2020 10:12 AM  
**To:** Sindie Esterhuizen; Dirk Coetzee  
**Cc:** Nompumelelo Mabunda; [ferdi@globesight.co.za](mailto:ferdi@globesight.co.za)  
**Subject:** RE: Closure Cost Information request

Dear Sindie,

If you can kindly provide the information is dwg. But then also a pdf version for record.

In terms of the areas, Ferdi will require the current outline of the facilities for current costing purposes. Volumes of the pits and paste disposal facility (depth), as well as volumes of the waste rock dump heights (current) will also be required.

These will have to be compared in terms of increase from last year April to this year.

Please see the detailed information request attached.

Thank you for your assistance,  
Tanja

---

**From:** Sindie Esterhuizen <[Sindie.Esterhuizen@assmang.co.za](mailto:Sindie.Esterhuizen@assmang.co.za)>  
**Sent:** 23 April 2020 08:03 AM  
**To:** Dirk Coetzee <[Dirk.Coetzee@assmang.co.za](mailto:Dirk.Coetzee@assmang.co.za)>; Tanja Bekker <[tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)>  
**Cc:** Nompumelelo Mabunda <[Nompumelelo.Mabunda@assmang.co.za](mailto:Nompumelelo.Mabunda@assmang.co.za)>  
**Subject:** RE: Closure Cost Information request

Hi Dirk / Tanja

Just a clarification on Point 5, the Survey Data request:

Do you want this data in dwg format and for example the *Developments w.r.t. the tailings storage facility(s)*

Do I just give you the outline of the new compartment 3b or do you want the point clouds or volumes, areas?

Sindie

---

**From:** Dirk Coetzee  
**Sent:** Wednesday, 22 April 2020 10:55 AM  
**To:** Johannes Shuping; Martin Engelbrecht; Kotie Coetzer; Nompumelelo Mabunda; Sindie Esterhuizen; Cornelius Kgope; Gosego Makatong  
**Cc:** Andre Johnson; Wilhemina Ngcobo; Wilson Smith; Mark Oosthuizen  
**Subject:** FW: Closure Cost Information request

Good day

With reference to the attached letter.

Envirogistics has been appointed to do the annual closure cost assessment. The first phase will be a desktop study and they will need your assistance to provide them with information. The contact persons will be Ferdi Pieterse or Tanja Bekker. Can you please provide the data asap because the final report must be available by the end of May.

Cornelius and Gosego

Is it possible to give feedback on point 4 and 5 regarding rehabilitation progress on the annual plan.

Your assistance in this regards will be appreciated

Regards

Dirk

---

**From:** Tanja Bekker [<mailto:tanja@envirogistics.co.za>]

**Sent:** Thursday, 16 April 2020 12:03

**To:** Dirk Coetzee <[Dirk.Coetzee@assmang.co.za](mailto:Dirk.Coetzee@assmang.co.za)>

**Subject:** Closure Cost Information request

Hi Dirk,

Vind asb aangeheg die lys van inligting vir die closure assessment.

Ons stel voor dat Ferdi solank begin hiermee "remotely" aangesien ons nie weet hoe lank die COVID situasie ons sal vertraag nie.

Sal jy asb vir ons die inligting kan aanstuur en ook kontakbesonderhede waar moontlik?

Kind Regards,

**Tanja Bekker**

*MSc. Environmental Management*

*EAPASA Reg. 2019/306; PrSci. Reg. 4001/2019*



EnviroGistics (Pty) Ltd

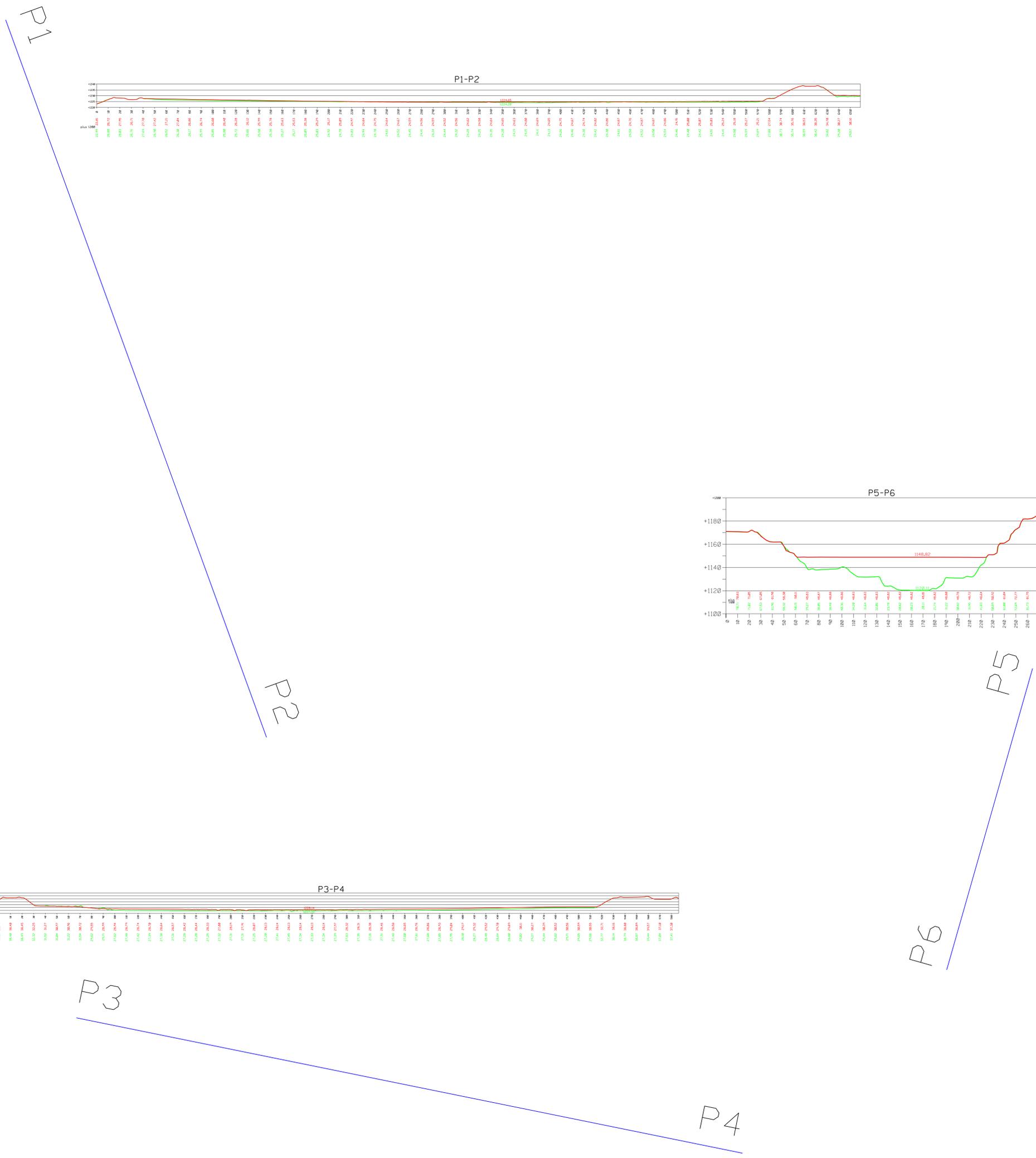
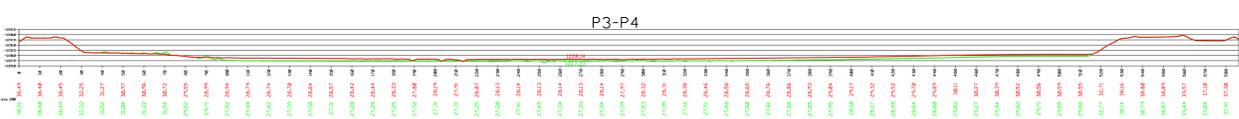
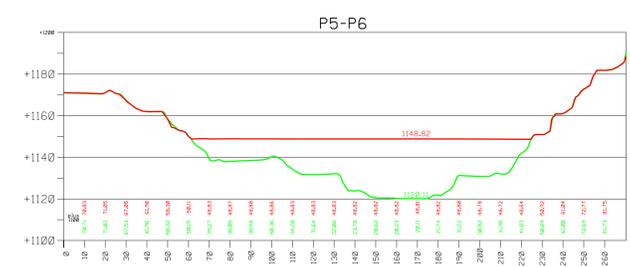
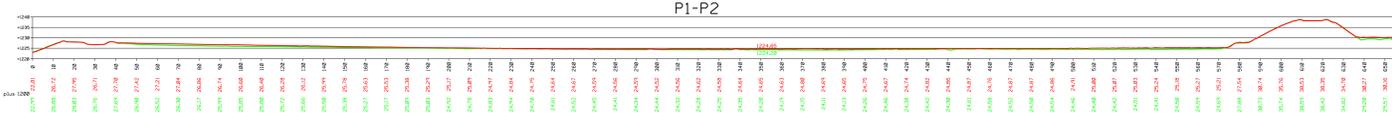
PO Box 22014, Helderkruijn, 1733

Email: [tanja@envirogistics.co.za](mailto:tanja@envirogistics.co.za)

Cell: 082 412 1799

Fax: 086 551 5233

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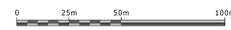


**Khumani Mine Details**  
  
 Assmang Limited  
 Khumani Iron Ore Mine  
 Private Bag X503  
 Kathu  
 8446  
 Tel : (053) 723-8000

**SCALE**



**ASSMANG LIMITED**  
**KHUMANI IRON ORE MINE**




**DRAWING DESCRIPTION**

**PLAN NUMBER:**

**PLAN NAME:**  
**PDF SECTIONS**

**SURVEY SYSTEM**  
 TRIGONOMETRICAL SYSTEM WG 23°  
 ORIGIN AT INTERSECTION OF LONGITUDE 23  
 EAST WITH THE EQUATOR  
 CONSTANTS TO BE ADDED:  
 Y - 50 000 X + 3 000 000

**DATE**  
 25/04/2020

# Rehabilitation Cost Review 2020 Survey Department Information



**ASSMANG**

**IRON ORE**  
KHUMANI MINE

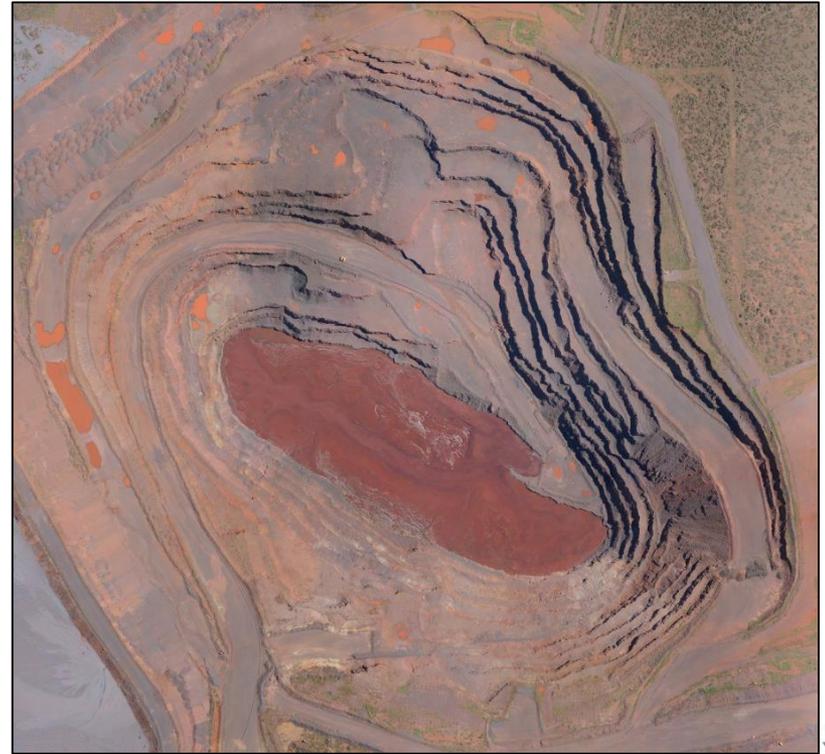
April 2020

# Pits BC and KM02

Pit BC was depleted in March 2019, after which backfilling commenced.



Pit KM02 was depleted in April 2020, after which it was utilised as Compartment 3b of the Paste Disposal Facility.



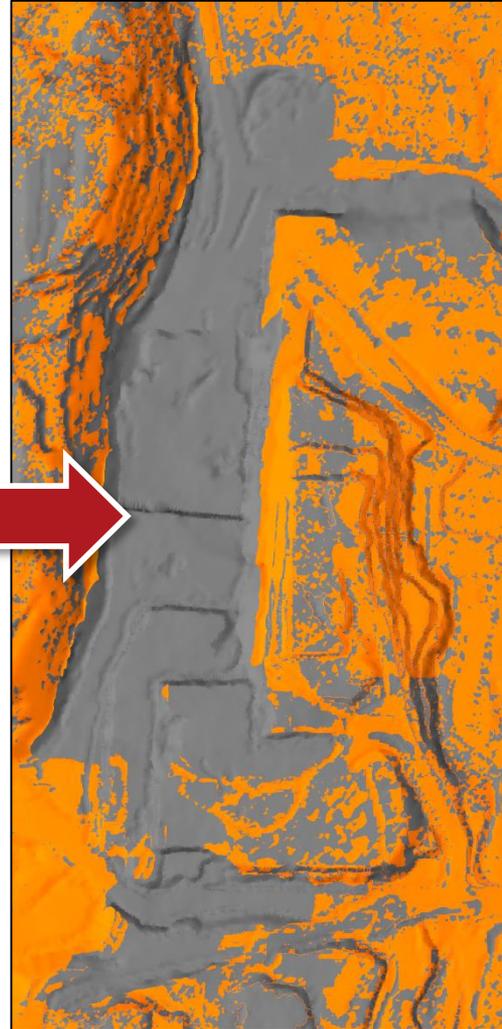
# Query 5a: Pit BA

## Pit BA:

25 March 2019 vs 24 March 2020

Mined Volume: 4 156 203 m<sup>3</sup>

Areas mined out since April 2019



Pit Crest and Toes:

Actual BRUCE a 250319 - M.dwg

Actual BRUCE a 24032020 - M.dwg



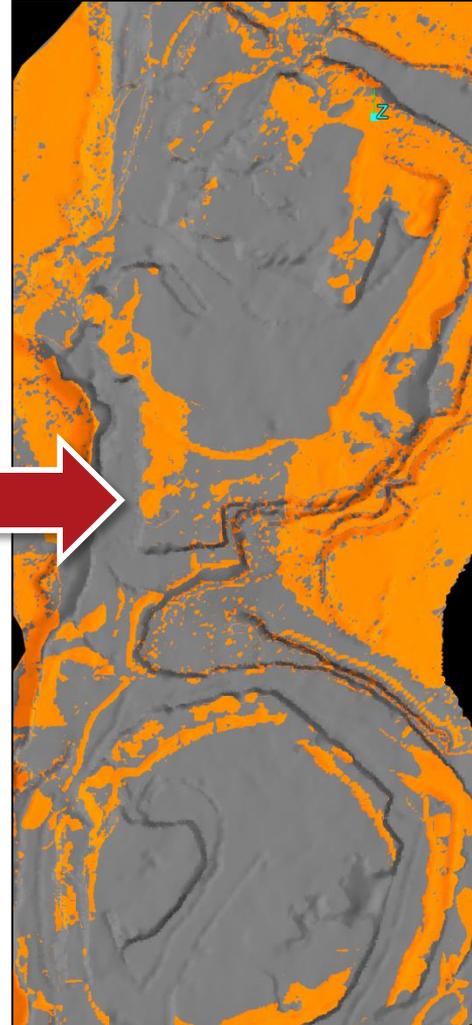
# Query 5a: Pit BB

## Pit BB:

25 March 2019 vs 24 March 2020

Mined Volume: 4 285 219 m<sup>3</sup>

Areas mined out since April 2019



Pit Crest and Toes:

Actual BRUCE b 260319 - M.dwg

Actual BRUCE b 24032020 - M.dwg



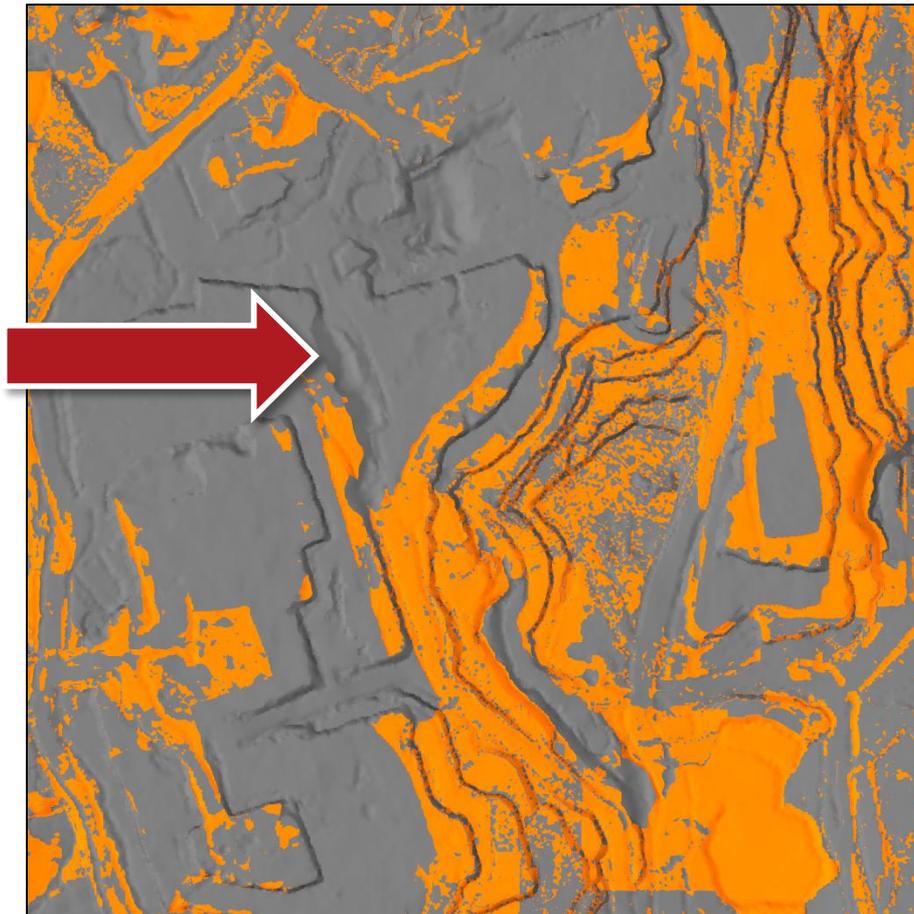
# Query 5a: Pit KM

## Pit KM:

25 March 2019 vs 24 March 2020

Mined Volume: 12 780 718 m<sup>3</sup>

Areas mined out since April 2019



Pit Crest and Toes:

Actual KING KM 220319 - M.dwg

Actual KING KM 23032020 - M.dwg



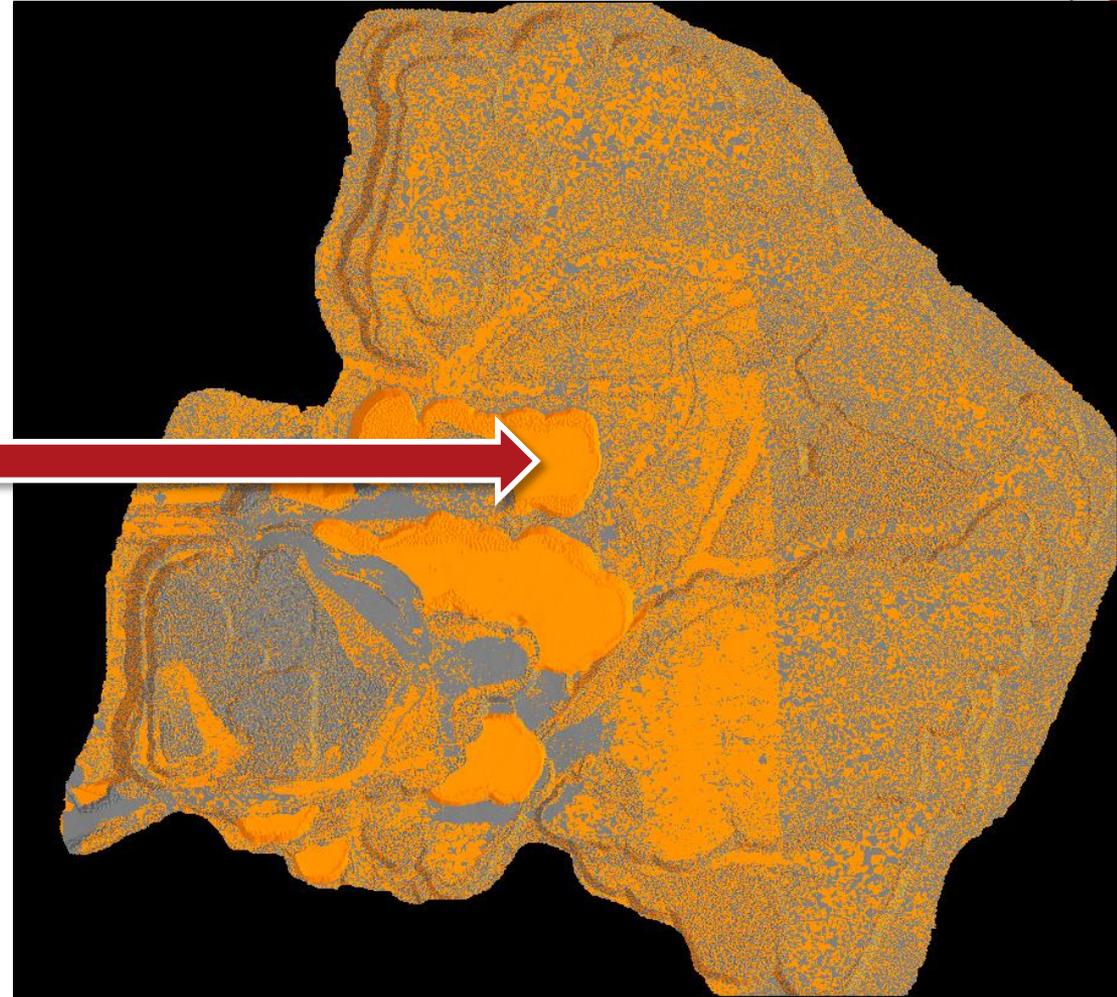
# Query 5b: Bruce Waste Dump

## Bruce WD:

25 March 2019 vs 24 March 2020

Dumped Volume : 2 573 968 m<sup>3</sup>

Areas dumped since April 2019



## Contours:

1m contours of Pit BB WD March 2019.dwg

1m contours of Pit BB WD March 2020.dwg



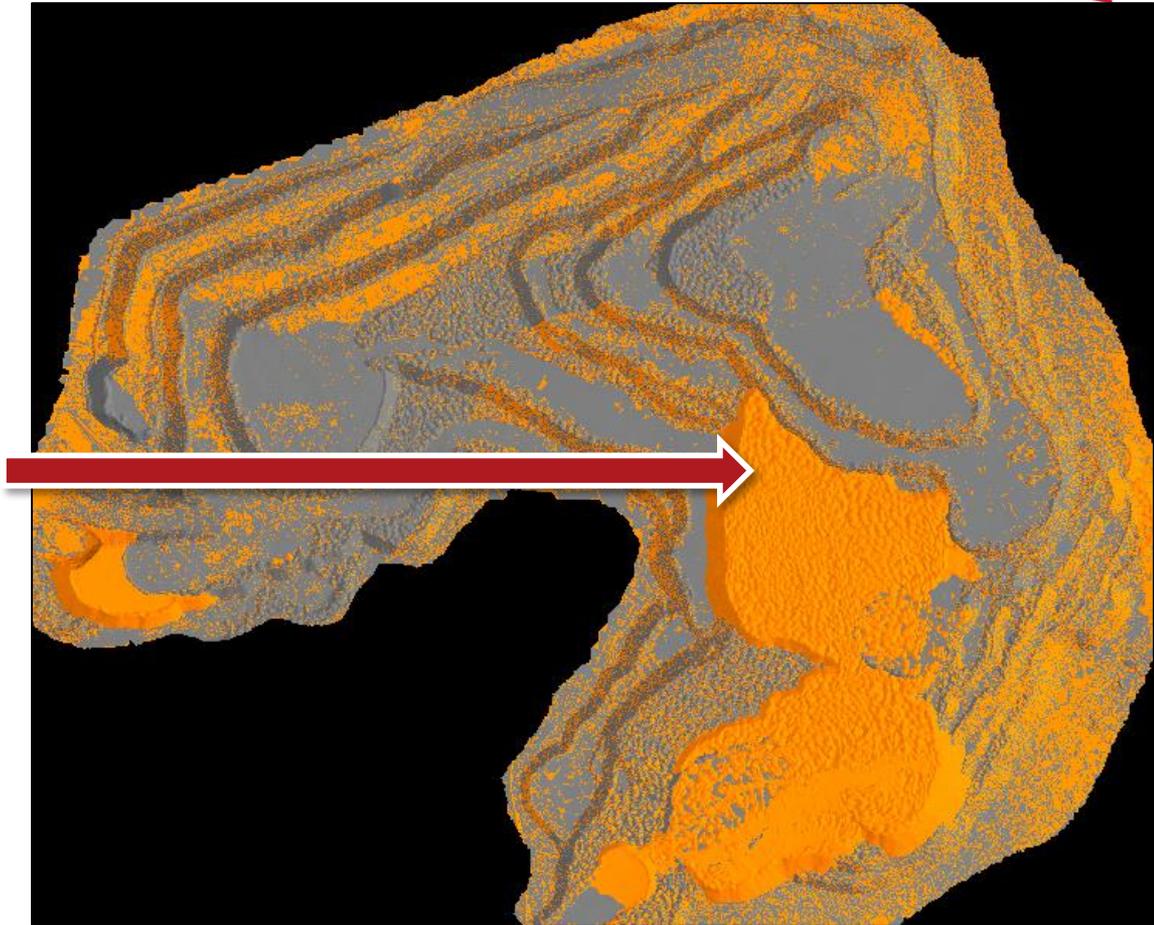
# Query 5b: KM02 Waste Dump

## KM02 WD:

25 March 2019 vs 24 March 2020

Dumped Volume: 1 106 969 m<sup>3</sup>

Areas dumped since April 2019



Contours:

1m contours of Pit KM02 WD March 2019.dwg

1m contours of Pit KM02 WD March 2020.dwg



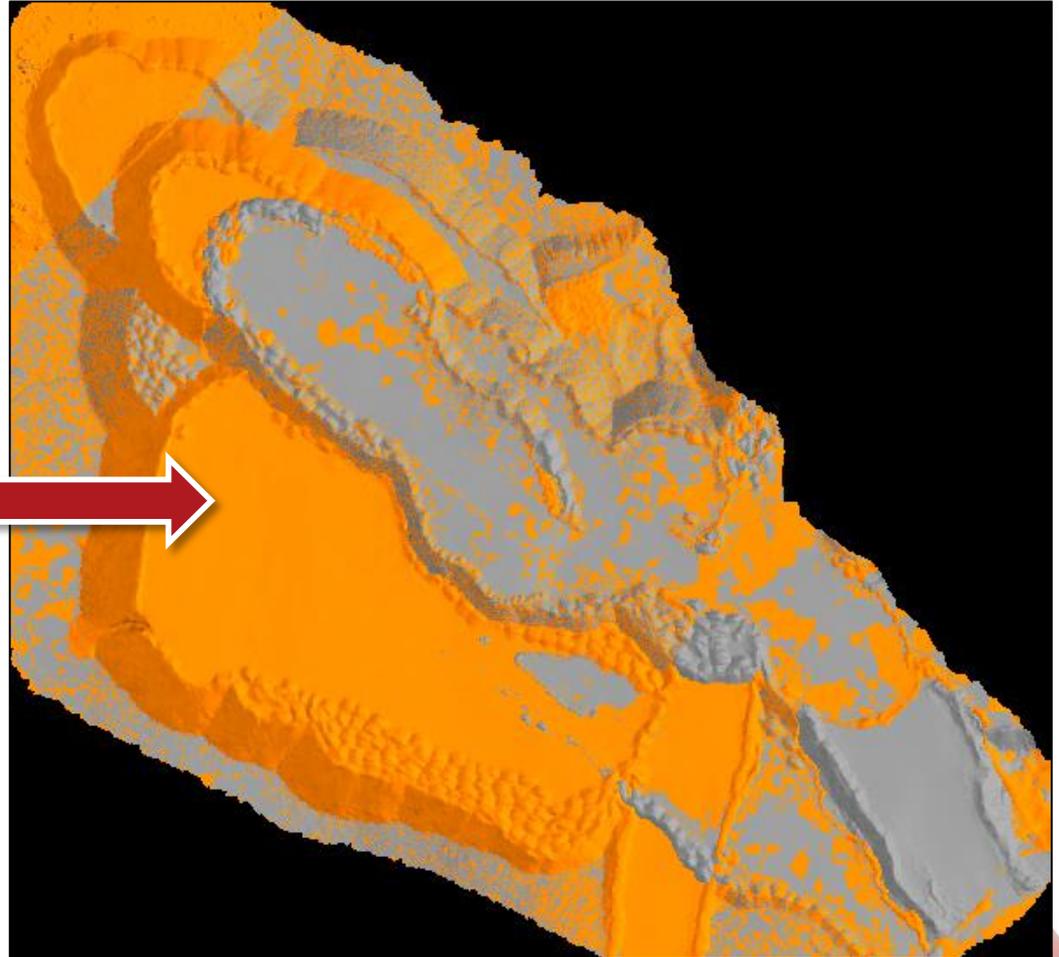
# Query 5b: KM12 Waste Dump

## KM12 WD:

25 March 2019 vs 24 March 2020

Dumped Volume : 851 123 m<sup>3</sup>

Areas dumped since April 2019



Contours:

1m contours of Pit KM12 WD March 2019.dwg

1m contours of Pit KM12 WD March 2020.dwg

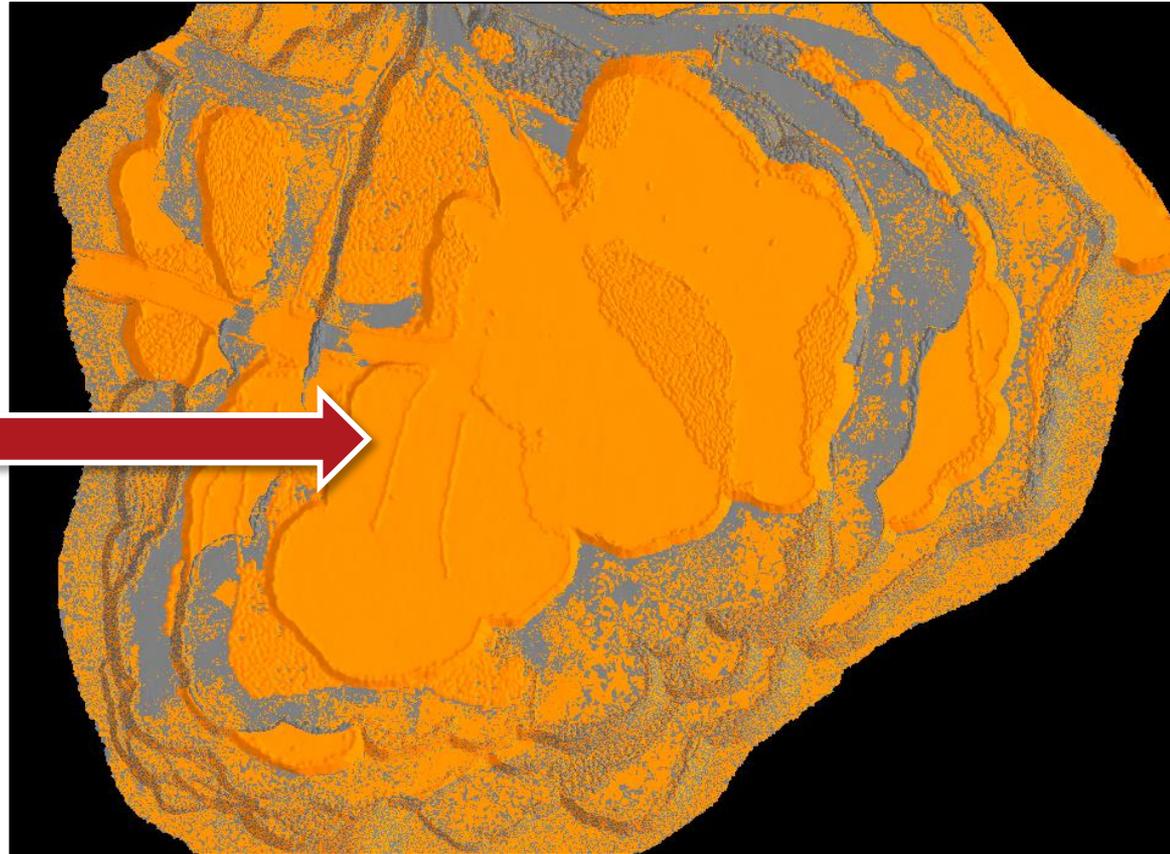


# Query 5b: KM13 Waste Dump

## KM13 WD:

25 March 2019 vs 24 March 2020

Dumped Volume : 6 441 670 m<sup>3</sup>



Areas dumped since April 2019

Contours:

1m contours of Pit KM13 WD March 2019.dwg

1m contours of Pit KM13 WD March 2020.dwg





PROPOSED REHABILITATION PLAN (based on the 2005 Mine Schedule)									Pit BC12 Backfill Volumes (m <sup>3</sup> )	
CURRENT FINANCIAL YEAR	2015	2016	2017	2018	2019	2020	2021	2022		
Rehabilitation of Opencast Pits										
Entails: (% indicates ACTUAL) Backfilling and the Final Establishment of Safety Measures										
BC_CENT / Pit BC12			0%	0%	10%	29% (Mar 2020)			04/03/2020 to 20/03/2020	1 73 974
BC_STH / Pit BC12, BC02, BC03	53%	70%	85%	90%	95%	98%			Backfill Volume still Required	7 279 215
									% already Backfilled	29%

 ASSMANG LIMITED Khumani Iron Ore Mine Private Bag 503 Khatju 8446 Tel : (053) 723-8000	 <b>ASSMANG LIMITED</b> KHUMANI IRON ORE MINE	 PLAN NUMBER: PLAN NAME: Rehabilitation Plan for Pit BC12 : 20 March 2020	SURVEY SYSTEM: TRIGONOMETRICAL SYSTEM WGS 23P ORIGIN AT INTERSECTION OF LONGITUDE 33 000 WITH THE EQUATOR CONSTANTS TO BE ADDED: Y = 50 000 X = 3 000 000	DATE: 25/03/2020

## **Annexure C: Khumani BoQ (SHEQ) 2020**



Assmang - Khumani Iron Ore Mine			Evaluation Date: May 2020			2020			Decommissioning / Restoration
Final (LOM) Rehabilitation Plan			Evaluator: Globesight (Pty) Ltd						
Rate Nr.	Item Description	Unit	Quantity	Rate	Item Amount				
<b>Steel Structures</b>									
<b>Bruce</b>									
1,1	Dismantle steel structure high with heavy internal steel to salvage yard	m <sup>2</sup>	4141,00	R 390,68	R 1 617 794,29	Decommissioning			
1,2	Dismantle medium height steel buildings/structures to salvage yard	m <sup>2</sup>	10089,00	R 329,29	R 3 322 157,08	Decommissioning			
<b>King</b>									
1,1	Dismantle steel structure high with heavy internal steel to salvage yard	m <sup>2</sup>	2962,00	R 390,68	R 1 157 185,87	Decommissioning			
1,2	Dismantle medium height steel buildings/structures to salvage yard	m <sup>2</sup>	30147,00	R 329,29	R 9 926 957,02	Decommissioning			
<b>Parsons</b>									
1,1	Dismantle steel structure high with heavy internal steel to salvage yard	m <sup>2</sup>	31514,00	R 390,68	R 12 311 801,35	Decommissioning			
1,2	Dismantle medium height steel buildings/structures to salvage yard	m <sup>2</sup>	114287,00	R 329,29	R 37 633 002,85	Decommissioning			
<b>Brick Buildings</b>									
<b>Bruce</b>									
4,1	Demolish brick structure, load and spoil (on site)	m <sup>2</sup>	2161,00	R 109,39	R 236 390,96	Decommissioning			
<b>King</b>									
4,1	Demolish brick structure, load and spoil (on site)	m <sup>2</sup>	15082,00	R 109,39	R 1 649 814,20	Decommissioning			
<b>Parsons</b>									
4,1	Demolish brick structure, load and spoil (on site)	m <sup>2</sup>	30450,00	R 109,39	R 3 330 913,83	Decommissioning			
<b>Prefabricated Buildings and Structures</b>									
<b>Bruce</b>									
16,1	Demolish prefabricated structures to salvage yard	m <sup>2</sup>	334,00	R 40,18	R 13 420,99	Decommissioning			
<b>King</b>									
16,1	Demolish prefabricated structures to salvage yard	m <sup>2</sup>	1172,00	R 40,18	R 47 094,01	Decommissioning			
<b>Parsons</b>									
16,1	Demolish prefabricated structures to salvage yard	m <sup>2</sup>	1716,00	R 40,18	R 68 953,34	Decommissioning			
<b>Roads</b>									
<b>Bruce</b>									
8,2	Demolish unsurfaced haul roads, rip and shape	m <sup>2</sup>	431297,00	R 12,28	R 5 295 648,45	Decommissioning			
8,3	Demolish surfaced (tarred) roads, rip and shape	m <sup>2</sup>	30844,00	R 12,28	R 378 715,78	Decommissioning			
8,4	Topsoil spreading onto haul road footprints	m <sup>3</sup>	64695,00	R 21,21	R 1 372 063,92	Decommissioning			
<b>King</b>									
8,2	Demolish unsurfaced haul roads, rip and shape	m <sup>2</sup>	406489,00	R 12,28	R 4 991 045,25	Decommissioning			
8,3	Demolish surfaced (tarred) roads, rip and shape	m <sup>2</sup>	54527,00	R 12,28	R 669 505,75	Decommissioning			
8,4	Topsoil spreading onto haul road footprints	m <sup>3</sup>	60973,00	R 21,21	R 1 293 127,03	Decommissioning			
<b>Parsons</b>									
8,3	Demolish surfaced (tarred) roads, rip and shape	m <sup>2</sup>	86531,00	R 12,28	R 1 062 464,51	Decommissioning			
8,2	Demolish unsurfaced haul roads, rip and shape	m <sup>2</sup>	11886,00	R 12,28	R 145 941,38	Decommissioning			
<b>Railway Lines</b>									
<b>King &amp; Parsons</b>									
10,2	Remove rails, sleepers and ballast	m	31350,00	R 150,80	R 4 727 623,89	Decommissioning			
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	627000,00	R 3,91	R 2 449 546,06	Decommissioning			
10,3	Topsoil spreading onto rail footprint	m <sup>3</sup>	94050,00	R 21,21	R 1 994 630,36	Decommissioning			
10,1	Rip and shape remaining disturbed surfaces	m	19600,00	R 3,91	R 76 572,73	Decommissioning			
10,3	Topsoil spreading onto rail footprint	m <sup>3</sup>	17640,00	R 21,21	R 374 112,49	Decommissioning			
<b>Concrete Structures</b>									
<b>Bruce</b>									
2,1	Demolish all reinforced concrete foundations/bases/slabs/floors	m <sup>2</sup>	30632,00	R 216,27	R 6 624 713,32	Decommissioning			
<b>King</b>									
2,1	Demolish all reinforced concrete foundations/bases/slabs/floors	m <sup>2</sup>	130798,00	R 216,27	R 28 287 387,46	Decommissioning			
<b>Parsons</b>									
2,1	Demolish all reinforced concrete foundations/bases/slabs/floors	m <sup>2</sup>	151217,00	R 216,27	R 32 703 358,38	Decommissioning			
<b>Pipelines</b>									
<b>Bruce</b>									
7,1	Dismantle and remove piping on surface to stockpile	m	19655,00	R 55,81	R 1 096 965,77	Decommissioning			
<b>King</b>									
7,1	Dismantle and remove piping on surface to stockpile	m	46518,00	R 55,81	R 2 596 217,44	Decommissioning			
<b>Parsons</b>									
7,1	Dismantle and remove piping on surface to stockpile	m	59409,00	R 55,81	R 3 315 677,42	Decommissioning			
<b>Powerlines &amp; Communication Lines</b>									
<b>Bruce</b>									
7,2	Dismantle and remove overhead powerlines to stockpile	m	250245,00	R 4,13	R 1 033 515,89	Decommissioning			
<b>King</b>									
7,2	Dismantle and remove overhead powerlines to stockpile	m	426713,00	R 4,13	R 1 762 331,58	Decommissioning			
<b>Parsons</b>									
7,2	Dismantle and remove overhead powerlines to stockpile	m	757641,00	R 4,13	R 3 129 069,56	Decommissioning			
<b>Fences</b>									
<b>Bruce</b>									
9,1	Removal of fences (post closure), cut to stockpile	m	37016,00	R 39,07	R 1 446 130,73	Decommissioning			
<b>King</b>									
9,1	Removal of fences (post closure), cut to stockpile	m	2560,00	R 39,07	R 100 013,36	Decommissioning			
<b>Parsons</b>									
9,1	Removal of fences (post closure), cut to stockpile	m	327,00	R 39,07	R 12 775,14	Decommissioning			
<b>Boreholes</b>									
<b>King</b>									
11,1	Cut casing and cap borehole	Item	25,00	R 3 348,66	R 83 716,54	Decommissioning			
<b>Earthworks</b>									
<b>Opencast Rehabilitation (Enviro Berm)</b>									
<b>Bruce</b>									
14,4	Pit BA 05 (BA12, BA 13 & BA15)	m	5483,00	R 343,80	R 1 885 033,13	Restoration			
14,4	Pit BB 01 (BB11, BB12 & BB13)	m	8861,00	R 343,80	R 3 046 375,81	Restoration			
14,4	Pit BC 01 (BC11 & BC12)	m	4309,20	R 343,80	R 1 481 485,46	Restoration			
<b>King</b>									
14,4	Pit KM (KM01)	m	10887,00	R 343,80	R 3 742 906,38	Restoration			
<b>Rehabilitation of Paste Disposal Facility</b>									
<b>King</b>									
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	916000,00	R 3,91	R 3 578 603,17	Decommissioning			

14,7	Cut to fill from waste rock dump	m <sup>3</sup>	458000,00	R 29,02	R 13 291 954,64	Decommissioning
14,6	Topsoil spreading over area	m <sup>3</sup>	560141,00	R 21,21	R 11 879 577,30	Decommissioning
<b>Rehabilitation of dumps and spoils</b>						
<b>Bruce</b>						
Dump B 01 (Bruce Waste Dump)						
14,1	Containment berms (dumps)	m	130679,00	R 28,66	R 3 745 854,00	Restoration
14,2	Shaping waste dump slopes	m <sup>3</sup>	517304,07	R 19,65	R 10 162 687,97	Restoration
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	582600,50	R 28,08	R 16 361 816,38	Restoration
Pan Handle						
14,1	Containment berms (dumps)	m	23388,00	R 28,66	R 670 406,37	Restoration
14,2	Shaping waste dump slopes	m <sup>3</sup>	93764,00	R 19,65	R 1 842 038,99	Restoration
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	87707,00	R 28,08	R 2 463 173,01	Restoration
<b>King</b>						
Dump K 01 (KM02)						
14,1	Containment berms (dumps)	m	25840,00	R 28,66	R 740 691,83	Restoration
14,2	Shaping waste dump slopes	m <sup>3</sup>	356168,50	R 19,65	R 6 997 101,92	Restoration
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	122127,45	R 28,08	R 3 429 840,71	Restoration
Dump KM12						
14,1	Containment berms (dumps)	m	2100,00	R 28,66	R 60 195,54	Restoration
14,2	Shaping waste dump slopes	m <sup>3</sup>	153035,00	R 19,65	R 3 006 446,36	Restoration
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	28929,30	R 28,08	R 812 453,64	Restoration
Dump M 01 (KM13)						
14,1	Containment berms (dumps)	m	52063,00	R 28,66	R 1 492 362,18	Restoration
14,2	Shaping waste dump slopes	m <sup>3</sup>	281805,00	R 19,65	R 5 536 195,10	Restoration
14,3	Topsoil spreading over dump surface	m <sup>3</sup>	234134,15	R 28,08	R 6 575 449,16	Restoration
<b>Waste Management &amp; Disposal</b>						
<b>Bruce</b>						
6,3	Cut hazardous material to hazardous disposal site	m <sup>3</sup>	2500,00	R 1 576,66	R 3 941 653,92	Decommissioning
<b>King</b>						
6,3	Cut hazardous material to hazardous disposal site	m <sup>3</sup>	2500,00	R 1 576,66	R 3 941 653,92	Decommissioning
<b>Parsons</b>						
6,3	Cut hazardous material to hazardous disposal site	m <sup>3</sup>	2500,00	R 1 576,66	R 3 941 653,92	Decommissioning
<b>General Surface Rehabilitation</b>						
<b>Bruce</b>						
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	173381,00	R 3,91	R 677 360,04	Restoration
<b>King</b>						
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	457393,00	R 3,91	R 1 786 930,18	Restoration
<b>Parsons</b>						
14,5	Rip and shape remaining disturbed surfaces	m <sup>2</sup>	1353909,00	R 3,91	R 5 289 413,80	Restoration
<b>Maintenance and Aftercare</b>						
19,1	Surface Water Quality Monitoring	Annum	2,00	R 278 608,66	R 557 217,31	Restoration
19,2	Groundwater Quality Monitoring	Annum	3,00	R 66 973,23	R 200 919,70	Restoration
19,3	Air Quality Monitoring (PM2.5 & MP10)	Annum	3,00	R 46 881,26	R 140 643,79	Restoration
19,4	Vegetation establishment & Distribution Monitoring	Annum	3,00	R 78 135,44	R 234 406,32	Restoration
19,5	Land Stability Monitoring	Annum	3,00	R 122 784,26	R 368 352,79	Restoration
19,9	Social & Labour Plan Commitments	Annum	3,00	R 558 110,29	R 1 674 330,87	Restoration
19,6	Post rehabilitation maintenance	Annum	3,00	R 4 464 882,31	R 13 394 646,94	Restoration
					<b>Sub-Total</b>	<b>R 317 290 188,55</b>
<b>Management and Administration</b>						
Preliminary & General (6%)						R 19 037 411,31
Contingency (10%)						R 31 729 018,86
Health & Safety						R 6 345 803,77
					<b>Total (ZAR)</b>	<b>R 374 402 422,49</b>

## **Annexure D: Plant and Equipment Rates**





## CPHA MEMBERS LIST

### **BOTSWANA**

#### **Babcock TCM Plant**

2, 3, 8, 13, 14, 15, 20, 31  
Tel (00267) 393-6541 (Gaborone)

#### **Excavator Hire**

2, 3, 5, 8, 12, 13, 15, 20, 28, 31  
Tel (00267) 392-8392

#### **GHF (Pty) Ltd**

1, 4, 5, 24, 31  
Tel (00267) 392-2885 (Phakalane)

#### **Johnson Crane Hire**

6  
Tel (00267) 393-2551 (Gaborone)

#### **Jomaf Hiring Services**

4, 5, 12, 18, 20, 24  
Tel (00267) 319-1585 (Gaborone)

#### **Ngamiland Generator & Diesel Services**

2, 5, 12, 13, 15, 19, 20, 23, 24  
Tel (00267) 686-0253 (Maun)

#### **Rhino Plant Hire**

2, 8, 15, 23, 31  
Tel (00267) 392-2512 (Gaborone)

#### **Shumba Plant Hire**

1, 2, 5, 6, 12, 13, 15, 19, 20, 22, 24, 26, 27, 28, 31.  
Tel (00267) 686-1100 (Maun)

#### **Van & Truck Hire**

2, 3, 8, 13, 15, 20, 27, 31  
Tel (00267) 391-2280 (Gaborone)

### **BORDER**

#### **Action Plant & Equipment**

4, 5, 7, 12, 18, 19, 20, 24  
Tel (043) 722-8294 (East London)

#### **AE Plant Hire**

2, 3, 8, 20, 31  
Tel (083) 654-99871 (East London)

#### **Allen & Clarke Civil Engineering Contractors**

3, 20, 25, 31  
Tel (043) 726-2076 (East London)

#### **Anchor Plant Hire**

2, 8, 14, 20, 22, 27, 31  
Tel (043) 745-0330 (East London)

#### **Bitline SA 1060**

2, 8, 31  
Tel (047) 532 4691 (Mthatha)

#### **Civil & General Contractors**

2, 3, 4, 6, 8, 10, 13, 14, 15, 20, 27, 28, 31  
Tel (045) 857-0176 (Queenstown)

### **BORDER continued**

#### **Emandleni Trading Enterprises**

2, 31  
Tel (047) 531 3975 (Mthatha)

#### **Inyathi Plant Hire**

2; 3; 13; 20; 28; 31  
Tel (043) 732-1124 (Beacon Bay)

#### **Louwrens Van der Walt Beleggings**

2, 8, 14  
Tel (083) 290 0959 (Queenstown)

#### **Mvezo Plant Hire**

2, 8, 13, 20, 23, 31  
Tel (043) 745-0467 ( East London)

#### **Norland Plant Holdings**

8, 13, 15, 20, 30  
Tel (043) 736-6548 (East London)

#### **Orange Plant Hire**

2; 31  
Tel (045) 839 2370 (Queenstown)

#### **Peugair Border**

4, 20  
Tel (043) 748-2423 (East London)

#### **Plus Plant Hire**

2, 3, 8, 14, 15, 23, 30  
Tel (043) 736-3541 (East London)

#### **Present Civils**

6  
Tel (043) 745-1014 (East London)

#### **Qush Plant Hire**

2, 3, 8, 31  
Tel (043) 050 4444 (Vincent )

#### **Riegers Hire**

2,3,8,13,14,15,20,22,23,24,27,28,31.  
Tel (043) 732-1464 (East London)

#### **Roberts Bros Construction**

2, 3, 6, 8, 13, 15, 16, 27, 31  
Tel (043) 748-2588 (East London)

#### **Rumdel (Cape)**

2, 3, 6, 8, 13, 15, 20, 31  
Tel (043) 748-6417 (East London)

#### **Seneca Civils (Pty) Ltd**

2,8,14,17,  
Tel (082) 442 1545 (Mathatha)

#### **SL Contractors**

2, 3, 8, 13, 14, 15, 20, 23, 27, 28, 31  
Tel (043) 745-2002 (East London)

#### **Sokhulu Truck & Plant Hire**

3, 8, 13, 20, 31  
Tel (039) 737 4384 (Matatiele)

### **BORDER continued**

#### **Talisman Hire**

1,4,5,12,18,19,20,22,24  
Tel: 0861 87 87 87

#### **Thompson's Transport**

30  
Tel (045) 839-5850 (Queenstown)

#### **Ukamva Civils**

2, 8, 13, 17, 20, 31  
Tel (047) 531 1007 (Mthatha)

#### **Umso Construction**

2, 3, 8, 13, 20, 25, 28, 27, 31  
Tel (043) 748-4747 (East London)  
Tel (045) 839-5850 (Queenstown)

#### **WC Plant Hire**

2, 3, 8, 15, 20, 31  
Tel (043) 732-1833 (Gonubie)

#### **Xesibe Construction**

2, 8, 13, 20, 24, 31  
Tel (039) 253-7264 ( Lusikisiki)

### **FREE STATE**

#### **Anglo / V3 Crane Hire**

6  
Tel (051) 435-8632 (Bloemfontein)

#### **Anglo / V3 Crane Hire**

6  
Tel (057) 396-4138 (Welkom)

#### **Babcock Plant Services**

6, 10, 12, 18, 22, 24, 26, 27  
Tel (016) 976-1075 (Sasolburg)

#### **Delta Crane & Plant Hire**

6  
Tel (016) 971-1101 (Vaalpark)

#### **Express Plant Hire**

2, 8, 13, 16, 20, 28  
Tel (051) 436-4891

#### **Ferro Sales & Services**

22  
Tel: (082) 773 2165

#### **Sigg's Engineering & Projects**

2, 8, 13, 15, 16, 20, 28, 31  
Tel (016) 971-1204 (Sasolburg)

#### **Talisman Hire**

1,4,5,12,18,19,20,22,24  
Tel: 0861 87 87 87

#### **T&F Construction**

2; 3; 8; 9; 13;15; 20; 23;26;31  
Tel (016) 421-4656 ( Vereeniging)

**GAUTENG****A1 Rigging & Engineering Services**

2, 6, 8, 10, 12, 14, 23, 24, 26

Tel (011) 609-2040 (Johannesburg)

**All Diesel Power Products**

12, 20

Tel (011) 334-6573 (Johannesburg)

**Active Construction & Equipment**

2, 3, 8, 13, 14, 20, 23, 31

Tel (011) 425-4890/1 (Benoni)

**Africrane**

6

Tel (082) 412 7392 (Benoni)

**African Crane Services**

6

Tel (084) 811 0886 (Bryanston)

**Afritool-Rent**

12, 18, 24

Tel (011) 974-2819 (Johannesburg)

**Aggreko Energy Rental SA**

12

Tel (011) 357-8900 (Olifontfontein)

**Alpha Plant & Services**

8, 13, 26

Tel (011) 827-9190 (Johannesburg)

**ALS Group**

2,3,8,13,15,20,28,31

Tel (012) 640-0040 (Centurion)

**Anglo / V3 Crane Hire**

6

Tel (011) 805-8071 (Halfway House)

**Anton's Grader Hire**

13

Tel (082) 923-5397 (Honeydew)

**Artic Driers**

4

Tel (011) 425-3484 (Benoni)

**Atlas Crane Hire**

6

Tel (011) 842-2300 (Johannesburg)

**Atlas Plant Hire**

4, 12, 18, 27

Tel (011) 310-9313 (Midrand)

**A-Z Engineering & Plant Hire**

3, 8, 13, 15, 20, 26, 27, 29, 31

Tel (011) 462-7907 (Johannesburg)

**Babcock Plant Services**

6, 10, 12, 18, 22, 24, 26, 27

Tel (011) 418-4407 (Johannesburg)

**Barloworld Equipment Cat Rental Store**

2-5, 7, 8, 12-15, 20, 23, 26, 31

Tel (011) 929-0419 (Isando)

**GAUTENG continued****Basil Read Plant**

13, 20, 31

Tel (011) 418-6300 (Johannesburg)

**Bears Plant Hire**

2, 8, 14, 15, 24, 30, 31

Tel (0861) 232-777 (Johannesburg)

**Bobcat Equipment Rentals**

4, 8, 14, 15, 23, 24,25, 26

Tel (011) 389-4460 (Alrode)

**Brackenwest Hardware & Hire**

12, 18

Tel (011) 867-6224 (Johannesburg)

**Bulk Machine Hire**

15, 21, 28, 31

Tel (011) 964-1179 (Johannesburg)

**Burma Plant Hire**

2, 3, 8, 13,15, 20, 23, 26, 31

Tel (071) 689-0711 (Springs)

**Carry Deck Crane Rentals**

6

Tel (011) 915-0184 (Brakpan)

**C.A.T.S Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel (011) 474-4261 (Roodepoort)

**Catkom Plant**

3, 8, 31

Tel (011) 892 0775 (Boksburg North)

**Chimes Crane Hire**

6

Tel (011) 626-1110 (Germiston)

**City Air Rental**

4

Tel (011) 262-2650 (Wynberg)

**Cleveland Crane Hire**

6

Tel (011) 626-1029 (Heriotdale)

**CompAir SA**

4

Tel (011) 345-2200 (Johannesburg)

**Cranecom**

6

Tel (011) 421-3848 (Apex)

**Cubenco 194**

1, 2, 6, 10, 14, 25,31

Tel (016) 931-9758 (Vanderbijlpark)

**Diesel Power Group**

3, 8, 13, 31

Tel (086) 196-1177 (Bredell)

**Delta Crane & Plant Hire**

6

Tel (082) 902 7140 (Vanderbijlpark)

**GAUTENG continued****Eazi Access Rental**

1

Tel 086 100 eazi (Midrand)

**Eco Plant Hire**

3, 8, 13, 15, 31

Tel (082) 555 0095 (Kew)

**EPH Plant Hire**

2, 8, 14, 15, 17, 20, 23, 29, 31

Tel (012) 660-3312 (Centurion)

**File Hire Plant**

4, 12, 18, 20

Tel (011) 397-6463 (Boksburg)

**Fred's Crane Hire Services**

6

Tel (016) 422-5142 (Vereeniging)

**KLT Machinery & Plant Hire**

3, 8, 15, 31

Tel (011) 730-7501

**L & J Gemmel Plant Services**

8, 13, 20, 28, 31

Tel (011) 965-1463 (Benoni)

**Generator & Plant Hire**

12, 24

Tel (011) 312-0446 (Midrand)

**Goscor Access Rental**

1

Tel (011) 393-6424 ( Chloorkop)

**Hard Hat Equipment Hire**

1, 4, 5, 12, 15, 18, 20, 22, 23, 24, 28, 29, 30, 34

Tel (011) 609-6443 (Halfway House)

**Hennop Crane Hire**

2, 6, 31

Tel (011) 828-0427 (Johannesburg)

**Hennox 170**

2, 3, 8, 10, 13,15,20,31

Tel (011) 024 1057 (Johannesburg)

**Hire-Rite Equipment**

8, 13, 14, 15, 20,

Tel (011) 894-8311

**Howden Africa (Pty) Ltd**

6

Tel (011) 240-4000

**Ian Dickie & Co**

24, 31

Tel (011) 609-4130

**Imperial Crane Hire**

6

Tel (011) 873-1410 (Johannesburg)

**ITL Plant Hire**

6

Tel (011) 436 0493 (Linmeyer)

**GAUTENG continued****JMB Cranes**

6  
 (011) 021 1038 (Klip River)

**Johnson Crane Hire**

6  
 Tel (011) 455-9222 (Head Office)  
 Tel (011) 455-9200 (Johannesburg)  
 Tel (016) 986-1295 (Vanderbijlpark)

**Johnson Crane Hire Heavy Lift**

6  
 Tel (011) 455-9222 (Edenvale)

**Jumbo Machine Moving**

6, 31  
 Tel (011) 100-0908 (Alrode)

**Letsema Pneumatics & Logistics**

4  
 Tel (011) 873-8675 (Germiston)

**Linde Material Handling**

10  
 Tel (011) 723-7000 (Sandton)

**Liviero & Son**

2, 3, 6, 8, 13, 15, 20, 27, 31  
 Tel (011) 466-2644 (Kyalami)

**L&R Civil**

2, 8, 13, 15, 20, 31  
 Tel (086) 133 3667(Fourways)

**Mammoet SA**

6, 31  
 Tel (011) 882-4499 (Johannesburg)

**Marlboro Crane Hire**

6  
 Tel (011) 882-8301 (Johannesburg)

**Maximum Plant Hire**

8, 15  
 Tel (011) 464-0930/1 (Fourways)

**MD Plant & Equipment Sales**

3, 13, 15,31  
 Tel (011) 706-7275 (Bryanston)

**Moorosi Plant Hire**

2, 8, 14  
 Tel (084) 803 2826(Jet Park)

**Motsana Plant**

2, 23  
 Tel (012) 771 4732 (Pretoria)

**MPR Hiring**

11  
 Tel (011) 835-1054 (Johannesburg)

**Mzansi Plant Hire**

2, 20, 31  
 Tel (012) 669 3296 (Centurion)

**Gauteng continued****Ngaphambi Hire**

2, 4, 20, 23, 31  
 Tel (082) 071 3951(Alberton)

**Paul Heslop Plant Services**

2, 8, 14  
 Tel (086) 111-5422 (Johannesburg)

**Performance Plant Hire**

4, 5, 11, 12, 18, 20, 24  
 Tel (011) 792-1224 (Randburg)  
 Tel (011) 823-5480 (Boksburg)  
 Tel (011) 312 5069 (Midrand)

**PG Plant Hire**

2, 3, 8, 13, 14, 15, 23, 27, 31  
 Tel (012) 803-8714 (Pretoria)

**Plant Technical Services**

8, 13, 31  
 Tel (011) 794-1628 (Johannesburg)

**Platinum Mile Plant**

2,8,13,15,20,31  
 Tel (083) 388 5959 (Witkoppies)

**Pro-file Plant Hire**

2, 8, 15, 31  
 Tel (016) 150-0533 (Johannesburg)

**Propact Plant Hire**

4, 5, 12, 18, 20, 24, 31  
 Tel (011) 680-2137 (Johannesburg)  
 Tel (012) 653-0245 (Centurion)

**Rail Plant Hire**

2, 3, 8, 13, 15  
 Tel (011) 968-9805 (Johannesburg)

**Rebel Plant Hire**

12, 18, 20  
 Tel (011) 882-1048 (Johannesburg)

**Rand-Air**

4, 12  
 Tel (011) 345-0700 (Wadeville)

**Renico Plant Hire**

2, 8, 15, 27, 31  
 Tel (011) 794-1177 (Johannesburg)

**Rentech South Africa Plant Rental SA**

4, 5, 12, 14, 18, 19, 22, 24, 27, 31  
 Tel (011) 824-0410 (Wadeville)

**Rhino Excavator Hammers**

2, 3, 8, 14, 15, 31  
 Tel (086) 111-5422 (Honeydew)

**Richard Irons Plant Rentals**

2, 8, 15  
 Tel (011) 315-1526/2080 (Johannesburg)

**Gauteng continued****Rickharding Plant Hire**

2, 8, 20, 23, 31  
 Tel (011) 979 4052 (Kempton Park)

**Riviera Hire**

2, 8,14,15,23  
 Tel (087) 941-1113

**Road Milling & Sweeping**

16; 25; 31  
 Tel (011) 472 5333

**Sandton Plant Hire**

2, 3, 8, 15, 27, 31  
 Tel (011) 805-3084 (Johannesburg)

**Sarens South Africa (Pty) Ltd**

6  
 Tel (011) 861-3800 (Johannesburg)

**Seneca Civils (Pty) Ltd**

2,8,14,17,  
 Tel (011) 941-3510 (Mondeor)

**Spare Power Trading**

3, 8, 15, 31  
 Tel (011) 845 4184 (Benoni)

**Skyjacks**

1  
 Tel (011) 397 2730 (Boksburg)

**Superlift Crane Hire**

6  
 Tel (011) 963-0146 (Johannesburg)

**Talisman Hire**

1,4,5,12,18,19,20,22,24  
 Tel: 0861 87 87 87

**T&F Construction**

2; 3; 8; 9; 13;15; 20; 23;26;31  
 Tel (016) 421-4656 ( Vereeniging)

**Theaco Roads & Earthworks**

2, 3, 8, 13, 15, 20, 27, 31  
 Tel (016) 451-3071 (Vanderbijlpark)

**Turner Morris**

5, 12, 20  
 Tel (011) 618-2620 (Johannesburg)

**West Rand Plant Hire**

2, 3, 8, 13, 15, 20, 31  
 Tel (011) 845-5160 (Springs)

**West Reef Plant Hire**

2, 3, 8, 14, 31  
 Tel (011) 348-1499 (Heidelberg)

**Wirtgen GmbH**

16  
 Tel 0861 947 8436 (Johannesburg)

**KWAZULU- NATAL****Afro Plant**

2,3,8,13,15,20,21,28,31

Tel (031) 705-4490 (Durban)

**Aggreko South Africa**

11, 12

Tel (031) 534-6702 (Durban)

**ALS Group**

2, 3, 8, 15, 21, 23, 28, 31

Tel (034) 341-1636 (Newcastle)

**Amaphiko Ejuba Transport Enterprises**

31

Tel (031) 701-4759 (Pinetown)

**Anglo / V3 Crane Hire**

6

Tel (034) 318-5818 (Newcastle)

Tel (035) 751-1798 (Richards Bay)

**Aqua Transport & Plant Hire**

2, 3, 6, 8, 13, 15, 20, 28, 31

Tel: (031) 716-2300 (Pinetown)

**Atlas Plant Hire**

4, 12, 18, 27

Tel (031) 700 1724 (Pinetown)

**Babcock Plant Services**

6, 10, 12, 18, 22, 24, 26, 27

Tel (031) 700 5661 (Durban)

**Barloworld Equipment Cat Rental Store**

2-5, 8, 12, 14, 15, 20, 23, 26, 31

Tel (031) 569-8500 (New Germany)

**B&B Plant & Equipment**

4, 5, 12, 18, 20, 24

Tel (035) 787-0679 (Empangeni)

**BB Transport**

3-6, 8, 10, 12-15, 20, 22, 23, 27,28,31

Tel (034) 393-1861 (Glencoe)

**Bob-Ann Plant**

23

Tel (031) 266-3656 (Durban)

**City Park Trading**

2, 3, 8, 13, 20, 28, 31

Tel (035) 550-1162 (Mtubathuba)

**CompAir SA**

4

Tel (031) 792-4270 (Durban)

**Conan Construction**

3, 8, 13, 15, 20, 27, 31

Tel (033) 3462108 (Pietermaritzburg)

**Desmonds Transport & Plant Hire**

31

Tel (039) 685-4100 (Port Shepstone)

**Devray Plant & Earthworks**

2, 8, 13, 20, 23, 31

Tel (035) 751-2141 (Richards Bay)

**KWAZULU- NATAL continued****Dreykon**

2, 3, 8, 13, 15, 20, 27, 28, 31

Tel (034) 212-1246 (Dundee)

**Dudula Civils**

8, 13, 20, 31

Tel (033) 346 4121 (Pietermaritzburg)

**Ekene Investments**

2, 3, 8, 13, 20, 28, 31

Tel (031) 767 1033 (Queensburgh)

**Elcon Crane Hire**

6

Tel (031) 466-5411 (Durban)

Tel (035) 751-1284 (Richards Bay)

**EXR Construction**

3, 4, 5, 6, 8, 12, 13, 15, 16, 17, 20, 27, 28, 31

Tel: (031) 539-9100 (Mount Edgecombe)

**Generator & Plant Hire**

12, 24

Tel (031) 466-4515 (Durban)

Tel (035) 751-1897 (Richards Bay)

**Goscor Access Rental**

1

Tel (031) 700-6906 (Pinetown)

**GR Transport & Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel (035) 486-1903 (Darnall)

**Hire Anything**

5, 9, 11, 12, 18, 24, 27, 31

Tel (035) 789-5997 (Richards Bay)

**Ian Dickie & Co**

24, 31

Tel (031) 709-1313

**Induna Logistics & Terminals**

2, 3, 8, 10, 13, 15, 20, 23, 27, 31

Tel (035) 797 4100 (Richards Bay)

**Izimu Mining Services**

8, 14

Tel (031) 701-1069 (Pinetown)

**JCR Transport**

2, 8, 13, 20, 31

Tel (031) 700-6833 (Pinetown)

**Johnson Crane Hire**

6

Tel (031) 466-6515 (Durban)

**KLM Plant Hire & Sales**

24

Tel (035) 789 0260 (Richards Bay)

**Leomat Plant Hire**

2, 3, 8, 13, 14, 15, 20, 27, 31

Tel (035) 797-4611 (Richards Bay)

**LT Earthmovers**

2, 3, 8, 13, 20, 31

Tel (033) 503-1355 (Wartburg)

**KWAZULU- NATAL continued****Mabona Civils & Plant Hire**

2, 8, 13, 20, 31

Tel (039) 727 1462 (Kokstad)

**Machinery Mart**

5, 12, 14, 18, 20, 24

Tel (031) 301-7069 (Durban)

**Major Machines**

2, 3, 8, 13, 15, 17, 20, 23, 28, 31

Tel (033) 330 5701 (Merrivale)

**Marlisha Transport**

3, 4, 8, 13, 20, 23, 24, 31

Tel (031) 700 8616 (Westmead)

**McKenzie Plant Hire**

2, 3, 8, 13, 14, 15, 20, 27, 29, 31

Tel (033) 212-2181 (Richmond)

**Midmar Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel (031) 700-9061 (Westmead)

**Morgado Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel (031) 569-4750 (Durban)

**Motwell Plant Hire**

3, 8, 13, 15, 20, 31

Tel (082) 496 9673 (Illovo Beach)

**Need-A-Tool**

1, 4, 12, 18, 20, 24, 26

Tel (031) 705-1470 (Durban)

**Pat Smith Plant Hire**

2, 8, 13, 15, 20, 31

Tel (034) 218-1295 (Dundee)

**Professional Access Rentals**

1

Tel (031) 914-4488 (Umbogintwini)

**Pro-hydraulics/ Viper-Generator Hiring**

12

Tel (031) 705-4104 (New Germany)

**Protrans Plant & Civils**

2, 8, 10, 13, 20, 28, 31

Tel (039) 6682 5695 (Port Shepstone)

**Queensburgh Equipment Rental**

2,8,13

Tel (031) 464-7844 (Queensburgh)

**Raciti's Plant Hire**

2, 20

Tel (036) 352-5783 (Estcourt)

**RADDS Transport**

2, 8, 10, 13, 15, 20, 23, 31

Tel (035) 787 3901 (Empangeni)

**Richards Bay Crane Hire**

6

Tel (035) 751-1339 (Richards Bay)

**KWAZULU- NATAL continued****Sage Trans**

2, 8, 13, 15, 20, 31

Tel (031) 266 1492 (Durban)

**Savemor Earthmoving**

2, 8, 15, 20, 27, 31

Tel (031) 702-9441 (Durban)

**Sealcoat Surfacing & Asphalt**

2, 20, 23, 27; 28; 31

Tel (033) 386-8998 (Pietermaritzburg)

**Scotty's Plant Hire**

2, 3, 4, 5, 8, 10, 12, 13, 14, 15, 18, 20, 24, 31

Tel (031) 700-8000 (Durban)

Tel (033) 386-1614 (Pietermaritzburg)

**Skyjacks**

1

Tel (031) 914 4773 (Umbogintwini)

**Sobuza Investments**

2, 8, 13, 20, 28, 31

Tel (031) 100 1023 (Pinetown)

**Superdigger Plant Hire**

2, 3, 8, 13, 20, 23, 31

Tel: 031 736 6010 (Cliff Dale)

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: 0861 87 87 87

**Tony's Tool Hire**

2, 4, 5, 11, 12, 18, 19, 20, 22, 24, 27, 31

Tel (034) 413-3023 ( Pongola)

Tel (034) 212-5232 (Dundee)

Tel (034) 312 8396 (Newcastle)

**Tswella Trading**

2, 8, 13, 20, 31

Tel (039) 727 5907 (Kokstad)

**Ubunye Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel (031) 464-6551 (Queensburgh)

**Universal Trading**

2, 3, 8, 10, 13, 15, 16, 20, 23, 26, 31

Tel: (031) 461 5008 (Jacobs)

**Upfold Plant Hire**

2, 8, 23, 31

Tel: (087) 808 6914 (Shelly Beach)

**VIP Construction cc**

2, 8, 13, 20, 28, 31

Tel: (076) 399 4596 (Pietermaritzburg)

**LIMPOPO****Assert Plant Hire**

8, 13, 31

Tel (015) 291-2304 (Polokwane)

**Atlas Plant Hire**

4, 12, 18, 27

Tel (014) 763-6720 (Lepelale)

**LIMPOPO continued****Babcock Plant Services**

6, 10, 12, 18, 22, 24, 26, 27

Tel (079) 827-9227 (Lepelale)

**Johnson Crane Hire**

6

Tel: (083) 327-7077 (Lephalale)

**Kingdom Plant**

2, 3, 8, 13, 14, 15, 20, 31

Tel (015) 307-3950 (Tzaneen)

**Maruma Plant Hire**

2, 8, 13, 23, 20, 31

Tel (015) 293-2902 (Pietersburg)

**Ovoscape Plant Hire**

2, 8, 12, 13, 15, 23, 27, 28, 31

Tel: (082) 716 3765 (Polokwane)

**Quality Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel: (015) 304-3000 (Tzaneen)

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: 0861 87 87 87

**MPUMALANGA****Afritool-Rent**

5, 12, 18, 22, 24

Tel (017) 639-1433 (Secunda)

**ALS Group**

2, 3, 8, 15, 21, 23, 28, 31

Tel (013) 689-1128 (Witbank)

**Babcock Plant Services**

6, 10, 12, 18, 22, 24, 26, 27

Tel (013) 246-2870 (Middleburg)

Tel (017) 631-2847 (Secunda)

**Bobcat Equipment Rentals**

4, 8, 14, 15, 23, 24, 25, 26

Tel (013) 692-6814 (Witbank)

**Central Africa Machine Sales**

3, 6, 8, 15, 31

Tel (013) 691-2102 (Witbank)

**Cranes 4 Hire**

1, 6, 31

Tel (013) 696-1146 (Witbank)

Tel (013) 699-9701 (Middleburg)

**Delta Crane and Plant Hire**

6

Tel (016) 971-1101 (Kendal)

**F&K Hire**

6, 31

Tel (013) 246-1701 (Middleburg)

**Forestry Plant & Equipment Sales**

9, 13, 15

Tel (013) 755-1003 (Nelspruit)

**Ikotwe Plant Hire**

2, 4, 8, 12, 26, 31

Tel (013) 750-1200 (White River)

**MPUMALANGA continued****Isambane Mining**

2; 3; 8; 13; 15; 17; 27; 28; 31

Tel (071) 681-9939 (Middleburg)

**Johnson Crane Hire**

6

Tel 082-900-8224 (Burgersfort)

Tel (013) 246-1344 (Middleburg)

Tel (017) 638-0047 (Trichardt)

**Khulani's Trading Enterprise cc**

2, 3, 8, 13, 20

Tel (013) 244 5017 (Middleburg)

**Opsicol Mining Services**

8, 9, 13, 20, 23, 31

Tel (013) 612-0503 (Middleburg)

**Performance Plant Hire**

4, 5, 11, 12, 18, 20, 24

Tel (013) 246-1293 (Witbank)

**Ritchie Crane Hire**

6

Tel (013) 697-5111 (Witbank)

**Sasol Secunda Shared Services**

6

Tel (017) 610-2039 (Secunda)

**Steinmuller Plant & Equipment Hire**

4, 6, 12, 18, 19, 22, 24, 27, 28

Tel (017) 624-5000

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: 0861 87 87 87

**T&F Construction**

2; 3; 8; 9; 13; 15; 20; 23; 26; 31

Tel (016) 421-4656

**Tony's Tool Hire**

2, 4, 5, 11, 12, 18, 19, 20, 22, 24, 27, 31

Tel (017) 826-4683 ( Piet Retief)

**NAMIBIA****Concord Crane Hire**

6

Tel +264 81 375 6560 (Okahandja)

**HireMAN**

1,4,5,12,18,19,20,22,24

Tel: (00264) 612 228 185

**Roads Contractor Company**

3, 8, 13, 15, 31

Tel (00264) 612 979 000 (Windhoek)

**NAMIBIA continued****Wesbank Transport**

6; 10; 31

Tel (00264) 6421 6000 (Walvis Bay)

**Walvis Bay Plant & Tool Hire Services**

1,2,4, 6, 10, 12,14, 15,24,26,27,31

Tel (00264) 6420 3787

**Windhoek Hire Sales & Services**

1, 2, 4, 5, 6, 8, 10, 12, 14, 15, 20, 24,29 ,31

Tel +264 61 233693. (Windhoek)

**Windhoek Renovations**

8,15,31

Tel (00264) 6123-6159 (Windhoek)

**NORTHERN CAPE****Allied Crane Hire**

6

(073) 133 5120 (Sishen)

**ALS Group**

2, 3, 8, 13,15, 20, 31

Tel (054) 334-0140 (Upington)

**Burma Plant Hire**

2, 3, 8, 13, 15, 20, 23, 26, 31

Tel (053) 313-3646 (Posmasburg)

**Igloo Plant Hire**

2, 8, 14, 23, 31

Tel (053) 723 1514 (Kathu)

**Johnson Crane Hire**

6

Tel (053) 791 0000 (Kathu)

**Ovoscape Plant Hire**

2, 8, 12, 13, 15, 23, 27,28, 31

Tel: (082) 207 3797 (Kuruman)

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: 0861 87 87 87

**T&F Construction**

2; 3; 8; 9; 13;15; 20; 23;26;31

Tel (016) 421-4656

**North-West****Allied Crane Hire**

6

Tel (082) 325-9525 (Rustenburg)

**ALS Group**

2,3,8,13,15,20,28,31

Tel (018) 290-8070 (Potchefstroom)

**Anglo / V3 Crane Hire**

6

Tel 082 821 6055 (Rustenburg)

**Astrum Equipment**

3, 4, 31

Tel 012 003 2137 (Brits)

**North-West continued****Atlas Plant Hire**

4, 12, 18, 27

Tel (014) 569-5951 (Rustenburg)

**Babcock Plant Services**

6, 10, 12, 18, 22, 24, 26, 27

Tel (082) 810-1229 (Rustenburg)

**Crane Corporation**

6

Tel (014) 538-1461 (Rustenburg)

**Elmar Projects**

2, 3, 4, 5, 8, 12, 13, 15, 18, 20, 21,24,27,28,31

Tel (014) 544-0677 (Swartruggens)

**Johnson Crane Hire**

6

Tel (014) 596-6684 (Rustenburg)

**North Reef Mining**

31

Tel (018) 464-4071 (Klerksdorp)

**T&F Construction**

2; 3; 8; 9; 13;15; 20; 23;26;31

Tel (083) 306 4822

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: 0861 87 87 87

**West Rand Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel (018) 473-5551 (Orkney)

**PORT ELIZABETH****Aerial Lift Rentals**

1, 26

Tel (083) 708-0473 (Port Elizabeth)

**Algoa Plant Hire**

2, 8, 13, 31

Tel (041) 453-2164 (Port Elizabeth)

**Atlas Plant Hire**

4, 5, 12, 18, 24, 27

Tel (041) 451-4266 (Port Elizabeth)

**Barloworld Equipment Cat Rental Store**

1; 4; 7; 12; 15

Tel (041) 486- 1303(Port Elizabeth)

**Burma Plant Hire**

2, 3, 8, 13,15, 20, 23, 26, 31

Tel (041) 463-4033 (Port Elizabeth)

**C&C Moss Plant Hire**

2

Tel: (083) 230-1548 (Port Elizabeth)

**Castlehill Crane Hire**

6

Tel (041) 486-1070 (Port Elizabeth)

**PORT ELIZABETH continued****CompAir SA**

4

Tel (041) 487-2867 (Port Elizabeth)

**DK Pringle Earthworks**

3, 8, 13,15, 20, 27, 28, 31

Tel (046) 685-0858 (Bedford)

**Ian Dickie & Co**

24, 31

Tel (041) 451-1577 (Port Elizabeth)

**Lexintons Civil & Plant**

2, 8, 13, 14, 20, 31

Tel (041) 372- 1850 (Port Elizabeth)

**Newport Plant Hire**

2, 3, 8, 13, 15, 20, 31

Tel (041) 463-2819 (Port Elizabeth)

**Peugair**

4, 20

Tel (041) 451-2722 (Port Elizabeth)

**Pieter Rademeyer Plant Hire**

2

Tel (041) 365-0115 (Port Elizabeth)

**Primo Plant Hire**

31

Tel (082) 973-4496 (Humewwod)

**Rand Civils**

2; 3; 8; 13; 14; 15; 20; 23; 28; 31

Tel: (041) 581-7791 (Port Elizabeth)

**Sakhizwe Plant Hire**

2, 8, 13, 15, 20, 23, 26, 31

Tel (082) 902 7000 (Port Elizabeth)

**Scribante Construction**

2, 3, 8, 12, 13, 15, 16, 17, 20, 21, 24, 27, 28, 29, 31

Tel (041) 484-7211 (Port Elizabeth)

**SJW Plant**

2, 8,,13,15,20,23,31

Tel: (041) 372 1845 (Port Elizabeth)

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: 0861 87 87 87

**T&F Construction**

2; 3; 8; 9; 13;15; 20; 23;26;31

Tel (016) 421-4656 ( Vereeniging)

**Techni Civils**

2, 8, 13, 15, 20, 23, 31

Tel (041) 364-3240 (Newton Park)

**Uitenhage Super Steel Crane & Van & Truck Hire**

6, 31

Tel (041) 922-8060 (Uitenhage)

**PORT ELIZABETH continued****Universal Equipment**

2, 3, 4, 10, 12, 13, 20, 23, 26

Tel: (041) 453-1810 (Port Elizabeth)

**Venter Plant Hire**

2, 3, 4, 7, 8, 13, 15, 30

Tel (082) 655 7590 (Alexandria)

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: (+268) 2518 4210

**WESTERN CAPE****Allied Crane Hire**

6

Tel (021) 386-4555 (Airport Industria)

**Babcock Target Plant Services**

6

Tel (021) 951-8088 (Belville)

**Barloworld Equipment Cat Rental Store**

2-5, 8, 12-15, 20, 23, 24, 26, 31

Tel (021) 959-8200 (Belville)

**Bobcat Equipment**

4, 8, 14, 15, 23, 24,25, 26

Tel (021) 945-1423 (Cape Town)

**Boss Group**

17

Tel (071) 387 5781 (Sea Point)

**Burma Plant Hire**

2, 3, 5, 7, 8, 10, 13, 14, 15, 17, 20, 23, 30, 31

Tel (021) 905-8122 (Kuilsrivier)

**CompAir SA**

4

Tel (021) 535-5032 (Cape Town)

**Generator & Plant Hire**

12, 24

Tel (021) 555-3238 (Cape Town)

**Goscor Access Rental**

1, 26

Tel (021) 510-7307

**Hiretech**

1; 4, 18, 20, 24, 27

Tel (021) 945-3317 (Cape Town)

**Ian Dickie & Co**

12, 24, 31

Tel (021) 534-3431 (Cape Town)

**Iselula Crushing**

8; 14; 15; 17

Tel (021) 945-3317 (Cape Town)

**Johnson Crane Hire**

6

Tel (021) 535-1001 (Cape Town)

**Mainline Civil Engineering Contractors**

2, 8, 31

Tel (021) 461 7499 (Woodstock)

**WESTERN CAPE continued****Rainbow Plant Hire**

2, 15, 31

Tel (023) 347-0739 (Worcester)

**Skyjacks**

1

Tel (021) 511 0870 (Paarden Eiland)

**Stelval Crane Hire**

1, 6, 22, 27, 31

Tel (021) 534-4291 (Epping Industrial)

**Sylco**

1, 2, 3, 6, 8, 14, 15, 20, 22, 23, 26, 31

Tel (021) 845-4494 (Cape Town)

**T&F Construction**

2; 3; 8; 9; 13;15; 20; 23;26;31

Tel (016) 421-4656

**Talisman Hire**

1,4,5,12,18,19,20,22,24

Tel: 0861 87 87 87

**Transand**

2; 3; 8; 13; 20; 31

Tel (044) 695-0105 (Hartenbos)

**Umhlaba Plant Hire**

2; 3; 8; 20; 31

Tel (021) 987-1650/2 (Kraaifontein)

**BOTSWANA - ASSOCIATE MEMBERS****Equipment Sales & Services**

Tel (00267) 395-2291

**BORDER - ASSOCIATE MEMBERS****High Power Equipment Africa**

Tel (043) 732-1428

**Hitachi Construction Machinery SA**

Tel (081) 374 0347

**ITR Africa**

Tel (043) 748 3541

**Kemach JCB**

Tel (043) 732-1902

**GAUTENG - ASSOCIATE MEMBERS****Afri Cat Earthmoving**

Tel (011) 640-6741

**Atlas Copco SA**

Tel (011) 821-9000

**Babcock Equipment**

Tel: (011) 601-1000 (Johannesburg)

**Barloworld Equipment Company**

Tel (011) 301 4000

**Barloworld Power**

Tel (011) 323 2649

**Bell Equipment**

Tel (011) 928-9700

**GAUTENG - ASSOCIATE MEMBERS continued****Benneton Insurance Brokers**

Tel (011) 849-9400

**Bobcat Equipment South Africa**

Tel (011) 908-2377

**Bobcor**

Tel (011) 943-3876

**CSE Equipment Co**

Tel (011) 922-2000

**Disa Equipment SA**

Tel (011) 974-2095

**ELB Equipment Ltd**

Tel (011) 306-0700

**Ellis Fricke & Associates (Benoni)**

Tel (011) 965-6058

**Hollard Insurance Company Limited**

Tel: (011) 351-5000

**Fidelis Asset Management**

Tel: (083) 233 0437

**Hamtern Financial Services (Pty) Limited**

Tel: (011) 844 3900

**High Power Equipment Africa**

Tel (011) 397-4670

**Hitachi Construction Machinery SA**

Tel (011) 841-7700

**ITR Africa**

Tel (011) 614-0070

**Kaeser Compressors (SA)**

Tel (011) 974-5002

**Kemach JCB**

Tel (011) 826-6710

**Komatsu SA**

Tel (011) 923-1000

**Liebherr Africa**

Tel (011) 365-2000

**(L.T.S) Lansdell Transport Services**

Tel (011) 832-2218 (Boksburg)

**MB Plant SA (Pty) Ltd**

Tel (011) 396-3944

**Manitou SA**

Tel (011) 975-7770

**Mohlalneg Mining Service Solution**

Tel (011) 994-9660

**MCS SA**

Tel (011) 954-6745

**Reef Insurance**

Tel 0861 00 7333

**RentWorks Africa**

Tel (011) 549-9000

**GAUTENG - ASSOCIATE MEMBERS continued**

**South African Load Test Services (S.A.L.T.S)**  
Tel (082) 309-5675  
**Specialist Adjusters**  
Tel (011) 804-2293  
**Western Global**  
Tel (011) 626 3607  
**WH Auctioneers (Pty) Ltd**  
Tel (011) 574-5700  
**Zurich Insurance Company South Africa (Ltd)**  
Tel (011) 370-9111

**KWAZULU-NATAL - ASSOCIATE MEMBERS**

**Babcock Equipment**  
Tel (031) 700-6009 (Durban)  
Tel (031) 569-8500  
**Bell Equipment Company**  
Tel (035) 907-9431  
Tel (031) 569-1100  
**Bobcat Equipment South Africa**  
Tel (031) 700-6906  
**CSE Equipment Co**  
Tel (031) 705-3390  
**Desmond Equipment**  
Tel (031) 685-4100  
**Disa Equipment SA**  
Tel (039) 685-4100  
**Dynamic Weigh Systems**  
Tel (039) 975-3230  
**ELB Equipment**  
Tel (031) 700-6520  
**Hitachi Construction Machinery SA**  
Tel (031) 705-4360  
**High Power Equipment Africa**  
Tel (031) 705-1334  
**Kemach Equipment**  
Tel: (031) 700-8278  
**MB Plant SA**  
Tel: (031) 700 2258  
**Rankin Training Solutions**  
Tel: (031) 702 1896 (Pinetown)  
**Reef Insurance Consultants**  
Tel: (083) 407 4159

**PORT ELIZABETH - ASSOCIATE MEMBERS**

**Babcock Equipment**  
Tel (041) 407-5900  
**CSE Equipment Company**  
Tel (041) 484-6240  
**Hitachi Construction Machinery SA**  
Tel (081) 374 0347  
**John Skinner Construction**  
Tel: (041) 586-2620  
**Kemach Cape**  
Tel: (041) 453-1819

**WESTERN CAPE - ASSOCIATE MEMBERS**

**Bell Equipment Company**  
Tel (021) 380 -9000  
**Bobcat Equipment South Africa**  
Tel (021) 945-1423  
**Babcock Equipment**  
Tel (021) 380-4700 (Cape Town)  
**CSE Equipment Co**  
Tel (021) 380-2600  
**ELB Equipment**  
Tel (021) 933-2383  
**MB Plant SA**  
Tel: (021) 981 5514

**ACCREDITED SETA TRAINING PROVIDERS**

**Goscor Hi-Reach**  
Tel (011) 908-4881  
**Transvaal Training**  
Tel (011) 975-7312 (JHB)



## OFFICIAL RATE GUIDE OF THE CONTRACTORS PLANT HIRE ASSOCIATION (CPHA)



The relevant CPHA Standard General Conditions Of Hire and / or Terms And Conditions Of Hire apply to all hire agreements.



Rates include operator wages, where applicable.

Rates exclude VAT, fuel, delivery and ground-engaging tools, where applicable



Rates exclude operator overtime, living-out-allowance and accommodation on site, where applicable.

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## 1. SPECIALISED ACCESS EQUIPMENT / MOBILE ELEVATING WORK PLATFORMS

Long-term hire (in excess of one month) rates may generally be negotiated with the hire company.  
 Rates include safety and machine operation familiarisation training of designated operators.  
 Daily rates based on a single-shift (max. 9hours) & weekly/ monthly rates on 5 workdays per week.  
 Delivery and collection to be quoted seperately depending on transport method.  
 Machine types stated as per working height in meters.

### 1.1 STATIC PERSONNEL LIFTS (PUSH-AROUND AWP's)

Type	Max. Working Height (m)	Daily Rate	Weekly Rate ( 5 days)	Monthly Rate (21 days )
DC-Powered Personnel Lift	8m	R 254,00	R 1 150,00	R 4 410,00
DC-Powered Personnel Lift	11m	R 300,00	R 1 360,00	R 5 208,00
DC-Powered Personnel Lift	14m	R 363,00	R 1 650,00	R 6 300,00

### 1.2 TRAILER MOUNTED ARTICULATED BOOM LIFTS

Type	Max. Working Height (m)	Daily Rate	Weekly Rate ( 5 days)	Monthly Rate (21 days )
Trailer-mount with hydraulic outriggers	12m	R 974,00	R 4 425,00	R 16 905,00
Trailer-mount with hydraulic outriggers	17m	R 1 778,00	R 8 080,00	R 29 799,00

### 1.3 ELECTRICAL SLAB SCISSORS LIFTS

Type	Max. Working Height (m)	Daily Rate	Weekly Rate ( 5 days)	Monthly Rate (21 days )
Electric Push Around	4.3m	R 225,00	R 1 020,00	R 3 906,00
Scissor Lift	6.1m	R 426,00	R 1 940,00	R 7 392,00
Scissor Lift	7.9m	R 501,00	R 2 280,00	R 8 694,00
Scissor Lift	9.8m	R 689,00	R 3 130,00	R 11 949,00
Scissor Lift	11.6m	R 905,00	R 4 110,00	R 15 708,00
Scissor Lift	14m	R 1 101,00	R 5 000,00	R 19 110,00

### 1.4 DIESEL SCISSOR LIFTS (4x4)

Type	Max. Working Height (m)	Daily Rate	Weekly Rate ( 5 days)	Monthly Rate (21 days )
Diesel Scissor Lift	9.8m	R 1 458,00	R 6 625,00	R 25 305,00
Diesel Scissor Lift	12m	R 1 651,00	R 7 505,00	R 28 644,00
Diesel Scissor Lift	14m	R 1 956,00	R 8 890,00	R 33 957,00
Diesel Scissor Lift Megadeck	15.1m	R 2 492,00	R 11 325,00	R 43 260,00
Diesel Scissor Lift Megadeck	18.2m	R 2 910,00	R 13 225,00	R 50 505,00

### 1.5 ELECTRIC ARTICULATED BOOMLIFTS

Type	Max. Working Height (m)	Daily Rate	Weekly Rate ( 5 days)	Monthly Rate (21 days )
Electric Boom Lift	11m	R 1 899,00	R 8 630,00	R 32 949,00
Electric Boom Lift	12.5m	R 1 731,00	R 7 870,00	R 30 051,00
Electric Boom Lift	13.5m	R 1 296,00	R 5 895,00	R 22 491,00
Electric Boom Lift	14m	R 2 135,00	R 9 705,00	R 37 044,00
Electric Boom Lift	15.5m	R 2 218,00	R 10 085,00	R 38 493,00
Electric Boom Lift	20m	R 3 241,00	R 14 730,00	R 56 259,00

### 1.6 DIESEL ARTICULATED BOOM LIFTS (4x4)

Type	Max. Working Height (m)	Daily Rate	Weekly Rate ( 5 days)	Monthly Rate (21 days )
Diesel Articulated Boom Lift	12m	R 2 305,00	R 11 600,00	R 40 005,00
Diesel Articulated Boom Lift	15.5m	R 2 694,00	R 12 245,00	R 47 501,00
Diesel Articulated Boom Lift	17.6m	R 2 737,00	R 12 440,00	R 47 502,00
Diesel Articulated Boom Lift	20m	R 4 033,00	R 18 335,00	R 69 993,00
Diesel Articulated Boom Lift	26.2m	R 5 762,00	R 26 190,00	R 100 002,00
Diesel Articulated Boom Lift	40m	R 8 355,00	R 37 975,00	R 145 005,00
Diesel Articulated Boom Lift	43m	R 10 371,00	R 47 145,00	R 180 411,00

### 1.7 DIESEL TELESCOPIC BOOM LIFTS (4x4)

Type	Max. Working Height (m)	Daily Rate	Weekly Rate ( 5 days)	Monthly Rate (21 days )
Diesel Telescopic Boom Lift	14m	R 2 760,00	R 12 545,00	R 47 271,00
Diesel Telescopic Boom Lift	15.5m	R 2 881,00	R 13 095,00	R 50 001,00
Diesel Telescopic Boom Lift	20m	R 4 033,00	R 18 335,00	R 69 993,00
Diesel Telescopic Boom Lift	22m	R 4 408,00	R 20 035,00	R 76 503,00
Diesel Telescopic Boom Lift	26.2m	R 5 791,00	R 26 320,00	R 100 506,00
Diesel Telescopic Boom Lift	28m	R 6 059,00	R 27 540,00	R 105 147,00
Diesel Telescopic Boom Lift	36m	R 7 750,00	R 39 225,00	R 134 505,00
Diesel Telescopic Boom Lift	40m	R 8 816,00	R 40 070,00	R 153 006,00
Diesel Telescopic Boom Lift	43m	R 9 257,00	R 42 075,00	R 160 650,00
Diesel Telescopic Boom Lift	57m	R 14 117,00	R 64 165,00	R 245 007,00

## 1. SPECIALISED ACCESS EQUIPMENT / MOBILE ELEVATING WORK PLATFORMS

### WHERE TO HIRE

Botswana	Namibia
Shumba Plant Hire (Maun) (00267) 686-1100	HireMAN (00264) 612 228 185
GHF (Pty) Ltd (Phakalane) (00267) 392-2885	Walvis Bay Plant & Tool Hire Services (00264) 642-03787
Border	Northern Cape
Talisman Hire 0861 87 87 87	Windhoek Hire Sales & Services (Windhoek) +264 61 233693.
Free State	North-West
Talisman Hire 0861 87 87 87	Talisman Hire 0861 87 87 87
Gauteng	Port Elizabeth
Cubenco 194 (Vanderbijlpark) (016) 931-9758	Aerial Lift Rentals (Port Elizabeth) (083) 708-0473
Eazi-Access Rental (Midrand) 086 100 eazi	Barloworld Equipment The Cat Rental Store (PE) (041) 486- 1303
Goscor Access Rental ( Chloorkop) (011) 393-6424	Goscor Access Rental (Cape Town) (021) 510-7307
Skyjacks (Boksburg) (011) 397 2730	Stelval Crane Hire (Epping Industrial) (021) 534-4291
Talisman Hire 0861 87 87 87	Sylco (Cape Town) (021) 845-4494
KwaZulu-Natal	Swaziland
Goscor Access Rental ( Pinetown) (031) 700-6906	TALISMAN Hire(Matsapha) (00268) 2518 4210
Need-A-Tool (Durban) (031) 705-1470	
Professional Access Rentals (Umbogintwini) (031) 914-4488	
Skyjacks (Umbogintwini) (031) 914 4773	
Talisman Hire 0861 87 87 87	
Limpopo	Western Cape Cape
Talisman Hire 0861 87 87 87	Hiretech (Cape Town) (021) 945-3317
	Skyjacks (Paarden Eiland) (021) 511 0870
	Talisman Hire 0861 87 87 87
Mpumalanga	
Cranes 4 Hire (Witbank) (013) 696-1146	
Cranes 4 Hire (Middelburg) (083) 708-0473	
Talisman Hire 0861 87 87 87	

## 2. BACKHOE LOADERS (TLB's)

Mass (Ton)	Typical Makes & Models	Hourly Rate (Min. 9 hrs)
<b>2- Wheel Drive</b>		
8-9 Ton	Bell 315 SK; Hyundai H930S, CAT 422F	R 244,42
<b>4- Wheel Drive</b>		
6-7 Ton	CAT 416F	R 265,91
7-8 Ton	Bell 315 SK, Terex 820 & 840	R 266,40
8-9 Ton	CAT 428F; Terex 890, Case 580T	R 279,00
<b>4- Wheel Drive &amp; 4 Wheel Steer</b>		
8-9 Ton	Case 695ST	R 317,60

### WHERE TO HIRE

BOTSWANA		GAUTENG	
Babcock TCM Plant (Gaborone)	(00267) 393-6541	Burma Plant Hire (Springs)	(071) 689-0711
Excavator Hire (Gaborone)	(00267) 392-8392	C.A.T.S Plant Hire (Roodepoort)	(011) 474-4261
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Cubenco 194 (Vanderbijlpark)	(016) 931-9758
Rhino Plant Hire (Gaborone)	(00267) 392-2512	EPH Plant Hire (Centurion)	(012) 660-3312
Shumba Plant Hire (Maun)	(00267) 686-1100	Hennop Crane Hire (Johannesburg)	(011) 828-0427
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	Hennox 170 (Johannesburg)	(011) 024 1057
BORDER		Liviero & Son (Kyalami)	(011) 466-2644
AE Plant Hire (East London)	(083) 654-99871	L&R Civil (Fourways)	(086) 133 3667
Allen & Clarke Civil Eng Contractors (East London)	(043) 726-2076	Moorosi Plant Hire (Jet Park)	(084) 803 2826
Anchor Plant Hire (East London)	(043) 745-0330	Motsana Plant (Pretoria)	(012) 771 4732
Bitline SA 1060 (Mthatha)	(047) 532 4691	Mzansi Plant Hire (Centurion)	(012) 669 3296
Civil & General Contractors (Queenstown)	(045) 857-0176	Ngaphambi Hire (Alberton)	(082) 071 3951
Emandleni Trading Enterprises (Mthatha)	(047) 531 3975	Paul Heslop Plant Services (JHB)	(086) 111-5422
Inyathi Plant Hire (Beacon Bay)	(043) 732-1124	PG Plant Hire (Pretoria)	(012) 803-8714
Louwrens van der Walt Beleggings (Queenstown)	(083) 290 0959	Platinum Mile Plant (Witkoppies)	(083) 388 5959
Mvezo Plant Hire (East London)	(043) 745-0467	Pro-file Plant Hire (Johannesburg)	(016) 150-0533
Orange Plant Hire (Queenstown)	(045) 839 2370	Rail Plant Hire (Johannesburg)	(011) 968-9805
Plus Plant Hire (East London)	(043) 736-3541	Rhino Excavator Hammers (Honeydew)	(086) 111-5422
Qush Plant Hire (Vincent)	(043) 050 4444	Renico Plant Hire (Johannesburg)	(011) 794-1177
Riegers Hire (East London)	(043) 732-1464	Richard Irons Plant Rentals (JHB)	(011) 315-1526
Roberts Bros. Construction (East London)	(043) 748-2588	Rickharding Plant Hire (Kempton Park)	(011) 979 4052
Rumdel (Cape) (East London)	(043) 748-6417	Riviera Hire(Witkoppies)	(087) 941-1113
Seneca Civils (Pty) Ltd (Mathatha)	(082) 442 1545	Sandton Plant Hire (Johannesburg)	(011) 805-308
Sokhulu Truck & Plant Hire (Matatiele)	(039) 737 4384	Seneca Civils (Pty) Ltd (Mondeor)	(011) 941-3510
SL Contractors (East London)	(043) 745-2002	T&F Construction (Vereeniging)	(016) 421-4656
Ukamva Civils (Mthatha)	(047) 531 1007	Theaco Roads & Earthworks (Vanderbijlpark)	(016) 451-3071
Umso Construction (East London)	(043) 748-4747	West Rand Plant Hire (Springs)	(011) 845-5160
Universal Equipment (Port Elizabeth)	(041) 453-1810	West Rand Plant Hire (Orkney)	(018) 473-5551
WC Plant Hire (Gonubie)	(043) 732-1833	West Reef Plant Hire (Heidelberg)	(011) 348-1499
Xesibe Construction (Lusikisiki)	(039) 253-7264	<b>KWAZULU-NATAL</b>	
FREE STATE		Afroplant (Durban)	(031) 705-4490
Express Plant Hire (Bloemfontein)	(051) 436-4891	Aqua Transport & Plant Hire (Pinetown)	(031) 716-2300
Sigg's Engineering & Projects (Sasolburg)	(016) 971-1204	Barloworld Cat Rental Store (New Germany)	(031) 569-8500
T&F Construction (Vereeniging)	(016) 421-4656	City Park Trading (Mtubathuba)	(035) 550-1162
GAUTENG		Devray Plant & Earthworks (Richards Bay)	(035) 751-2141
A1 Rigging & Engineering Services (Johannesburg)	(011) 609-2040	Dreykon (Dundee)	(034) 212-1246
Active Construction & Equipment (Benoni)	(011) 425-4890/1	Ekene Investments (Queensburgh)	(031) 767 1033
Alpha Plant & Services (Johannesburg)	(011) 827-9190	JCR Transport (Pinetown)	(031) 700-6833
ALS Group (Centurion)	(012) 640 0040	Leomat Plant Hire (Richards Bay)	(035) 797-4611
A-Z Engineering & Plant Hire (Johannesburg)	(011) 462-7907	GR Transport & Plant Hire (Darnall)	(035) 486-1903
Barloworld Equipment Cat Rental Store (Isando)	(011) 929-0419	Induna Logistics & Terminals (Richards Bay)	(035) 797 4100

## 2. BACKHOE LOADERS (TLB's) continued

### WHERE TO HIRE

KWAZULU-NATAL continued		NAMIBIA	
LT Earthmovers (Wartburg)	(033) 503-1355	Walvis Bay Plant & Tool Hire Services	(00264) 642-03787
Mabona Civils & Plant Hire (Kokstad)	(039) 727 146	Windhoek Hire Sales & Services (Windhoek)	+264 61 233693.
		NORTHERN CAPE	
Major Machines (Merrivale)	(033) 330 5701	ALS Group (Upington)	(054) 334 -0140
McKenzie Plant Hire (Richmond)	(033) 212-2181	Burma Plant Hire (Posmasburg)	(053) 313-3646
Midmar Plant Hire (Westmead)	(031) 700-9061	Igloo Plant Hire (Kathu)	(053) 723 1514
Morgado Plant Hire (Durban)	(031) 569-4750	Ovoscape Plant Hire (Kuruman)	(082) 207 3797
Pat Smith Plant Hire (Dundee)	(034) 218-1295	T&F Construction (Vereeniging)	(016) 421-4656
Protrans Plant & Civils (Port Shepstone)	(039) 6682 5695		
		NORTH-WEST	
Queensburgh Equipment Rental (Queensburgh)	(031) 464-7844	ALS Group (Potchefstroom)	(018) 290-8070
Raciti's Plant Hire (Estcourt)	(036) 352-5783	Elmar Projects (Swartruggens)	(014) 544-0677
RADDs Transport (Empangeni)	(035) 787 3901	T&F Construction (Vereeniging)	(083) 306 4822
Sage Trans (Durban)	(031) 266 1492		
		PORT ELIZABETH	
Savemor Earthmoving (Durban)	(031) 702-9441	Algoa Plant Hire (Port Elizabeth)	(041) 453-2164
Sealcoat Surfacing & Asphalt (Pietermaritzburg)	(033) 386-8998	Burma Plant Hire (Port Elizabeth)	(041) 463-4033
Scotty's Plant Hire (Durban)	(031) 700-8000	C&C Moss Plant Hire (Port Elizabeth)	(083) 230-1548
Scotty's Plant Hire (Pietermaritzburg)	(033) 386-1614	DK Pringle Earthworks (Bedford)	(046) 685-0858
Sobuza Investments (Pinetown)	(031) 100 1023	Lexintons Civil & Plant (Port Elizabeth)	(041) 372-1850
Superdigger Plant Hire (Cliff Dale)	(031) 736 6010	Newport Plant Hire (Port Elizabeth)	(041) 463-2819
Tony's Tool Hire (Dundee)	(034) 212-5232	Peter Rademeyer Plant Hire (Port Elizabeth)	(041) 365-0115
Tony's Tool Hire (Newcastle)	(034) 312 8396	Rand Civils (Port Elizabeth)	(041) 581-7791
Tony's Tool Hire (Pongola)	(034) 413-3023	Sakhizwe Plant Hire (Port Elizabeth)	(082) 902 7000
Tswella Trading (Kokstad)	(039) 727 5907	Scribante Construction (Port Elizabeth)	(041) 484-7211
Ubunye Plant Hire (Queensburgh)	(031) 464-6551	SJW Plant (Port Elizabeth)	(041) 372 1845
Universal Trading (Jacobs)	(031) 461 5008	Techni Civils (Newton Park)	(041) 364-3240
Upfold Plant Hire (Shelly Beach)	(087) 808 6914	Venter Plant Hire	(082) 655 7590
VIP Construction cc (Pietermaritzburg)	(076) 399 4596		
LIMPOPO		WESTERN CAPE	
Kingdom Plant (Tzaneen)	(015) 307-3950	Barloworld Cat Rental Store (Bellville)	(021) 959-8200
Maruma Plant Hire (Pietersburg)	(015) 293-2902	Burma Plant Hire (Kuilsvier)	(021) 905-8122
Maruma Plant Hire (Pietersburg)	(015) 293-2902	Mainline Civil Engineering Contractors (Woodstock)	(021) 461 7499
Ovoscape Plant Hire (Polokwane)	(082) 716 3765	Rainbow Plant Hire (Worcester)	(023) 347-0739
Quality Plant Hire (Tzaneen)	(015) 304-3000	R. Ross & Son (Cape Town)	(021) 511-1204
MPUMALANGA			
ALS Group (Witbank)	(013) 689-1128	Sylco (Cape Town)	(021) 845-4494
Ikotwe Plant Hire (White River)	(013) 750-1200	T&F Construction (Vereeniging)	(016) 421-4656
Isambane Mining (Middleburg)	(071) 681-9939	Transand (Hartenbos)	(044) 695-0105
Khulani's Trading Enterprise cc (Middelburg)	(013) 244 5017	Umhlaba Plant Hire (Kraaifontein)	(021) 987-1650/2
T&F Construction (Vereeniging)	(016) 421-4656		
Tony's Tool Hire (Piet Retief)	(017) 826-4683		

### 3. BULLDOZERS

Mass (ton)	Power (kW)		Hourly Rate Min. 9 hours
7 - 9	49 - 60	Komatsu D31, CAT D3	R 290,00
10 - 13	60 - 90	Dressta TD-10M; CAT D4K;	R 332,28
14 - 17	90 - 135	CAT D5K; Liebherr PR 724	R 403,73
18 - 20	125 - 135	Liebherr PR734; Dressta TD-14M, CAT D6R	R 485,49
21 - 25	135 - 165	Dressta TD-15M	R 582,57
26 - 30	160 - 175	Liebherr PR744; Dressta TD-20M, CAT D7R	R 765,98
31 - 35	200 - 410	CAT D8R	R 810,68
36 - 45	215 - 315	Liebherr PR754; Dressta TD-25M, CAT D9R	R 1 124,14
46 - 60	300 - 325	Liebherr PR 764	R 1 349,27
60 +	390 +	Dressta TD-40E	R 1 690,67

#### WHERE TO HIRE

BOTSWANA	GAUTENG continued
Babcock TCM Plant (Gaborone) (00267) 393-6541	Rail Plant Hire (Johannesburg) (011) 968-9805
Excavator Hire (Gaborone) (00267) 392-8392	Rhino Excavator Hammers (Honeydew) (086) 111-5422
Van & Truck Hire Hire (Gaborone) (00267) 391-2280	Sandton Plant Hire (Johannesburg) (011) 805-3084
BORDER	Spare Power Trading (Benoni) (011) 845 4184
AE Plant Hire (East London) (083) 654-99871	T&F Construction (Vereeniging) (016) 421-4656
Allen & Clarke Civil Engineering (East London) (043) 726-2076	Theaco Road & Earthworks (Vanderbijlpark) (016) 451-3071
Civil & General Contractors (Queenstown) (045) 857-0176	West Rand Plant Hire (Springs) (011) 845-5160
Inyathi Plant Hire (Beacon Bay) (043) 732-1124	West Reef Plant Hire (Heidelberg) (011) 348-1499
Plus Plant Hire (East London) (043) 736-3541	KWAZULU-NATAL
Qush Plant Hire (Vincent ) (043) 050 4444	ALS Group (Newcastle) (034) 341-1636
Riegers Hire (East London) (043) 732-1464	Afro Plant (Durban) (031) 705-4490
Roberts Bros. Construction (East London) (043) 748-2588	Aqua Transport & Plant Hire (Pinetown) (031) 716-2300
Rumdel (Cape) (East London) (043) 748-6417	Barloworld Cat Rental Store (New Germany) (031) 569-8500
SL Contractors (East London) (043) 745-2002	BB Transport (Glencoe) (034) 393-1861
Umso Construction (East London) (043) 748-4747	City Park Trading (Mtubathuba) (035) 550-1162
Universal Equipment (Port Elizabeth) (041) 453-1810	Conan Construction (Pietermaritzburg) (033) 346-2108
WC Plant Hire (Gonubie) (043) 732-1833	Dreykon (Dundee) (034) 212-1246
FREE STATE	Ekene Investments (Queensburgh) (031) 767 1033
T&F Construction (Vereeniging) (016) 421-4656	EXR Construction (Mount Edgecombe) (031) 539-9100
GAUTENG	GR Transport & Plant Hire (Darnall) (035) 486-1903
A-Z Engineering & Plant Hire (Johannesburg) (011) 462-7907	Induna Logistics & Terminals ( Richards Bay) (035) 797 4100
Active Construction & Equipment (Benoni) (011) 425-4890/1	Leomat Plant Hire (Empangeni) (035) 797-4611
ALS Group (Centurion) (012) 640-0040	LT Earthmovers (Wartburg) (033) 503-1355
Barloworld Cat Rental Store (Isando) (011) 929-0419	Major Machines (Merrivale) (033) 330 5701
Basil Read Plant (Johannesburg) (011) 418-6300	Marlisha Transport (Westmead) (031) 700 8616
Burma Plant Hire (Springs) (071) 689-0711	McKenzie Plant Hire (Richmond) (033) 212-2181
C.A.T.S Plant Hire (Roodepoort) (011) 474-4261	Motwell Plant Hire (Illovo Beach) (082) 496 9673
Catkom Plant (Boksburg North) (011) 892 0775	Midmar Plant Hire (Westmead) (031) 700-9061
Diesel Power Group (Bredell) (086) 196-1177	Morgado Plant Hire (Durban) (031) 569-4750
Eco Plant Hire (Kew) (082) 555 0095	Scotty's Plant Hire (Durban) (031) 700-8000
Hennox 170 (Johannesburg) (011) 024 1057	Scotty's Plant Hire (Pietermaritzburg) (033) 386-1614
K L T Machinery & Plant Hire (011) 730-7501	Superdigger Plant Hire (Cliff Dale) (031) 736 6010
Liviero & Son (Kyalami) (011) 466-2644	Ubunye Plant Hire (Queensburgh) (031) 464-6551
MD Plant & Equipment Sales (Bryanston) (011) 706-7275	Universal Trading (Jacobs) (031) 461 5008
PG Plant Hire (Pretoria) (012) 803-8714	

Continued on next page

### 3. BULLDOZERS

#### WHERE TO HIRE

LIMPOPO		NORTH-WEST continued	
Kingdom Plant (Tzaneen)	(015) 307-3950	Elmar Projects (Swartruggens)	(014) 544-0677
Quality Plant Hire (Tzaneen)	(015) 304-3000	T&F Construction (Vereeniging)	(083) 306 4822
MPUMALANGA		West Rand Plant Hire (Orkney)	(018) 473-5551
ALS Group (Witbank)	(013) 689-1128	PORT ELIZABETH	
Central Africa Machine Sales (Witbank)	(013) 691-2102	Burma Plant Hire (Port Elizabeth)	(041) 463-4033
Cranes 4 Hire (Witbank)	(013) 696-1146	DK Pringle Earthworks (Bedford)	(046) 685-0858
Cranes 4 Hire (Middleburg)	(013) 699-9701	Newport Plant Hire (Port Elizabeth)	(041) 463-2819
Isambane Mining (Middleburg)	(071) 681-9939	Rand Civils (Port Elizabeth)	(041) 581-7791
Khulani's Trading Enterprise cc (Middelburg)	(013) 244 5017	Scribante Construction (Port Elizabeth)	(041) 484-7211
T&F Construction (Vereeniging)	(016) 421-4656	Stu Davidson & Sons (Port Elizabeth)	(041) 581-7711
NAMIBIA		T&F Construction (Vereeniging)	(016) 421-4656
Roads Contractor Company (Windhoek)	(00264) 612 979 000	Venter Plant Hire	(082) 655 7590
NORTHERN CAPE		WESTERN CAPE	
ALS Group (Upington)	(054) 334-0140	Barloworld Equipment The Cat Rental Store (Bellville)	(021) 959-8200
Burma Plant Hire (Posmasburg)	(053) 313-3646	Burma Plant Hire (Kuilsrivier)	(021) 905-8122
T&F Construction (Vereeniging)	(016) 421-4656	Sylco (Cape Town)	(021) 845-4494
NORTH-WEST		T&F Construction (Vereeniging)	(016) 421-4656
ALS Group (Potchefstroom)	(018) 290-8070	Transand (Hartenbos)	(044) 695-0105
Astrum Equipment (Brits)	(012) 003 2137	Umhlaba Plant Hire (Kraaifontein)	(021) 987-1650/2

## 4. COMPRESSORS

### DELIVERY and / or COLLECTION :

- (1) LDV = R 6.68 per loaded kilometre, minimum charge = R 137.80  
 (2) Truck = R 11.35 per loaded kilometre, minimum charge = R 265.00  
 (3) Lowbed = R 16.75 per loaded kilometre, minimum charge = R 636.00

### 4.1 PORTABLE DIESEL COMPRESSORS

Capacity (cfm)	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)	Capacity (cfm)	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)
74	R 276,00	R 5 225,00	600	R 1 470,00	R 27 570,00
140	R 434,00	R 8 225,00	750	R 1 640,00	R 31 000,00
175	R 500,00	R 9 460,00	750, 12 bar	R 2 560,00	R 48 435,00
185	R 524,00	R 9 920,00	750, 14 bar	R 2 820,00	R 53 270,00
250	R 650,00	R 12 305,00	750, 21 bar	R 4 020,00	R 75 970,00
330	R 870,00	R 16 590,00	900	R 1 820,00	R 34 330,00
365	R 987,00	R 18 670,00	900, 20 bar	R 4 450,00	R 84 120,00
450	R 1 120,00	R 21 115,00	1000	R 2 020,00	R 38 210,00

### 4.1.1 ANCILLARY EQUIPMENT

Description	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)	Description	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)
Boulder buster	R 108,00	R 2 056,00	Hose, 50mm x 30m	R 138,00 / P62,00	R 2 570,00
Chisel	R 51,00 / P62,00	960,00 / P1553,00	Moil	R 51,00 / P273,00	R 960,00 / P5742,00
Chipping hammer	R 138,00 / P186,00	R 2570,00 / P4660,00	Moist trap	R 138,00	R 2 570,00
Clay spade	R 108,00	R 2 056,00	Paving breaker	R116,00 / P149,00	R 2190,00 / P3580,00
Drill Steel, 0.8m x 44mm	R 108,00	R 2 056,00	Plug & feather	R 100,00	R 1 885,00
Drill Steel, 1.2m x 38mm	R 108,00	R 2 056,00	Rock drill	R 138,00	R 2 570,00
Drill Steel, 1.6m x 36mm	R 119,00	R 2 228,00	Sand blast pot (incl. hoses)	R 326,00	R 6 170,00
Gunite rig (incl. wearpads & hoses)	R 1 270,00	On Request	Sand rammer	R 138,00	R 2 510,00
Hose, 20mm x 30m	R 81,00 / P50,00	R 1470,00 / P1044,00	Separator	R 138,00	R 2 510,00

### WHERE TO HIRE

BOTSWANA		GAUTENG	
Excavator Hire (Gaborone)	(00267) 32-8392	File Hire Plant (Johannesburg)	(011) 397-6463
GHF (Pty) Ltd(Phakalane)	(00267) 392-2885	Hard Hat Equipment Hire (Halfway House)	(011) 609-6443
Jomaf Hiring Services (Gaborone)	(00267) 319-1585	Letsema Pneumatics & Logistics (Germiston)	(011) 873-8675
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Ngaphambi Hire (Alberton)	(082) 071 3951
BORDER		Performance Plant Hire (Randburg)	(011) 792-1224
Action Plant & Equipment (East London)	(043) 722-8294	Performance Plant Hire (Boksburg)	(011) 823-5480
Chalk-Air (East London)	(043) 743-8855	Performance Plant Hire (Midrand)	(011) 312 5069
Civil & General Contractors (Queenstown)	(045) 857-0176	Propact Plant Hire (Johannesburg)	(011) 680-2137
PeugAir (East London)	(043) 748-2423	Propact Plant Hire (Centurion)	(012) 653-0245
Talisman Hire	0861 87 87 87	Rand-Air (Wadeville)	(011) 345-0700
FREE STATE		Rebel Plant Hire (Johannesburg)	(011) 882-1048
Able Delby Hire (Johannesburg)	(011) 334-6573	Renttech South Africa Plant Rental SA (Wadeville)	(011) 824-0410
Talisman Hire	0861 87 87 87	Talisman Hire	0861 87 87 87
GAUTENG		KWAZULU-NATAL	
Artic Driers (Benoni)	(011) 425-3484	Atlas Plant Hire (Pinetown)	(031) 700 1724
Atlas Plant Hire (Midrand)	(011) 310-9313	Barloworld Equipment Cat Rental Store (New Germany)	(031) 569-8500
Barloworld Equipment The Cat Rental Store (Isando)	(011) 929-0600	BB Transport (Glencoe)	(034) 393-1861
Bobcat Equipment Rentals Rentals (Alrode)	(011) 389-4460	CompAir (Durban)	(031) 792-4270
City Air Rental (Wynberg)	(011) 262-2650	Dreykon (Dundee)	(034) 212-1246
CompAir (Johannesburg)	(011) 345-2200	LM Plant Hire & Sales (Richards Bay)	(035) 789-0831

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## 4. COMPRESSORS continued

### WHERE TO HIRE

KWAZULU-NATALcontinued		NORTH-WEST	
Machinery Mart (Durban)	(031) 301-7069	Atlas Plant Hire (Rustenburg)	(014) 569-5951
Marlisha Transport (Westmead)	(031) 700 8616	Astrum Equipment (Brits)	(012) 003 2137
Raciti's Plant Hire (Estcourt)	(036) 352-5783	Elmar Projects (Swartruggens)	(014) 544-0677
Scotty's Plant Hire (Durban)	(031) 700-8000	Talisman Hire	0861 87 87 87
Scotty's Plant Hire (Pietermaritzburg)	(033) 386-1614	<b>PORT ELIZABETH</b>	
Talisman Hire	0861 87 87 87	Atlas Plant Hire (Port Elizabeth)	(041) 451-4266
<b>LIMPOPO</b>		Barloworld Equipment The Cat Rental Store (PE)	(041) 486- 1303
Atlas Plant Hire (Lepelale)	(014) 763-6720	CompAir (Port Elizabeth)	(041) 487-2867
Talisman Hire	0861 87 87 87	PeugAir (Port Elizabeth)	(041) 451-2722
<b>MPUMALANGA</b>		Talisman Hire	0861 87 87 87
Ikotwe Plant Hire (White River)	(013) 750-1200	Venter Plant Hire	(082) 655 7590
Performance Plant Hire (Witbank)	(013) 692-7441	<b>Swaziland</b>	
<b>MPUMALANGA Continued</b>		TALISMAN Hire(Matsapha)	(00268) 2518 4210
Steinmuller Plant & Equipment Hire	(017) 624-5000	<b>WESTERN CAPE</b>	
Talisman Hire	0861 87 87 87	Barloworld Cat Rental Store (Bellville)	(021) 959-8200
<b>NAMIBIA</b>		Bobcat Equipment Rentals Rental (Cape Town)	(021) 945-1423
HireMAN	(00264) 612 228 185	Chalk-Air (Cape Town)	(021) 931-9155
Walvis Bay Plant & Tool Hire Services	(00264) 642-03787	CompAir (Cape Town)	(021) 535-5032
Windhoek Hire Sales & Services(Windhoek)	00264 8112-89990	Hiretech (Cape Town)	(021) 945-3317
<b>NORTHERN CAPE</b>		Talisman Hire	0861 87 87 87
Rand Air (Kimberley)	(053) 861-2851		

### 4.2 PORTABLE ELECTRIC COMPRESSORS

Capacity (cfm)	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)	Capacity (cfm)	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)
4 to 8	R 165,00	R3120,00	280	R 753,00	R 14 220,00
9 to 14	R203,00	R 3840,00	300	R 1 038,00	R 19 600,00
60	R 305,00	R 5 760,00	400	R 1 188,00	R 22 445,00
80	R 332,00	R 6 305,00	500	R 1 272,00	R 24 055,00
90	R 347,00	R 6 545,00	650	R 1 392,00	R 26 280,00
125	R 502,00	R 9 375,00	750	R 1 722,00	R 32 550,00
170	R 555,00	R 10 485,00	800	R 1 722,00	R 34 195,00
200	R 647,00	R 12 230,00	900	R 1 915,00	R 36 180,00
250	R 695,00	R 13 155,00	1320	R 2 873,00	R 54 310,00

### 4.2.1 ANCILLARY EQUIPMENT

Description	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)	Description	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 189 hrs)
Air-receiver tanks	R 751,00	R 14 220,00	525 / 380 volt, 250 Kva	R 321,00	R 6 030,00
Chipping hammer	R 138,00	R 2 570,00	525 / 380 volt, 300 Kva	R 321,00	R 6 030,00
Paving breaker	R 118,00	R 2 190,00	6600 / 380 volt, 300 Kva	R 350,00	R 6 610,00
Rock drills	R 138,00	R 2 570,00	6600 / 380 volt, 800 Kva	R 382,00	R 7 230,00
Sand rammers	R 138,00	R 2 570,00	Transformer cables (4-core armoured) :		
Step-down transformers :			35mm x 10m	R 43,00	R 820,00
525 / 380 volt, 50 Kva	R 256,00	R 4 865,00	70mm x 10m	R 68,00	R 1 265,00
525 / 380 volt, 200 Kva	R 321,00	R 6 030,00	95mm x 10m	R 76,00	R 1 440,00

### WHERE TO HIRE

BOTSWANA		BORDER	
GHF (Pty) Ltd (Phakalane)	(00267) 392-2885	Action Plant & Equipment (East London)	(043) 722-8294
Jomaf Hiring Services (Gaborone)	(00267) 319-1585	Chalk-Air (East London)	(043) 743-8855
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Civil & General Contractors (Queenstown)	(045) 857-0176

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**4.2.1 ANCILLARY EQUIPMENT continued**

**WHERE TO HIRE**

<b>BORDER Continued</b>		<b>KWAZULU-NATAL continued</b>	
Riegers Hire (East London)	(043) 732-1464	Talisman Hire	0861 87 87 87
Talisman Hire	0861 87 87 87	Tony's Tool Hire (Dundee)	(034) 212-5232
Universal Equipment (Port Elizabeth)	(041) 453-1810	Tony's Tool Hire (Newcastle)	(034) 312 8396
<b>FREE STATE</b>		Tony's Tool Hire (Pongola)	(034) 413-3023
Talisman Hire	0861 87 87 87	<b>LIMPOPO</b>	
<b>GAUTENG</b>		Atlas Plant Hire (Lepelale)	(014) 763-6720
Able Delby Hire (Johannesburg)	(011) 334-6573	Talisman Hire	0861 87 87 87
Artic Driers (Benoni)	(011) 425-3484	<b>MPUMALANGA</b>	
Atlas Plant Hire (Midrand)	(011) 310-9313	Babcock Plant Services (Secunda)	(017) 631-2847
Atlas Plant Hire (Rustenburg)	(014) 569-5951	Babcock Plant Services (Middelburg)	(013) 246-2870
Babcock Plant Services (Johannesburg)	(011) 418-4407	Ikotwe Plant Hire (White River)	(013) 750-1200
Barloworld Equipment The Cat Rental Store (Isando)	(011) 929-0600	Performance Plant Hire (Witbank)	(013) 692-7441
Bobcat Equipment Rentals Rentals (Alrode)	(011) 389-4460	Talisman Hire	0861 87 87 87
City Air Rental (Wynberg)	(011) 262-2650	Tony's Tool Hire (Piet Retief)	(017) 826-4683
CompAir (Johannesburg)	(011) 345-2200	<b>NAMIBIA</b>	
File Hire Plant (Johannesburg)	(011) 397-6463	HireMAN	264 612 228 185
Hard Hat Equipment Hire (Halfway House)	(011) 609-6443	Windhoek Hire Sales & Services(Windhoek)	00264 8112-89990
Letsema Pneumatics & Logistics (Germiston)	(011) 873-8675	<b>NORTH-WEST</b>	
Ngaphambi Hire (Alberton)	(082) 071 3951	Atlas Plant Hire (Rustenburg)	(014) 569-5951
Performance Plant Hire (Randburg)	(011) 792-1224	Astrum Equipment (Brits)	(012) 003 2137
Performance Plant Hire (Boksburg)	(011) 823-5480	Elmar Projects (Swartruggens)	(014) 544-0677
Performance Plant Hire (Midrand)	(011) 312 5069	Talisman Hire	0861 87 87 87
Rand-Air (Wadeville)	(011) 345-0700	<b>PORT ELIZABETH</b>	
Renttech South Africa Plant Rental SA (Wadeville)	(011) 824-0410	Atlas Plant Hire (Port Elizabeth)	(041) 451-4266
Talisman Hire	0861 87 87 87	CompAir (Port Elizabeth)	(041) 487-2867
<b>KWAZULU-NATAL</b>		PeugAir (Port Elizabeth)	(041) 451-2722
Atlas Plant Hire (Pinetown)	(031) 700 1724	Talisman Hire	0861 87 87 87
Babcock Plant Services (Durban)	(031) 705-2733	Venter Plant Hire	(082) 655 7590
Barloworld Equipment The Cat Rental Store (New Germany)	(031) 569-8500	<b>Swaziland</b>	
BB Transport (Glencoe)	(034) 393-1861	TALISMAN Hire(Matsapha)	(00268) 2518 4210
B&B Plant & Equipment (Empangeni)	(035) 787-0679	<b>WESTERN CAPE</b>	
CompAir (Durban)	(031) 792-4270	Barloworld Equipment Cat Rental Store (Bellville)	(021) 959-8200
EXR Construction (Mount Edgecombe)	(031) 539-9100	Bobcat Equipment Rentals Rental (Cape Town)	(021) 945-1423
LM Plant Hire & Sales (Richards Bay)	(035) 789-0831	Chalk-Air (Cape Town)	(021) 931-9155
Machinery Mart (Durban)	(031) 301-7069	CompAir (Cape Town)	(021) 535-5032
Marlisha Transport (Westmead)	(031) 700 8616	Hiretech (Cape Town)	(021) 945-3317
Need-A-Tool (Durban)	(031) 705-1470	Talisman Hire	0861 87 87 87

## 5. CONCRETE EQUIPMENT

**DELIVERY and / or COLLECTION** : (1) LDV = R 8.00 per loaded kilometre, minimum charge = R 165.36  
(2) Truck = R 13.36 per loaded kilometre, minimum charge = R 318.00

**DEPOSIT** : Minimum of 5 days hire payable on collection or delivery

### 5.1 CONCRETE BUCKETS

Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)	Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Banana	0.25 m3	R 99,00	R 1 745,00	Round	0.25 m3	R 119,00	R 2 060,00

### 5.2 CONCRETE DUMPERS

Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)	Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Gravity Tip	0.4 m3	R 452,00	R 8 565,00	Hydraulic, 2x4	1.0 m3	R 593,00	R 11 135,00
Gravity Tip	0.6 m3	R 508,00	R 9 594,00	Hydraulic, 4x4	1.0 m3	R 633,00	R 11 990,00

### 5.3 CONCRETE MIXERS

Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)	Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Diesel / Petrol	175 litre	R 209,00	R 3 940,00	Diesel / Petrol	350 litre	R 633,00	R 11 990,00
Diesel / Petrol	200 litre	R 263,00	R 4 970,00	Diesel / Petrol	400 litre	R 723,00	R 13 705,00
Diesel / Petrol	250 litre	R 327,00	R 6 160,00	Electric	100 litre	R 146,00	R 2 740,00
Diesel / Petrol	300 litre	R 452,00	R 8 565,00	Electric	175 litre	R 181,00	R 3 420,00

### 5.4 CONCRETE SAWS

**BLADE USAGE** : (1) Asphalt = R 220.00 per millimetre (2) Concrete = R 363.00 per millimetre

Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)	Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Manually propelled	9.5 kW / 13HP	R 209,00	R 3 940,00	Self propelled	13,5 kW / 18 HP	R 354,00	R 6 680,00
Manually propelled	12 kW / 16HP	R 254,00	R 4 795,00	Self propelled	26 kW / 37 HP	R 325,00	R 6 133,00

### 5.5 CONCRETE SCREED BEAMS

Type	Length (m)	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Aluminium, complete with motor	4,2	R 226,00	R 4 225,00
Aluminium, complete with motor	5,2	R 246,00	R 4 670,00
Aluminium, complete with motor	6,2	R 271,00	R 5 115,00

### 5.6 CONCRETE TROWELS / POWER FLOATS

Type	Polishing Diameter	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)	Type	Capacity	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Walk behind, without blades	1 100 mm	R 191,00	R 3 600,00	Walk behind, with blades	1 100 mm	R 326,00	R 6 170,00

### 5.7 CONCRETE VIBRATORS

Type	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)	Type	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Diesel / Petrol, drive unit only	R125,00	R2400,00	Pokers, 26 mm to 75 mm	R125,00	R2400,00
Diesel / Petrol, high frequency drive drive unit only	R 182,00	R 3 450,00	High frequency pokers, 26mm to 75 mm	R 157,00	R 2 960,00

## 5. CONCRETE EQUIPMENT

### WHERE TO HIRE

BOTSWANA	GAUTENG
Excavator Hire (Gaborone) (00267) 32-8392	File Hire Plant (Johannesburg) (011) 397-6463
GHF (Pty) Ltd (Phakalane) (00267) 392-2885	Hard Hat Equipment Hire (Halfway House) (011) 609-6443
Jomaf Hiring Services (Gaborone) (00267) 319-1585	Paul Heslop Plant Services (Johannesburg) (086) 111-5422
Ngamiland Generator & Diesel Services (Maun) (00267) 686-0253	Performance Plant Hire (Randburg) (011) 792-1224
Shumba Plant Hire (Maun) (00267) 686-1100	Performance Plant Hire (Boksburg) (011) 823-5480
BORDER	Performance Plant Hire (Midrand) (011) 312 5069
Action Plant & Equipment (East London) (043) 722-8294	Propact Plant Hire (Johannesburg) (011) 680-2137
Civil & General Contractors (Queenstown) (045) 857-0176	Propact Plant Hire (Centurion) (012) 653-0245
Inyathi Plant Hire (Beacon Bay) (043) 732-1124	Rebel Plant Hire & Sales (Johannesburg) (011) 882-1048
Talisman Hire 0861 87 87 87	Renttech South Africa Plant Rental SA (Wadeville) (011) 824-0410
FREE STATE	Talisman Hire 0861 87 87 87
Express Plant Hire (Bloemfontein) (051) 436-4891	Theaco Road & Earthworks (Vanderbijlpark) (016) 451-3071
Talisman Hire 0861 87 87 87	Turner Morris (Johannesburg) (011) 618-2620
GAUTENG	KwaZulu-Natal
Barloworld Equipment The Cat Rental Store (Isando) (011) 929-0600	B&B Plant & Equipment (Empangeni) (035) 787-0679
Brackenwest Hardware & Hire (Johannesburg) (011) 867-6224	Barloworld Cat Rental Store (New Germany) (031) 569-8500
	BB Transport (Glencoe) (034) 393-1861
	EXR Construction (Mount Edgecombe) (031) 539-9100

## 5. CONCRETE EQUIPMENT Continued

### WHERE TO HIRE

KwaZulu-Natal		NORTHERN CAPE	
Hire Anything (Richards Bay)	(035) 789-5997	Talisman Hire	0861 87 87 87
Leomat Plant Hire (Empangeni)		NORTH-WEST	
	(035) 797-4611	Elmar Projects (Swartruggens)	(014) 544-0677
Machinery Mart (Durban)	(031) 301-7069	Talisman Hire	0861 87 87 87
Need-A-Tool (Durban)	(031) 705-1470	PORT ELIZABETH	
Scotty's Plant Hire (Durban)	(031) 700-8000	Atlas Plant Hire (Port Elizabeth)	(041) 451-4266
Scotty's Plant Hire (Pietermaritzburg)	(033) 386-1614	Scribante Construction (Port Elizabeth)	(041) 484-7211
Talisman Hire	0861 87 87 87	Talisman Hire	0861 87 87 87
Tony's Tool Hire (Dundee)	(034) 212-5232	Swaziland	
Tony's Tool Hire (Newcastle)	(034) 312 8396	TALISMAN Hire(Matsapha)	(00268) 2518 4210
Tony's Tool Hire (Pongola)	(034) 413-3023	WESTERN CAPE	
LIMPOPO		Barloworld Equipment The Cat Rental Store (Bellville)	(021) 959-8200
Talisman Hire	0861 87 87 87	Burma Plant Hire (Kuilsrivier)	(021) 905-8122
Mpumalanga		Talisman Hire	0861 87 87 87
Performance Plant Hire	(013) 692-7441		
Talisman Hire	0861 87 87 87		
Tony's Tool Hire (Piet Retief)	(017) 826-4683		
Namibia			
HireMAN	(00264) 612 228 185		

## 6. CRANES

Long-term hire (in excess of six weeks) rates may be negotiated with the hire company. For cranes from 5 t - 50 t, a 6 hour minimum (plus site establishment) is chargeable for one day's hire. For cranes from 5 t - 50 t, a 9 hour minimum (plus site establishment) is chargeable for more than one day on site. For cranes over 50 t, a 10 hour minimum (plus site establishment) is chargeable for each day on site. Weekend rates are generally 10% higher than those indicated below. Site establishment will be determined by the client's specific requirements and site location. Generally, site establishment charge for local area = time travelled x rate. **All cranes are to be insured on site**

### 6.1 ALL-TERRAIN HYDRAULIC CRANES

Capacity (ton)		Minimum Site		Jobbing (1 - 4 Days)		Medium Term (5 Days - 6 Weeks)	
		Establishment	Min. hrs	Rate / hr	Min. hrs	Rate / hr	
18		R 1 374,00	6 or 9	R 687,00	9	R 614,00	
20		R 1 128,00	6 or 9	R 564,00	9	R 520,00	
25		R 1 366,00	6 or 9	R 683,00	9	R 594,00	
27,5		R 1 572,00	6 or 9	R 786,00	9	R 691,00	
30		R 1 592,00	6 or 9	R 796,00	9	R 713,00	
35		R 2 290,00	6 or 9	R 1 145,00	9	R 1 007,00	
40		R 2 462,00	6 or 9	R 1 231,00	9	R 1 081,00	
50		R 2 228,00	6 or 9	R 1 114,00	9	R 980,00	
55		R 2 632,00	6 or 9	R 1 316,00	9	R 1 160,00	
60	* Site establishment quoted is for the crane only. Lowbed transport for the counterweight to be quoted at the time of requirement as it is dependant on quantity of counterweight required.	R 2 640,00	10	R 1 320,00	10	R 1 216,00	
65		R 2 556,00	10	R 1 725,00	10	R 1 535,00	
70		R 3 266,00	10	R 1 633,00	10	R 1 426,00	
*80		R 3 806,00	10	R 1 903,00	10	R 1 737,00	
90		R 4 196,00	10	R 2 098,00	10	R 1 906,00	
100		R 4 566,00	10	R 2 283,00	10	R 2 064,00	
*120		R 4 860,00	10	R 2 430,00	10	R 2 207,00	
150		R 25 920,00	10	R 3 240,00	10	R 2 850,00	
160		R 27 540,00	10	R 3 267,00	10	R 2 821,00	
*180		R 29 171,00	10	R 3 706,00	10	R 3 353,00	
220	R 31 504,00	10	R 4 185,00	10	R 3 661,00		
250	R 32 737,00	10	R 4 229,00	10	R 3 808,00		
*275	R 33 847,00	10	R 4 377,00	10	R 3 946,00		
300	R 36 580,00	10	R 4 455,00	10	R 4 158,00		
*330	R 39 312,00	10	R 5 197,00	10	R 4 547,00		
400	R 43 243,00	10	R 5 197,00	10	R 4 826,00		
*550	R 47 570,00	10	R 6 075,00	10	R 5 315,00		

### 6.2 ROUGH-TERRAIN HYDRAULIC CRANES

Capacity (ton)		Minimum Site		Jobbing (1 - 4 Days)		Medium Term (5 Days - 6 Weeks)	
		Establishment	Min. hrs	Rate / hr	Min. hrs	Rate / hr	
12,5		POA	6 or 9	R 371,00	9	R 332,00	
13,6		POA	6 or 9	R 450,00	9	R 405,00	
15		POA	6 or 9	R 444,00	9	R 396,00	
16		POA	6 or 9	R 508,00	9	R 454,00	
18		POA	6 or 9	R 556,00	9	R 497,00	
20		POA	6 or 9	R 571,00	9	R 499,00	
23		POA	6 or 9	R 639,00	9	R 579,00	
25		POA	6 or 9	R 652,00	9	R 579,00	
27,5		POA	6 or 9	R 788,00	9	R 666,00	
30		POA	6 or 9	R 752,00	9	R 668,00	
32		POA	6 or 9	R 859,00	9	R 765,00	
40		POA	6 or 9	R 1 046,00	9	R 922,00	
45		POA	6 or 9	R 1 039,00	9	R 891,00	
50		POA	6 or 9	R 1 126,00	9	R 992,00	

## 6. CRANES continued

### 6.3 TRUCK-MOUNTED HYDRAULIC CRANES

Capacity (ton)	Minimum Site		Jobbing (1 - 4 Days)		Medium Term (5 Days - 6 Weeks)	
	Establishment	Min. hrs	Rate / hr	Min. hrs	Rate / hr	
8	R 600,00	6 or 9	R 300,00	9	R 263,00	
20	R 1 134,00	6 or 9	R 567,00	9	R 516,00	
30	R 1 514,00	6 or 9	R 757,00	9	R 678,00	
50	R 2 266,00	6 or 9	R 1 133,00	9	R 996,00	
55	R 2 294,00	10	R 1 147,00	9	R 1 071,00	
65	R 3 324,00	10	R 1 662,00	10	R 1 481,00	
70	R 3 680,00	10	R 1 840,00	10	R 1 369,00	
* 80	R 3 616,00	10	R 1 808,00	10	R 1 590,00	
* 90	R 3 818,00	10	R 1 909,00	10	R 1 754,00	
* 112	R 4 044,00	10	R 2 022,00	10	R 1 802,00	
* 130	R 5 176,00	10	R 2 588,00	10	R 2 306,00	
* 135	R 5 538,00	10	R 2 769,00	10	R 2 468,00	
* 140	R 23 441,00	10	R 2 929,00	10	R 2 577,00	

\* Site establishment quoted is for the crane only. Lowbed transport for the counterweight to be quoted at the time of requirement as it is dependant on quantity of counterweight required.

### 6.4 TRUCK-MOUNTED LATTICE BOOM CRANES

Capacity (ton)	Jobbing (1 - 4 Days)		Medium Term (5 Days - 6 Weeks)	
	Min. hrs	Rate / hr	Min. hrs	Rate / hr
40	6 to 9	R 927,00	9	R 826,00
45	6 to 9	R 996,00	9	R 888,00
50	6 to 9	R 1 068,00	9	R 950,00
55	10	R 1 145,00	10	R 1 022,00
150	10	R 3 118,00	10	On request
250	10	R 4 158,00	10	On request
400	10	R 6 750,00	10	On request

### 6.5 RIGGING CREW AND EQUIPMENT

Minimum Of R 992.00 per hour, subject to site inspection and equipment required

### 6.6 TOWER CRANES

Capacity		Height (m)	Rate / month (200 hrs)	Capacity		Height (m)	Rate / month (200 hrs)
kg @ m	kg @ m			kg @ m	kg @ m		
750 @ 20.0	1500 @ 11.2	14.5 - 20.0	R 12 694,00	2600 @ 50.0	10000 @ 14.5	60,0	R 46 013,00
1000 @ 30.0	4000 @ 9.4	20.0 - 25.8	R 19 040,00	2900 @ 50.0	12000 @ 14.6	61,0	R 48 592,00
1250 @ 45.0	8000 @ 10.6	16.0 - 32.8	R 39 667,00	2500 @ 55.0	12000 @ 15.6	55,0	R 51 567,00
<i>( All three above are self-erector type )</i>							
1000 @ 40.0	4000 @ 13.6	32,8	R 21 420,00	1700 @ 60.0	8000 @ 14.6	48,0	R 48 592,00
1500 @ 45.0	8000 @ 11.4	40,0	R 39 667,00	2900 @ 50.0	12000 @ 15.7	46,0	R 65 452,00
2100 @ 45.0	8000 @ 13.4	40,0	R 41 253,00	2800 @ 60.0	12000 @ 17.6	55,0	R 83 300,00
2500 @ 45.0	10000 @ 14.0	40,0	R 42 642,00	3000 @ 60.0	12000 @ 16.9	64,5	R 89 251,00

### WHERE TO HIRE

Botswana		FREE STATE	
Johnson Crane Hire (Gaborone)	(00267) 393-2551	Anglo / V3 Crane Hire (Bloemfontein)	(051) 435-8632
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	Anglo / V3 Crane Hire (Welkom)	(057) 396-4138/9
Shumba Plant Hire (Maun)	(00267) 686-1100	Babcock Plant Services (Sasolburg)	(016) 976-1075
Border		Delta Crane and Plant Hire (Vaalpark)	(016) 971-1101
Civil & General Contractors (Queenstown)	(045) 857-0176		
Present Civils (East London)	(043) 745-1014		
Roberts Bros. Construction (East London)	(043) 748-2588		
Rumdel (Cape) (East London)	(043) 748-6417		

Please continue to next page .....

## 6. CRANES continued

### WHERE TO HIRE

GAUTENG		Limpopo	
A1 Rigging & Engineering Services (JNB)	(011) 609-2040	Babcock Plant Services (Lephalale)	(079) 827-9227
Africrane (Benoni)	(082) 412-7392 / (011) 968 0136	Johnson Crane Hire (Lephalale)	(083) 327-7077
African Crane Services (Bryanston)	(084) 811 0886	<b>MPUMALANGA</b>	
Anglo / V3 Crane Hire (Halfway House)	(011) 805-8071	Babcock Plant Services (Secunda)	(017) 639-1474
Atlas Crane Hire (Johannesburg)	(011) 842-2300	Babcock Plant Services (Middleburg)	(013) 246-2870
Babcock Plant Services (Johannesburg)	(011) 418-4407	Central Africa Machine Sales (Witbank)	(013) 691-2102
Carry Deck Crane Rentals (Brakpan)	(011) 915-0184	Cranes 4 Hire (Witbank)	(013) 696-1146
Chimes Crane Hire (Germiston)	(011) 626-1110	Cranes 4 Hire (Middelburg)	(013) 699-9701
Cleveland Crane Hire (Heriotdale)	(011) 626-1029	Delta Crane and Plant Hire (Kendal)	(016) 971-1101
Cranecom (Apex)	(011) 421-3848	F&K Hire (Middleburg)	(013) 246-1701
Cubenco 194 (Vanderbijlpark)	(016) 931-9758	Johnson Crane Hire (Burgersfort)	(082) 900-8224
Delta Crane & Plant Hire (Vanderbijlpark)	(082) 902 7140	Johnson Crane Hire (Trichardt)	(017) 638-0047
Fred's Crane Hire Services (Vereeniging)	(016) 422-5142	Johnson Crane Hire (Middelburg)	(013) 246-1344
Hennop Crane Hire (Johannesburg)	(011) 828-0427/9	Ritchie Crane Hire (Witbank)	(013) 697-5111
Howden Africa (Pty) Ltd (Johannesburg)	(011) 240-4204	Sasol Secunda Shared Services (Secunda)	(017) 610-2039
Imperial Crane Hire (Johannesburg)	(011) 873-1410	Steinmuller Plant & Equipment Hire	(017) 624-5000
ITL Plant Hire (Linmeyer)	(011) 436-0493	<b>NAMIBIA</b>	
JMB Cranes (Klip River)	(011) 021 1038	Concord Crane Hire (Okahandja)	+264 81 375 6560
Johnson Crane Hire (Head Office)	(011) 455-9222	Walvis Bay Plant & Tool Hire Services	(00264) 642-03787
Johnson Crane Hire (Johannesburg)	(011) 455-9200	Wesbank Transport (Walvis Bay)	(00264) 6421 6000
Johnson Crane Hire (Vanderbijlpark)	(016) 986-1295	Windhoek Hire Sales & Services (Windhoek)	+264 61 233693.
Johnson Crane Hire Heavy Lift	(011) 455-9222	<b>NORTHERN CAPE</b>	
Jumbo Machine Moving (Alrode)	(011) 100-0908	Allied Crane Hire (Sishen)	(073) 133 5120
Liviero & Son (Kyalami)	(011) 466-2644	Johnson Crane Hire (Kathu)	(053) 791 0000
Mammoet Southern Africa (Johannesburg)	(011) 882-4499	<b>NORTH-WEST</b>	
Marlboro Crane Hire (Johannesburg)	(011) 882-8301/2	Allied Crane Hire (Rustenburg)	(082) 325-9525
Sarens South Africa (Pty) Ltd (Johannesburg)	(011) 861-3800	Anglo / V3 Crane Hire (Rustenburg)	(082) 821 6055
Superlift Crane Hire (Johannesburg)	(011) 963-0146	Babcock Plant Services (Rustenburg)	(082) 810-1229
<b>KWAZULU-NATAL</b>		Crane Corporation (Rustenburg)	(014) 538-1461
Anglo / V3 Crane Hire (Newcastle)	(034) 318-5818	Johnson Crane Hire (Rustenburg)	(014) 596-6684
Anglo / V3 Crane Hire (Richards Bay)	(035) 751-1798	<b>PORT ELIZABETH</b>	
Aqua Transport & Plant Hire (Pinetown)	(031) 716-2300	Castlehill Crane Hire (Port Elizabeth)	(041) 486-1070
Babcock Plant Services (Durban)	(031) 705-2733	Uitenhage Super Steel Crane & Plant Hire (Uitenhage)	(041) 922-8060
BB Transport (Glencoe)	(034) 393-1861	<b>WESTERN CAPE</b>	
EXR Construction (Mount Edgecombe)	(031) 539-9100	Allied Crane Hire (Airport Industria)	(021) 386-4555
Elcon Crane Hire (Durban)	(031) 466-5411	Johnson Crane Hire (Cape Town)	(021) 535-1001
Elcon Crane Hire (Richards Bay)	(035) 751-1284	Stelval Crane Hire (Epping Industrial)	(021) 534-4291
Johnson Crane Hire (Durban)	(031) 466-6515	Sylco (Cape Town)	(021) 845-4494
Richards Bay Crane Hire (Richards Bay)	(035) 751-1339	Babcock Target (Belville)	(021) 951-8088

## 7. DRILL RIGS

*Rates include one 50mm x 30m hose*

*Rates include one operator per rig, but rod assistant to be supplied by the hirer at the hirer's cost*

*Rates exclude all extension equipment (consumables) which must be purchased outright*

*Rates exclude delivery to site, operator overtime and operator accommodation*

Type	Daily Rate (Min. 9 hrs)	Monthly Rate (Min. 21 days)
Down the hole (DTH)	On Request	On Request
Hydraulic	R 4 690,00	R 88 610,00
Pneumatic, excluding compressor	R 2 555,00	R 48 310,00
Pneumatic, including compressor	R 3 660,00	R 69 170,00

### WHERE TO HIRE

BORDER	PORT ELIZABETH
Action Plant & Equipment (East London) (043) 722-8294	Barloworld Equipment The Cat Rental Store (PE) (041) 486- 1303 Venter Plant Hire (082) 655 7590
FREE STATE	WESERN CAPE
Express Plant Hire (Bloemfontein) (051) 436-4891	Burma Plant Hire (Kuilsvier) (021) 905-8122
GAUTENG & NORTH-WEST	
Barloworld Equipment The Cat Rental Store (Isando) (011) 929-0600	

## 8. EXCAVATORS

### 8.1 TRACKED EXCAVATORS

Mass (Ton)	Typical Makes & Models	Power (Kw)	Hourly Rate (Min. 9 hrs)
2 to 6	Doosan DX55; Hyundai R35Z-9, R60-9S	15 -40	R 240,00
7 to 10	Hyundai R80-7; JCB 8085ZTS	40 - 55	R 252,89
11 to 14	Doosan DX140LC	55 -70	R 318,86
15 to18	CAT320D, Sumitomo SH160-5	70 - 90	R 391,83
19 to 22	CAT 323D, Doosan DX 220A, DX 225LCA; Hyundai R 220LC-9SH; JCB JS 205HD, JS 200SC	70 - 105	R 410,95
23 to 26	Liebherr R900C; Sumitomo SH210-5 Doosan Solar 225LC-V; Hyundai R300LC-9S; JCB JS 240SC; Sumitomo SH 240-5; Liebherr R906, R916;	105 - 125	R 452,61
27 to 30	CAT 329D, Liebherr R926; Sumitomo SH 300-5; Doosan DX 300LCA	120 - 150	R 553,00
31 to 35	Doosan DX 340LCA; JCB JS 290 LC, JC 330 LC; Liebherr R934; Sumitomo SH330-5	150 - 180	R 590,34
36 to 40	CAT 336D, 340D, JCB JS 360LC; Liebherr R944; Sumitomo SH350-5	150 - 180	R 776,77
41 to 45	Doosan Solar 420LC-V; JCB JS 460LC	200 - 230	R 801,00
46 to 50	CAT 349D, Sumitomo SH460-5, SH480-5	180 - 225	R 869,70
51 to 60	Doosan DX 520LCA; Hyundai R520 LC-9S; Liebherr R954 C	210 - 290	R 930,66
61 to 70	Liebherr R964C; Sumitomo SH700-5	240 - 310	R 1 359,79
71 to 80	CAT 374D, Doosan DX700; Hyundai R800LC-7	310 - 330	R 1 621,80
81-100	CAT 390D, Liebherr R974HD; Sumitomo SH800-5		R 1 845,28
101 to 110	Liebherr R974 SHD	410 - 510	R 2 482,53

### WHERE TO HIRE

BOTSWANA		GAUTENG	
Babcock TCM Plant (Gaborone)	(00267) 393-6541	A1 Rigging & Engineering Services (Johannesburg)	(011) 609-2040
Excavator Hire (Gaborone)	(00267) 392-8392	Alpha Plant & Service (Johannesburg)	(011) 827-9190
Rhino Plant Hire (Gaborone)	(00267) 392-2512	ALS Group (Centurion)	(012) 640-0040
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	A-Z Engineering & Plant Hire (Johannesburg)	(011) 462-7907
BORDER		Barloworld Equipment The Cat Rental Store (Isando)	(011) 929-0419
AE Plant Hire (East London)	(083) 654-99871	Basil Read Plant (Johannesburg)	(011) 823-1913/4
Allen & Clarke Civil Engineering (East London)	(043) 726-6041	Bears Plant Hire (Johannesburg)	(0861) 232-777
Anchor Plant Hire (East London)	(043) 745-0330	Bobcat Equipment Rentals Rentals (Alrode)	(011) 389-4460
Bitline SA 1060 (Mthatha)	(047) 532 4691	C.A.T.S Plant Hire (Roodepoort)	(011) 474-4261
Civil & General Contractors (Queenstown)	(045) 857-0176	Elmar Projects (Swartruggens)	(014) 544-0677
Louwrens van der Walt Beleggings (Queenstown)	(083) 290 0959	EPH Plant Hire (Centurion)	(012) 660-3312
Plus Plant Hire (East London)	(043) 736-3541	Hire Rite Equipment (Boksburg)	(011) 894-8311
Qush Plant Hire (Vincent )	(043) 050 4444	Hennox 170 (Johannesburg)	(011) 024 1057
Riegers Hire (East London)	(043) 732-1464	K L T Machinery & Plant Hire	(011) 730-7501
Roberts Bros. Construction (East London)	(043) 748-2588	Liviero & Son (Kyalami)	(011) 466-2644
Rumdel (Cape) (East London)	(043) 748-6417	L & J Gemmel Plant Services (Benoni)	(011) 965-1463
Seneca Civils (Pty) Ltd (Mathatha)	(082) 442 1545	Maximum Plant Hire (Fourways)	(011) 464-0930/1
SL Contractors (East London)	(043) 745-2002	MD Plant & Equipment Sales (Bryanston)	(011) 706-7275
Sokhulu Truck & Plant Hire (Matatiele)	(039) 737 4384	Moorosi Plant Hire (Jet Park)	(084) 803 2826
Ukamva Civils (Mthatha)	(047) 531 1007	Paul Heslop Plant Services (Johannesburg)	(086) 111-5422
Umso Construction (East London)	(043) 748-4747	PG Plant Hire (Pretoria)	(012) 803-8714
WC Plant Hire (Gonubie)	(043) 732-1833	Plant Technical Services (Johannesburg)	(011) 794-1628
Xesibe Construction ( Lusikisiki)	(039) 253-7264	PG Plant Hire (Pretoria)	(012) 803-8714
FREE STATE		Plant Technical Services (Johannesburg)	(011) 794-1628
Express Plant Hire (Bloemfontein)	(051) 436-4891	Pro-file Plant Hire (Johannesburg)	(016) 150-0533
Sigg's Engineering & Projects (Sasolburg)	(016) 971-1204	Protech Plant (Johannesburg)	(082) 373-4484
T&F Construction (Vereeniging)	(016) 421-4656	Rail Plant Hire (Johannesburg)	(011) 968-9805

## 8.1 TRACKED EXCAVATORS continued

### WHERE TO HIRE

GAUTENG continued	KWAZULU-NATALcontinued
Renico Plant Hire (Johannesburg) (011) 794-1177	Scotty's Plant Hire (031) 700-8000
Rhino Excavator Hammers (Honeydew) (086) 111-5422	Sobuza Investments (Pinetown) (031) 100 1023
Richard Irons Plant Rentals (Johannesburg) (011) 315-1526	Ubunye Plant Hire (Queensburgh) (031) 464-6551
Sandton Plant Hire (Johannesburg) (011) 805-3084	Universal Trading (Jacobs) (031) 461 5008
Seneca Civils (Pty) Ltd (Mondeor) (011) 941-3510	Upfold Plant Hire (Shelly Beach) (087) 808 6914
Spare Power Trading (Benoni) (011) 845 4184	VIP Construction cc (Pietermaritzburg) (076) 399 4596
<b>LIMPOPO</b>	
T&F Construction (Vereeniging) (016) 421-4656	Assert Plant Hire (Polokwane) (014) 763-6720
Theaco Road & Earthworks (Vanderbijlpark) (016) 451-3071/2	Kingdom Plant (Tzaneen) (015) 307-3950
West Rand Plant Hire (Springs) (011) 845-5160	Maruma Plant Hire (Pietersburg) (015) 293-2902
West Rand Plant Hire (Orkney) (018) 473-5551	Quality Plant Hire (Tzaneen) (015) 304-3000
West Reef Plant Hire (Heidelberg) (011) 348-1499	
KWAZULU-NATAL	MPUMALANGA
Afro Plant (Durban) (031) 705-4490	ALS Group (Witbank) (013) 689-1128
ALS Group (Newcastle) (034) 341-1636	Isambane Mining (Middleburg) (071) 681-9939
Aqua Transport & Plant Hire (Pinetown) (031) 716-2300	Khulani's Trading Enterprise cc (Middelburg) (013) 244 5017
Barloworld Cat Rental Store (New Germany) (031) 569-8500	Opsicol Mining Services (Middelburg) (013) 612-0503
BB Transport (Glencoe) (034) 393-1861	T&F Construction (Vereeniging) (016) 421-4656
Bobcat Equipment Rentals Rental (035) 751-1511	
<b>NAMIBIA</b>	
City Park Trading (Mtubathuba) (035) 550-1162	Roads Contractor Company (00264) 612 979 000
Conan Construction (Pietermaritzburg) (033) 346-2108	Windhoek Hire Sales & Services 0264 61 233693
Devray Plant & Earthworks (Richards Bay) (035) 751-2141	Windhoek Renovations (00264) 6123-6159
Desmond's Trans. & Plant Hire (Port Shepstone) (039) 685-4100	
<b>NORTHERN CAPE</b>	
Dreykon (Dundee) (034) 212-1246	ALS Group (Upington) (054) 334-0140
Dudula Civils (Pietermaritzburg) (033) 346 4121	Igloo Plant Hire (Kathu) (053) 723 1514
Ekene Investments (Queensburgh) (031) 767 1033	Ovoscape Plant Hire (Kuruman) (082) 207 3797
GR Transport & Plant Hire (Darnall) (035) 486-1903	T&F Construction (Vereeniging) (016) 421-4656
Induna Logistics & Terminals (Richards Bay) (035) 797 4100	
<b>NORTH-WEST</b>	
Izimu Mining Services (Pinetown) (031) 701-1069	ALS Group (Potchefstroom) (018) 290-8070
JCR Transport (Pinetown) (031) 700-6833	T&F Construction (083) 306 4822
Leomat Plant Hire (Empangeni) (035) 797-4611	
<b>PORT ELIZABETH</b>	
LT Earthmovers (Wartburg) (033) 503-1355	Burma Plant Hire (Port Elizabeth) (041) 463-4033
Mabona Civils & Plant Hire (Kokstad) (039) 727 146	DK Pringle Earthworks (Bedford) (046) 685-0858
Major Machines (Merrivale) (033) 330 5701	Lexintons Civil & Plant (Port Elizabeth) (041) 372- 1850
Marlisha Transport (Westmead) (031) 700 8616	Newport Plant Hire (Port Elizabeth) (041) 463-2819
McKenzie Plant Hire (Richmond) (033) 212-2181	Rand Civils (Port Elizabeth) (041) 581-7791
Midmar Plant Hire (Westmead) (031) 700-9061	Scribante Construction (Port Elizabeth) (041) 484-7211/2
Morgado Plant Hire (Durban) (031) 569-4750	Stu Davidson & Sons (Port Elizabeth) (041) 581-7711
Motwell Plant Hire (Illovo Beach) (082) 496 9673	T&F Construction (016) 421-4656
Pat Smith Plant Hire (Dundee) (034) 218-1295	Venter Plant Hire (082) 655 7590
Protrans Plant & Civils (Port Shepstone) (039) 6682 5695	
<b>WESTERN CAPE</b>	
Queensburgh Equipment Rental (Queensburgh) (031) 464-7844	Barloworld Equipment The Cat Rental Store (Bellville) (021) 959-8200
RADDS Transport(Empangeni) (035) 787 3901	Bobcat Equipment Rentals Rental (Cape Town) (021) 945-1423
Sage Trans (Durban) (031) 266 1492	Iselula Crushing (Cape Town) (021) 945-3317
Savemor Earthmoving (031) 702-9441	Sylco (Cape Town) (021) 845-4494
Superdigger Plant Hire (Cliff Dale) (031) 736 6010	T&F Construction (016) 421-4656
Scotty's Plant Hire (033) 386-1653	Transand (Hartenbos) (044) 695-0105

## 8.2 WHEELED EXCAVATORS on next page .....

## 8.2 WHEELED EXCAVATORS

Mass (Ton)	Typical Makes & Models	Power (Kw)	Hourly Rate (Min. 9 hrs)
10 to 12	Liebherr A308, A301B	45 - 60	R 310,00
13 to 15	Hyundai R140W-9S,	60 - 75	R 349,96
16 to 18	Doosan 180W-V	70 - 115	R 483,82
19 to 22	CAT M318, Liebherr A904C	100 -120	R 554,28
23-25	Hyundai R210W-9S		R 594,00

### WHERE TO HIRE

BOTSWANA		KWAZULU-NATAL	
Excavator Hire (Gaborone)	(00267) 392-8392	Afro Plant (Durban)	(031) 705-4490
Rhino Plant Hire (Gaborone)	(00267) 392-2512	ALS Group (Newcastle)	(034) 341-1636
BORDER		Aqua Transport & Plant Hire (Pinetown)	(031) 716-2300
Bitline SA 1060 (Mthatha)	(047) 532 4691	Barloworld Cat Rental Store (New Germany)	(031) 569-8500
Mvezo Plant Hire ( East London)	(043) 745-0467	BB Transport (Glencoe)	(034) 393-1861
Norland Plant Holdings (East London)	(043) 736-6548	Bobcat Equipment Rentals Rental	(035) 751-1511
Plus Plant Hire (East London)	(043) 736-3541	City Park Trading (Mtubathuba)	(035) 550-1162
Qush Plant Hire (Vincent )	(043) 050 4444	Conan Construction (Pietermaritzburg)	(033) 346-2108
Riegers Hire (East London)	(043) 732-1464	Devray Plant & Earthworks (Richards Bay)	(035) 751-2141
Rumdel (Cape) (East London)	(043) 748-6417	Desmond's Trans. & Plant Hire (Port Shepstone)	(039) 685-4100
Sokhulu Truck & Plant Hire (Matatiele)	(039) 737 4384	Dudula Civils (Pietermaritzburg)	(033) 346 4121
Seneca Civils (Pty) Ltd (Mathatha)	(082) 442 1545	Ekene Investments (Queensburgh)	(031) 767 1033
SL Contractors (East London)	(043) 745-2002	EXR Construction (Mount Edgecombe)	(031) 539-9100
Umso Construction (East London)	(043) 748-4747	GR Transport & Plant Hire (Darnall)	(035) 486-1903
Xesibe Construction ( Lusikisiki)	(039) 253-7264	Hennox 170 (Empangeni Rail)	(035) 787 3901
FREE STATE		Induna Logistics & Terminals ( Richards Bay)	(035) 797 4100
Sigg's Engineering & Projects (Sasolburg)	(016) 971-1204	Hennox 170 (Empangeni Rail)	(035) 787 3901
T&F Construction	(016) 421-4656	Induna Logistics & Terminals ( Richards Bay)	(035) 797 4100
GAUTENG		JCR Transport (Pinetown)	(031) 700-6833
Active Construction & Equipment (Benoni)	(011) 425-4890/1	Leomat Plant Hire (Empangeni)	(035) 797-4611
ALS Group (Centurion)	(012) 640-0040	LT Earthmovers (Wartburg)	(033) 503-1355
Barloworld Cat Rental Store (Isando)	(011) 929-0419	Mabona Civils & Plant Hire (Kokstad)	(039) 727 146
Bobcat Equipment Rentals Rentals (Alrode)	(011) 389-4460	Major Machines (Merrivale)	(033) 330 5701
Burma Plant Hire (Springs)	(071) 689-0711	Marlisha Transport (Westmead)	(031) 700 8616
C.A.T.S Plant Hire (Roodepoort)	(011) 474-4261	McKenzie Plant Hire (Richmond)	(033) 212-2181
Catkom Plant (Boksburg North)	(011) 892 0775	Midmar Plant Hire (Westmead)	(031) 700-9061
Diesel Power Group (Bredell)	(086) 196-1177	Morgado Plant Hire (Durban)	(031) 569-4750
Eco Plant Hire (Kew)	(082) 555 0095	Pat Smith Plant Hire (Dundee)	(034) 218-1295
EPH Plant Hire (Centurion)	(012) 660-3312	Queensburgh Equipment Rental (Queensburgh)	(031) 464-7844
Hire Rite Equipment (Boksburg)	(011) 894-8311	RADDS Transport(Empangeni)	(035) 787 3901
L & J Gemmel Plant Services (Benoni)	(011) 965-1463	Sage Trans (Durban)	(031) 266 1492
L&R Civil (Fourways)	(086) 133 3667	Savemor Earthmoving	(031) 702-9441
MD Plant & Equipment Sales (Bryanston)	(011) 706-7275	Scotty's Plant Hire	(033) 386-1653
Moorosi Plant Hire (Jet Park)	(084) 803 2826	Scotty's Plant Hire	(031) 700-8000
Paul Heslop Plant Services	(086) 111-5422	Sobuza Investments (Pinetown)	(031) 100 1023
Protech Projects (Johannesburg)	(011) 444-8011/2/3	Superdigger Plant Hire (Cliff Dale)	(031) 736 6010
Renico Plant Hire (Johannesburg)	(011) 794-1177	Tswella Trading (Kokstad)	(039) 727 5907
Rhino Excavator Hammers (Honeydew)	(086) 111-5422	Ubunye Plant Hire (Queensburgh)	(031) 464-6551
Rickharding Plant Hire (Kempton Park)	(011) 979 4052	Universal Trading (Jacobs)	(031) 461 5008
Riviera Hire(Witkoppies)	(087) 941-1113	Upfold Plant Hire (Shelly Beach)	(087) 808 6914
Sandton Plant Hire (Johannesburg)	(011) 805-2084		
		LIMPOPO	
T&F Construction (Vereeniging)	(016) 421-4656	Assert Plant Hire (Polokwane)	(014) 763-6720
Theaco Road & Earthworks	(016) 51-3071/2	Kingdom Plant (Tzaneen)	(015) 307-3950
West Reef Plant Hire (Heidelberg)	(011) 348-1499	Ovoscape Plant Hire (Polokwane)	(082) 716 3765
		Quality Plant Hire (Tzaneen)	(015) 304-3000

## 8.2 WHEELED EXCAVATORS continued

### WHERE TO HIRE

MPUMALANGA		PORT ELIZABETH	
ALS Group (Witbank)	(013) 689-1128	Algoa Plant Hire (Port Elizabeth)	(041) 453-2164
Central Africa Machine Sales (Witbank)	(013) 691-2102	Burma Plant Hire (Port Elizabeth)	(041) 463-4033
Ikotwe Plant Hire (White River)	(013) 750-1200	DK Pringle Earthworks (Bedford)	(046) 685-0858
Isambane Mining (Middleburg)	(071) 681-9939	Lexintons Civil & Plant (Port Elizabeth)	(041) 372- 1850
Opsicol Mining Services (Middelburg)	(013) 612-0503	Newport Plant Hire (Port Elizabeth)	(041) 463-2819
T&F Construction	(016) 421-4656	Rand Civils (Port Elizabeth)	(041) 581-7791
NAMIBIA		Sakhizwe Plant Hire (Port Elizabeth)	(082) 902 7000
Windhoek Hire Sales & Services (Windhoek)	+264 61 233693	Scribante Construction (Port Elizabeth)	(041) 484-7211/2
Windhoek Renovations (Windhoek)	(00264) 6123-6159	SJW Plant (Port Elizabeth)	(041) 372 1845
NORTHERN CAPE		Stu Davidson & Sons (Port Elizabeth)	(041) 581-7711
ALS Rentals (Upington)	(054) 334-0190	Techni Civils (Newton Park)	(041) 364-3240
Burma Plant Hire (Posmasburg)	(053) 313-3646	WESTERN CAPE	
Igloo Plant Hire (Kathu)	(053) 723 1514	Barloworld Equipment The Cat Rental Store (Bellville)	(021) 959-8200
Ovoscape Plant Hire (Kuruman)	(082) 207 3797	Bobcat Equipment Rentals Rental (Cape Town)	(021) 945-1423
T&F Construction	(016) 421-4656	Burma Plant Hire (Kuilsvier)	(021) 905-8122
NORTH-WEST		Mainline Civil Engineering Contractors (Woodstock)	(021) 461 7499
ALS Group (Potchefstroom)	(018) 290-8070	T&F Construction	(016) 421-4656
T&F Construction	(083) 306 4822	Transand (Hartenbos)	(044) 695-0105

## 9. FORESTRY PLANT & EQUIPMENT

DESCRIPTION	MODEL	MAKE	MASS	POWER (KW)	RATE (P/hour)
Feller Buncher	Disc	John Deere 643	13 Ton	127	R 415,00
Forwarder	Self load F111 Crane	Volvo A25D	25 Ton	224	R 498,00
Forwarder	Self load F111 Crane	Volvo A30D	30 Ton	252	R 570,00
Forwarder	Tip Deck	Bell T17D 20	20 Ton	205	R 416,00
Log Loaders	Grapple 4,2m2	Sisu RTD 920	32 Ton	167	R 684,00
Logger	Grapple 0,35m2	Bell 225 5,5	5.5 Ton	45	R 124,00
Skidder	Cable	Cat 525B 15 400	15 400kg	134	R 290,00
Skidder	Cable	John Deere 540G	10 355kg	96	R 279,00
Skidder	Grapple	Cat 525B	16 000kg	134	R 321,00
Harvester / processor	Lako	4 W/D 650 Cat 320C	22 000kg	103	R 575,00
Harevester / processor	Waratah 616 3 W/D	Simitomo SH200	22 000kg	103	R 616,00
De Barker	Bell 2 W/D	Volvo EC210	21 500kg	107	R 350,00
Intergrated Tool Carrier	IT14G	Cat IT14G	8 450kg	73	R 232,00
Skidsteer Loaders	226B	Cat 226B	3 000kg	42,5	R 100,00
Wheel Loaders	950G Sii	Cat 950G Sii	17 000kg	183	R 350,00

### WHERE TO HIRE

#### GAUTENG / NORTH-WEST

T&F Construction ( Vereeniging)      (016) 421-4656

#### KWAZULU-NATAL

Hire Anything (Richards Bay)      (035) 789-5997

#### MPUMALANGA

Forestry Plant & Equipment Sales (Nelspruit)      (013) 755-1003

Opsicol Mining Services (Middelburg)      (013) 612-0503

## 10. FORKLIFTS

*RATES EXCLUDE DELIVERY TO SITE*

MASS (Ton)	Hourly Rate (Min. 9 hrs)	MASS (Ton)	Hourly (Min. 9 hrs)
0,5	R 189,00	6	R 547,00
1	R 211,00	7	R 650,00
2	R 273,00	10	R 690,00
3	R 297,00	11	R 797,00
4	R 363,00	12	R 836,00
5	R 407,00	14	R 927,00

### WHERE TO HIRE

BOTSWANA	KWAZULU-NATAL
Shumba Plant Hire (Maun) (00267) 686-1100	Babcock Plant Services (Durban) (031) 705-2733
BORDER	BB Transport (Glencoe) (034) 393-1861
Civil and General Contractors (Queenstown) (045) 857-0176	Induna Logistics & Terminals ( Richards Bay) (035) 797 4100
Universal Equipment (Port Elizabeth) (041) 453-1810	Protrans Plant & Civils (Port Shepstone) (039) 6682 5695
Free State	RADDs Transport (Empangeni) (035) 787 3901
Babcock Plant Services (Sasolburg) (016) 976-1075	Scotty's Plant Hire (Durban) (031) 700-8000
GAUTENG & NORTH-WEST	Scotty's Plant Hire (Pietermaritzburg) (033) 386-1614
A1 Rigging & Engineering Services (Johannesburg) (011) 609-2040	Universal Trading (Jacobs) (031) 461 5008
Babcock Plant Services (Johannesburg) (011) 418-4407	LIMPOPO
Babcock Plant Services (Rustenburg) (082) 810-1229	Babcock Plant Services (Lepelale) (079) 827-9227
Cubenco 194 (Vanderbijlpark) (016) 931-9758	MPUMALANGA
Hennox 170 (Johannesburg) (011) 024 1057	Babcock Plant Services (Secunda) (017) 631-2847
Linde Material Handling (Sandton) (011) 723-7000	Babcock Plant Services (Middelburg) (013) 246-2870
MD Plant & Equipment Sales (Bryanston) (011) 706-7275	NAMIBIA
	Walvis Bay Plant & Tool Hire Services (00264) 642-03787
	Wesbank Transport (Walvis Bay) (00264) 6421 6000
	Windhoek Hire Sales & Services (Windhoek) +264 61 233693.
	WESTERN CAPE
	Burma Plant Hire (Kuilsrivier) (021) 905-8122
	Sylco Plant Hire (Cape Town) (021) 845-4494

## 11. FUNCTIONS & CATERING EQUIPMENT

*RATES EXCLUDE DELIVERY TO SITE AND ARE DAILY RATES*

Description	Daily Rate	Description	Daily Rate
Bains-Marie	R 500.00	Banquetibg Cabinets	R 800,00
Chaffing Dishes	R 50,00	Glasses (Per Item)	R 1.50 - R 5.00
Braai, Barrel	R 59.00 / P 236.00	Cutlery / crockery (per item)	R 1,50
Braai, spit	R 250,00	Marquees; Variuos colours & sizes	On Application
Carvery Units	R 450,00	Overlays	R 13,00
Chairs, Padded Conference	R 37,00	Tablecloths	R 30,00
Chairs, Plastic White	R 9.00	Tablecloths, rectangular	R 35,00
Conference Tables	R 30,00	Tablecloths, round	R 45.00 - R 80.00
Round Tables 1.2m 1.5m 1.8m	R35.00 - R60.00	Tables, Rectangular Folding	R 33,00
Coctail Tbles	R 110,00	Tables, Round (0.9m - 1.8m)	R 35.00 - R75.00
Caribbean UMBERella 3mx3m	R 250,00	Urns	R 80,00
Gas Ovens	R 750,00		

### WHERE TO HIRE

GAUTENG & NOTH-WEST		KWAZULU-NATAL	
MPR Hiring (Johannesburg)	(011) 835-1054	Tony's Tool Hire (Dundee)	(034) 212-5232
Performance Plant Hire (Randburg)	(011) 792-1224	Tony's Tool Hire (Newcastle)	(034) 312 8396
Performance Plant Hire (Boksburg)	(011) 823-5480	Tony's Tool Hire (Pongola)	(034) 413-3023
		MPUMALANGA	
Performance Plant Hire (Midrand)	(011) 312 5069	Performance Plant Hire	(013) 692-7441
Performance Plant Hire (Boksburg)	(011) 823-5480	Tony's Tool Hire (Piet Retief)	(017) 826-4683
KWAZULU-NATAL			
Aggreko South Africa (Durban)	(031) 534-6702		
Hire Anything (Richards Bay)	(035) 789-5997		

## 12. GENERATORS

*RATES EXCLUDE DELIVERY TO SITE AND ARE DAILY RATES*

Description	Daily Rate (Min. 9 hrs)	Description	Daily Rate (Min. 9 hrs)
Diesel - 15 Kva	R 523,00	Diesel - 600 kVA	R 3 485,00
Diesel - 30 kVA	R 658,00	Petrol - 4 kVA	R 158,00
Diesel - 60 KVA	R 1310,00	Petrol - 5 kVA	R 190,00
Diesel - 100 kVA	R 2 265,00	Petrol - 7 kVA	R262,00
Diesel - 500 KVA	R 2 615,00	Petrol - 15 kVA	R 436,00

### WHERE TO HIRE

BOTSWANA	KWAZULU -NATAL
Excavator Hire (Gaborone) (00267) 392-8392	Babcock Plant Services (Durban) (031) 705-2733
Jomaf Hiring Services (Gaborone) (00267) 319-1585	Barloworld Cat Rental Store (New Germany) (031) 569-8500
Ngamiland Generator & Diesel Services (Maun) (00267) 686-0253	B&B Plant & Equipment (Empangeni) (035) 787-0679
Shumba Plant Hire (Maun) (00267) 686-1100	BB Transport (Glencoe) (034) 393-1861
BORDER	Barloworld Cat Rental Store (New Germany) (031) 569-8500
Action Plant & Equipment (East London) (043) 722-8294	B&B Plant & Equipment (Empangeni) (035) 787-0679
Talisman Hire 0861 87 87 87	BB Transport (Glencoe) (034) 393-1861
Universal Equipment (Port Elizabeth) (041) 453-1810	EXR Construction (Mount Edgecombe) (031) 539-9100
FREE STATE	BB Transport (Glencoe) (034) 393-1861
Babcock Plant Services (Sasolburg) (016) 976-1075	EXR Construction (Mount Edgecombe) (031) 539-9100
Barloword Cat Rental Store (Sasolburg) (016) 976-1184	Generator & Plant Hire (Durban) (031) 466-4515
Talisman Hire 0861 87 87 87	Generator & Plant Hire (Richards Bay) (035) 751-1897
GAUTENG	Hire Anything (Richards Bay) (035) 789-5997
A1 Rigging & Engineering Services (JHB) (011) 609-2040	Machinery Mart (Durban) (031) 301-7069
Able Delby Hire (JHB) (011) 334-6573	Need-A-Tool (Durban) (031) 705-1470
Afritool-Rent (Johannesburg) (011) 974-2819	Pro-hydraulics/Viper-Generator Hiring (New Germany) (031) 705-4104
Aggreko Energy Rental SA (Olifontfontein) (011) 357-8900	Scotty's Plant Hire (Durban) (031) 700-8000
Atlas Plant Hire (Midrand) (011) 310-9313	Scotty's Plant Hire (Pietermaritzburg) (033) 386-1614
Atlas Plant Hire (Rustenburg) (014) 569-5951	Talisman Hire 0861 87 87 87
Babcock Plant Services (Johannesburg) (011) 418-4407	Tony's Tool Hire (Dundee) (034) 212-5232
Barloworld Cat Rental Store (Isando) (011) 929-0600	Tony's Tool Hire (Newcastle) (034) 312 8396
Brackenwest Hardware & Hire (011) 867-6224	Tony's Tool Hire (Pongola) (034) 413-3023
File Hire Plant (Boksburg) (011) 397-6463	LIMPOPO
Generator & Plant Hire (Midrand) (011) 312-0446	Atlas Plant Hire (Lepelale) (014) 763-6720
Hard Hat Equipment Hire (Halfway House) (011) 609-6443	Babcock Plant Services (Lepelale) (079) 827-9227
Performance Plant Hire (Randburg) (011) 792-1224	Kingdom Plant (Tzaneen) (015) 307-3950
Performance Plant Hire (Boksburg) (011) 823-5480	Ovoscape Plant Hire (Polokwane) (082) 716 3765
Performance Plant Hire (Midrand) (011) 312 5069	Talisman Hire 0861 87 87 87
Propact Plant Hire (Johannesburg) (011) 680-2137	MPUMALANGA
Propact Plant Hire (Centurion) (012) 653-0245	Afritool-Rent (Secunda) (017) 639-1433
Rand-Air (Wadeville) (011) 345-0700	Babcock Plant Services (Secunda) (017) 631-2847
Rebel Plant Hire (Johannesburg) (011) 882-1048	Babcock Plant Services (Middelburg) (013) 246-2870
Renttech South Africa Plant Rental SA (Wadeville) (011) 824-0410	Ikotwe Plant Hire (White River) (013) 750-1200
Talisman Hire 0861 87 87 87	Performance Plant Hire (013) 692-7441
Turner Morris (Johannesburg) (011) 618-2620	Steinmuller Plant & Equipment Hire (017) 624-5000
Atlas Plant Hire (Pinetown) (031) 700 1724	Talisman Hire 0861 87 87 87
Aggreko South Africa (Durban) (031) 534-6702	Tony's Tool Hire (Piet Retief) (017) 826-4683

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## 12. GENERATORS continued

### WHERE TO HIRE

NAMIBIA		PORT ELIZABETH continued	
HireMAN	(00264) 612 228 185	Scribante Construction	(041) 484-7211
Walvis Bay Plant & Tool Hire Services	(00264) 642-03787	Talisman Hire	0861 87 87 87
Windhoek Hire Sales & Services (Windhoek)	+264 61 233693.	<b>Swaziland</b>	
NORTHERN CAPE		TALISMAN Hire(Matsapha)	(00268) 2518 4210
Ovoscape Plant Hire (Kuruman)	(082) 207 3797	<b>WESTERN CAPE</b>	
NORTH-WEST		Barloworld Cat Rental Store (Bellville)	(021) 959-8200
Babcock Plant Services (Rustenburg)	(082) 810-1229	Barloworld Power (Belville)	(021) 959-8392
Elmar Projects (Swaruggens)	(014) 544-0677	Generator & Plant Hire (Cape Town)	(021) 555-3238
Talisman Hire	0861 87 87 87	Ian Dickie & Co (Cape Town)	(021) 534-3431
PORT ELIZABETH		Talisman Hire	0861 87 87 87
Atlas Plant Hire (Port Elizabeth)	(041) 461-2367		
Barloworld Equipment The Cat Rental Store (PE)	(041) 402-4700		

### 13. GRADERS

Engine (KW)	Typical Make / MODEL	Hourly RATE
10- 100	Dezzi NG80T	R 317,60
101-130	CAT 120K, Mitsubishi MG330, MG431	R 630,90
131-150	Bell 670G, 672G, CAT 140K, Mitsubishi 461	R 813,00
171-190	Bell 770G, 772G	R 888,00
191-210	Bell 872G	R 1 050,00
WHERE TO HIRE		
BOTSWANA	GAUTENG Continued	
Babcock TCM Plant (Gaborone)	(00267) 393-6541	PG Plant Hire (Pretoria) (012) 803-8714
Excavator Hire (Gaborone)	(00267) 392-8392	Plant Technical Services (Johannesburg) (011) 794-1628
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Platinum Mile Plant (Witkoppies) (083) 388 5959
Shumba Plant Hire (Maun)	(00267) 686-1100	Rail Plant Hire (Johannesburg) (011) 968-9805
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	Renico Plant Hire (Johnnesburg) (011) 794-1177
BORDER	T&F Construction (Vereeniging) (016) 421-4656	
Civil & General Contractors (Queenstown)	(045) 857-0176	Theaco Roads & Earthworks (Vanderbijlpark) (016) 451-3071
Inyathi Plant Hire (Beacon Bay)	(043) 732-1124	West Rand Plant Hire (Springs) 011 845 5160
Mvezo Plant Hire ( East London)	(043) 745-0467	KWAZULU-NATAL
Norland Plant Holdings (East London)	(043) 736-6548	Afroplant (Durban) (031) 705-4490
Riegers Hire (East London)	(043) 732-1464	Aqua Transport & Plant Hire (Pinetown) (031) 716-2300
Roberts Bros. Construction (East London)	(043) 748-2588	Barloworld Equipment Cat Rental (New Germany) (031) 569-8500
Rumdel (Cape) (East London)	(043) 748-6417	BB Transport (Glencoe) (034) 393-1861
Scribante Construction (East London)	(043) 484-7211	City Park Trading (Mtubathuba) (035) 550-1162
Sokhulu Truck & Plant Hire (Matatiele)	(039) 737 4384	Conan Construction (Pietermaritzburg) (033) 346-2108
SL Contractors (East London)	(043) 745-2002	Devray Plant & Earthworks (Richards Bay) (035) 751-2141
T&F Construction	(016) 421-4656	Dudula Civils (Pietermaritzburg) (033) 346 4121
Ukamva Civils (Mthatha)	(047) 531 1007	Ekene Investments (Queensburgh) (031) 767 1033
Universal Equipment (Port Elizabeth)	(041) 453-1810	EXR Construction (Mount Edgecombe) (031) 539-9100
Umso Construction (East London)	(043) 748-4747	GR Transport & Plant Hire (Darnall) (035) 486-1903
Xesibe Construction ( Lusikisiki)	(039) 253-7264	Induna Logistics & Terminals ( Richards Bay) (035) 797 4100
FREE STATE	JCR Transport (Pinetown) (031) 700-6833	Leomat Plant Hire (Richards Bay) (035) 797-4611
Dreykon (Harrismith)	(034) 212-1246	LT Earthmovers (Wartburg) (033) 503-1355
Express Plant Hire (Bloemfontein)	(051) 436-4891	Mabona Civils & Plant Hire (Kokstad) (039) 727 146
Sigg's Engineering & Projects (Sasolburg)	(016) 971-1204	Major Machines (Merrivale) (033) 330 5701
T&F Construction (Vereeniging)	(016) 421-4656	Marlisha Transport (Westmead) (031) 700 8616
GAUTENG	Mckenzie Plant Hire (Richmond) (033) 212-2181	Midmar Plant Hire (Westmead) (031) 700-9061
Active Construction & Equipment (Benoni)	(011) 425-4890/1	Morgado Plant Hire (Durban) (031) 569-4750
Alpha Plant & Services (Johannesburg)	(011) 827-9190	Motwell Plant Hire (Illovo Beach) (082) 496 9673
ALS Group (Centurion)	(012) 640-0040	Pat Smith Plant Hire (Dundee) (034) 218-1295
A-Z Engineering & Plant Hire (Johannesburg)	(011) 462-7907	Protrans Plant & Civils (Port Shepstone) (039) 6682 5695
Anton's Grader Hire (Honeydew)	(082) 923-5397	Queensburgh Equipment Rental (Queensburgh) (031) 464-7844
Barloworld Cat Rental Store (Isando)	(011) 929-0419	RADDS Transport(Empangeni) (035) 787 3901
Basil Read Plant (Johannesburg)	(011) 418-6300	Sage Trans (Durban) (031) 266 1492
Burma Plant Hire (Springs)	(071) 689-0711	Scotty's Plant Hire (Durban) (031) 700-8000
C.A.T.S Plant Hire (Roodepoort)	(011) 474-4261	Scotty's Plant Hire (Pietermaritzburg) (033) 386-1614
Diesel Power Group (Bredell)	(086) 196-1177	Sobuza Investments (Pinetown) (031) 100 1023
Eco Plant Hire (Kew)	(082) 555 0095	Superdigger Plant Hire (Cliff Dale) (031) 736 6010
Hire Rite Equipment (Boksburg)	(011) 894-8311	Tswella Trading (Kokstad) (039) 727 5907
Hennox 170 (Johannesburg)	(011) 024 1057	Ubunye Plant Hire (Queensburgh) (031) 464-6551
L & J Gemmel Plant Services (Benoni)	(011) 965-1463	Universal Trading (Jacobs) (031) 461 5008
L&R Civil (Fourways)	(086) 133 3667	VIP Construction cc (Pietermaritzburg) (076) 399 4596
Liviero & Son (Kyalami)	(011) 466-2644	
MD Plant & Equipment Sales (Bryanston)	(011) 706-7275	

### 13. GRADERS continued

#### WHERE TO HIRE

LIMPOPO		PORT ELIZABETH	
Assert Plant Hire (Polokwane)	(014) 763-6720	Algoa Plant Hire (Port Elizabeth)	(041) 453-2164
Kingdom Plant (Tzaneen)	(015) 307-3950	Burma Plant Hire (Port Elizabeth)	(041) 463-4033
Maruma Plant Hire (Pietersburg)	(015) 293-2902	DK Pringle Earthworks (Bedford)	(046) 685-0858
Ovoscape Plant Hire (Polokwane)	(082) 716 3765	Lexintons Civil & Plant (Port Elizabeth)	(041) 372- 1850
Quality Plant Hire (Tzaneen)	(015) 304-3000	Newport Plant Hire (Port Elizabeth)	(041) 463-2819
MPUMALANGA		Rand Civils (Port Elizabeth)	(041) 581-7791
ALS Group (Witbank)	(013) 689-1128	Sakhizwe Plant Hire (Port Elizabeth)	(082) 902 7000
Forestry Plant & Equipment Sales (Nelspruit)	(013) 755-1003	Scribante Construction (Port Elizabeth)	(041) 484-7211
Khulani's Trading Enterprise cc (Middelburg)	(013) 244 5017	SJW Plant (Port Elizabeth)	(041) 372 1845
Opsicol Mining Services (Middelburg)	(013) 612-0503	Stu Davidson & Sons (Port Elizabeth)	(041) 581-7711
T&F Construction	(016) 421-4656	Techni Civils (Newton Park)	(041) 364-3240
NAMIBIA		Venter Plant Hire	(082) 655 7590
Roads Contractor Company (Windhoek)	(00264) 612 979 000	WESTERN CAPE	
NORTHERN CAPE		Barloworld Cat Rental Store (Bellville)	(021) 959-8200
ALS Group (Upington)	(054) 334-0140	Burma Plant Hire (Kuilsvier)	(021) 905-8122
Burma Plant Hire (Posmasburg)	(053) 313-3646	R. Ross & Son (Cape Town)	(021) 511-1204
Ovoscape Plant Hire (Kuruman)	(082) 207 3797	T&F Construction	(016) 421-4656
T&F Construction	(016) 421-4656	Transand (Hartenbos)	(044) 695-0105
NORTH-WEST			
ALS Group (Potchefstroom)	(018) 290-8070		
Elmar Projects (Swartruggens)	(014) 544-0677		
T&F Construction	(083) 306 4822		
West Rand Plant Hire (Orkney)	(018) 473-5551		

## 14. HYDRAULIC HAMMERS

DESCRIPTION	Hourly Rate (Min. 9 hrs)
On TLB's (excluding TLB)	R 133,00
Moil Point Usage Charge	R 12,50
On Wheeled Excavators (excluding excavator)	R 172,00
Moil Point Usage Charge	R 15,00
On Tracked Excavators (excluding excavator)	R 209,00
Moil Point Usage Charge	R 16,00
Standing / availability Time Charge (per month)	R 4 120,00

### WHERE TO HIRE

BOTSWANA	GAUTENG continued
Babcock TCM Plant (Gaborone) (00267) 393-6541	Riviera Hire(Witkoppies) (087) 941-1113
Excavator Hire (Gaborone) (00267) 32-8392	Seneca Civils (Pty) Ltd (Mondeor) (011) 941-3510
Shumba Plant Hire (Maun) (00267) 686-1100	West Reef Plant Hire (Heidelberg) (011) 348-1499
BORDER	KWAZULU-NATAL
Anchor Plant Hire (East London) (043) 745-0330	Barloworld The Cat Rental Store (New Germany) (031) 569-8500
Civil & General Contractors (Queenstown) (045) 857-0176	BB Transport (Glencoe) (034) 393-1861
Inyathi Plant Hire (Beacon Bay) (043) 732-1124	Izimu Mining Services (Pinetown) (031) 701-1069
Louwrens van der Walt Beleggings (Queenstown) (083) 290 0959	Leomat Plant Hire (Richards Bay) (035) 797-4611
Plus Plant Hire (East London) (043) 736-3541	Machinery Mart (Durban) (031) 301-7069
Riegers Hire (East London) (043) 732-1464	Mckenzie Plant Hire (Richmond) (033) 212-2181
Roberts Bros. Construction (East London) (043) 748-2588	Scotty's Plant Hire (Durban) (031) 700-8000
Seneca Civils (Pty) Ltd (Mathatha) (082) 442 1545	Scotty's Plant Hire (Pietermaritzburg) (033) 386-1614
SL Contractors (East London) (043) 745-2002	
FREE STATE	LIMPOPO
Barloword Equipment The Cat Rental Store (016) 976-1184	Kingdom Plant (Tzaneen) (015) 307-3950
GAUTENG	NAMIBIA
A1 Rigging & Engineering Services (JHB) (011) 609-2040	Walvis Bay Plant & Tool Hire Services (00264) 642-03787
Barloworld Cat Rental Store (Isando) (011) 929-0600	Windhoek Hire Sales & Services (Windhoek) +264 61 233693.
Bears Plant Hire (Johannesburg) (0861) 232-777	
NORTHERN CAPE	
Bobcat Equipment Rentals (Alrode) (011) 389-4460	Igloo Plant Hire (Kathu) (053) 723 1514
Bobcat Equipment Rentals (Rustenburg) (014) 538-1242	Ovoscape Plant Hire (Kuruman) (082) 207 3797
PORT ELIZABETH	
Cubenco 194 (Vanderbijlpark) (016) 931-9758	Lexintons Civil & Plant (Port Elizabeth) (041) 372- 1850
EPH Plant Hire (Centurion) (012) 660-3312	Rand Civils (Port Elizabeth) (041) 581-7791
Hire-Rite Equipment (011) 894-8311	Stu Davidson & Sons (Port Elizabeth) (041) 581-7711
Maximum Plant Hire (Fourways) (011) 464-0930/1	
Western Cape	
Moorosi Plant Hire (Jet Park) (084) 803 2826	Barloworld Cat Rental Store (Bellville) (021) 959-8200
Ngaphambi Hire (Alberton) (082) 071 3951	Bobcat Equipment Rentals (Cape Town) (021) 945-1423
Paul Heslop Plant Services (Johannesburg) (086) 111-5422	Burma Plant Hire (Kuilsrivier) (021) 905-8122
PG Plant Hire (Pretoria) (012) 803-8714	Iselula Crushing (Cape Town) (021) 945-3317
Rhino Excavator Hammers (Honeydew) (086) 111-5422	R. Ross & Son (Cape Town) (021) 511-1204
Renttech South Africa (Wadeville) (011) 824-0410	Sylco (Cape Town) (021) 845-4494

## 15. LOADERS

Mass (Ton)	Typical Makes & Models	Hourly Rate
5 to 8	Bell L1004D, CAT 906H, 908H, JCB 406B, Dezzi 1200, Hyundai HL730-9S	R 286,57
9 to 10	Dezzi 1700, CAT924K, JCB416HT, Hyundai HL757-9S, Kawasaki 60ZV	R 403,67
11 to 13	Bell L1204E, L1506E, Case 162F, CAT 930K, CAT 938K, Doosan DL200A, JCB 432ZX, Kawasaki 70ZIV-2	R 479,97
14 to 18	Bell 1706E, 1806E, Case 821F, CAT 950H, Dezzi 2300, 2500, Doosan DL250A, DL300A Hyundai HL757-9S, HL760-9S, JCB 426ZX, 436ZX, Kawasaki 80Z5	R 548,63
19 to 22	Bell 2106E, CAT 962H, Dezzi 3500, Doosan 420A, Hyundai HL770-9S JCB 456ZX, Kawasaki 85Z5	R 676,90
23 to 25	Bell 2606E, CAT 966H, 972H, Case 1021F, Kawasaki 90Z5	R 897,50
26 to 30	Bell 2706E, CAT 980H, Kawasaki 95Z5	R 1 076,00
31 to 36	CAT 986H, Doosan 550A	R 1 389,71
45	Kawasaki 115ZV	R 1 722,04

### WHERE TO HIRE

BOTSWANA		GAUTENG	
Babcock TCM Plant (Gaborone)	(00267) 393-6541	Platinum Mile Plant (Witkoppies)	(083) 388 5959
Excavator Hire (Gaborone)	(00267) 392-8392	Pro-File Plant Hire (Johannesburg)	(016) 150-0533
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Rail Plant Hire (Johannesburg)	(011) 968-9805
Rhino Plant Hire (Gaborone)	(00267) 392-2512	Renico Plant Hire (Johannesburg)	(011) 794-1177
Shumba Plant Hire (Maun)	(00267) 686-1100	Rhino Excavator Hammers (Honeydew)	(086) 111-5422
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	Richard Irons Plant Rentals (Johanneburg)	(011) 315-1526
BORDER		KWAZULU-NATAL	
Civil & General Contractors (Queenstown)	(045) 857-0176	Renttech South Africa Plant Rental SA (Wadeville)	(011) 824-0410
Inyathi Plant Hire (Beacon Bay)	(043) 732-1124	Riviera Hire(Witkoppies)	(087) 941-1113
Norland Plant Holdings (East London)	(043) 736-6548	Sandton Plant Hire (Johannesburg)	(011) 805-3084
Plus Plant Hire (East London)	(043) 736-3541	Spare Power Trading (Benoni)	(011) 845 4184
Riegers Hire (East London)	(043) 732-1464	T&F Construction ( Vereeniging)	(016) 421-4656
Roberts Bros. Construction (East London)	(043) 748-2588	Theaco Roads & Earthworks (Vanderbijlpark)	(016) 451-3071
Rumdel (Cape) (East London)	(043) 748-6417	West Rand Plant Hire (Springs)	(011) 845-5160
SL Contractors (East London)	(043) 745-2002		
T&F Construction	(016) 421-4656		
WC Plant Hire (Gonubie)	(043) 732-1833		
FREE STATE		GAUTENG	
Sigg's Engineering & Projects (Sasolburg)	(016) 971-1204	Barloworld Cat Rental Store (New Germany)	(031) 569-8500
T&F Construction	(016) 421-4656	BB Transport (Glencoe)	(034) 393-1861
		Conan Construction (Pietermaritzburg)	(033) 346-2108
		Dreykon (Dundee)	(034) 212-1246
		EXR Construction (Mount Edgecombe)	(031) 539-9100
		GR Transport & Plant Hire (Darnall)	(035) 486-1903
		Induna Logistics & Terminals ( Richards Bay)	(035) 797 4100
		Leomat Plant Hire (Richards Bay)	(035) 797-4611
		Major Machines (Merrivale)	(033) 330 5701
		McKenzie Plant Hire (Richmond)	(033) 212-2181
		Midmar Plant Hire (Westmead)	(031) 700-9061
		Morgado Plant Hire (Durban)	(031) 569-4750
		Motwell Plant Hire (Illovo Beach)	(082) 496 9673
		Pat Smith Plant Hire (Dundee)	(034) 218-1295
		Sage Trans (Durban)	(031) 266 1492
		RADDS Transport(Empangeni)	(035) 787 3901
		Savemor Earthmoving (Durban)	(031) 702-9441
		Scotty's Plant Hire (Durban)	(031) 700-8000
		Scotty's Plant Hire (Pietermaritzburg)	(033) 386-1614
		Ubunye Plant Hire (Queensburgh)	(031) 464-6551
		Universal Trading (Jacobs)	(031) 461 5008

## 15. LOADERS continued

### WHERE TO HIRE

LIMPOPO		PORT ELIZABETH	
Kingdom Plant (Tzaneen)	(015) 307-3950	Barloworld Equipment The Cat Rental Store (PE)	(041) 486- 1303
Ovoscape Plant Hire (Polokwane)	(082) 716 3765	Burma Plant Hire (Port Elizabeth)	(041) 463-4033
MPUMALANGA		DK Pringle Earthworks (Bedford)	(046) 685-0858
ALS Group (Witbank)	(013) 689-1128	Newport Plant Hire (Port Elizabeth)	(041) 463-2819
Central Africa Machine Sales (Witbank)	(013) 691-2102	Rand Civils (Port Elizabeth)	(041) 581-7791
Forestry Plant & Equipment Sales (Nelspruit)	(013) 755-1003	Sakhizwe Plant Hire (Port Elizabeth)	(082) 902 7000
Isambane Mining (Middleburg)	(071) 681-9939	Scribante Construction (Port Elizabeth)	(041) 484-7211
Opsicol Mining Services (Middelburg)	(013) 612-0503	SJW Plant (Port Elizabeth)	(041) 372 1845
T&F Construction	(016) 421-4656	Stu Davidson & Sons (Port Elizabeth)	(041) 581-7711
NAMIBIA		Techni Civils (Newton Park)	(041) 364-3240
Roads Contractor Company (Windhoek)	(00264) 612 979 000	Venter Plant Hire	(082) 655 7590
Walvis Bay Plant & Tool Hire Services	(00264) 642-03787	<b>WESTERN CAPE</b>	
Windhoek Renovations (Windhoek)	(00264) 6123-6159	Barloworld Equipment The Cat Rental Store (Bellville)	(021) 959-8200
NORTHERN CAPE		Burma Plant Hire (Kuilsvivier)	(021) 905-8122
ALS Group (Upington)	(054) 334 -0140	Iselula Crushing (Cape Town)	(021) 945-3317
Burma Plant Hire (Posmasburg)	(053) 313-3646	Rainbow Plant Hire (Worcester)	(023) 347-0739
Ovoscape Plant Hire (Kuruman)	(082) 207 3797	R. Ross & Son (Cape Town)	(021) 511-1204
T&F Construction	(016) 421-4656	Sylco (Cape Town)	(021) 845-4494
NORTH-WEST		T&F Construction	(016) 421-4656
ALS Group (Potchefstroom)	(018) 290-8070		
Elmar Projects (Swartruggens)	(014) 544-0677		
West Rand Plant Hire (Orkney)	(018) 473-5551		

## 16. MILLING MACHINES

MODELS	MILLING WIDTH (mm)	MILLING DEPTH (mm)	Hourly Rate (Min. 9 hrs)
W350	350	100	R 182,00
W500	500	160	R 295,00
W1000	1000	300	R 730,00
RACO 350	2400	450	R 2 635,00
DC2000	2000	300	R 2 420,00
DC2100	2000	300	R 3 295,00
WR2500	2500	500	R 3 295,00

### 16.1 COLD MILLING, RECYCLING, SOIL STABILISING & FOAMING

#### WHERE TO HIRE

BOTSWANA	FREE STATE
Shumba Plant Hire (Maun) (00267) 686-1100	Express Plant Hire (Bloemfontein) (051) 436-4891
BORDER	KWAZULU-NATAL
Roberts Brothers Construction (043) 748-2588	Sigg's Engineering & Projects (Sasolburg) (016) 971-1204
GAUTENG; LIMPOPO & NORTH-WEST	PORT ELIZABETH
Road Milling & Sweeping (Florida) (011) 472 5333	EXR Construction (Mount Edgecombe) (031) 539-9100
Wirtgen SA (Johannesburg) 8 619 478 436	Universal Trading (Jacobs) (031) 461 5008
	Scribante Construction (Port Elizabeth) (041) 484-7211

### 16.2 ROAD SURFACING

#### WHERE TO HIRE

Botswana	PORT ELIZABETH
Shumba Plant Hire (Maun) (00267) 686-1100	Scribante Construction (Port Elizabeth) (041) 484-7211
FREE STATE	
Express Plant Hire (Bloemfontein) (051) 436-4891	

**17. MOBILE CRUSHERS****WHERE TO HIRE**

<b>BORDER</b>		<b>MPUMALANGA</b>	
Inyathi Plant Hire (Beacon Bay)	(043) 732-1124	Isambane Mining (Middleburg)	(071) 681-9939
Seneca Civils (Pty) Ltd (Mathatha)	(082) 442 1545	Opsicol Mining Services (Middelburg)	(013) 612-0503
Ukamva Civils (Mthatha)	(047) 531 1007	<b>PORT ELIZABETH</b>	
<b>GAUTENG</b>		Scribante Construction (Port Elizabeth)	(041) 484-7211
EPH Plant Hire (Centurion)	(012) 660-3312	<b>Western Cape</b>	
Renico Plant Hire (Johannesburg)	(011) 794-1177	Boss Group (Sea Point)	(071) 387 5781
Seneca Civils (Pty) Ltd (Mondeor)	(011) 941-3510	Burma Plant Hire (Kuilsvier)	(021) 905-8122
<b>KWAZULU-NATAL</b>		Iselula Crushing (Cape Town)	(021) 945-3317
EXR Construction (Mount Edgecombe)	(031) 539-9100		
Major Machines (Merrivale)	(033) 330 5701		

## 18. POWER TOOLS

*DELIVERY and/or COLLECTION = R 147.00*

*DEPOSIT : Minimum of 5 days hire payable on collection or delivery*

DESCRIPTION	Daily Rate (Min. 9 hrs)	DESCRIPTION	Daily Rate (Min. 9 hrs)
<b>Angle Grinders</b>		<b>Floodlights</b>	R 37.00
115mm	R 100.00	<b>Heat Guns</b>	R 119.00
230mm	R 100.00	<b>Planers</b>	R 108.00
<b>Breakers (including moils)</b>		<b>Routers</b>	R 138.00
10kg	R 228,00	<b>Sanders</b> Belt, 75 mm	R 119,00
15kg	R 245,00	Belt, 100 mm	R 138,00
30kg	R 300,00	Delta	R 91,00
<b>Brick Cutters (table mounted)</b>	R 218.00	Floor	R 270.00
<b>Drills</b>		Edger	R 218,00
10 mm	R 91,00	Orbital, palm grip	R 108,00
16 mm	R 108,00	Orbital, random	R 108,00
20 mm	R 164,00	<b>Saws</b> Circular	R 118.00
40 mm	R 200,00		
<b>Magnetic base</b>	R 462.00		
<b>Extension Leads</b>	R 37,00		

### WHERE TO HIRE

BOTSWANA	KWAZULU-NATAL continued
Jomaf Hiring Services (Gaborone) (00267) 319-1585	Tony's Tool Hire (Dundee) (034) 212-5232
BORDER	Tony's Tool Hire (Newcastle) (034) 312 8396
Action Plant & Equipment (East London) (043) 722-8294	Tony's Tool Hire (Pongola) (034) 413-3023
Talisman Hire 0861 87 87 87	LIMPOPO
FREE STATE	Babcock Plant Services (Lepelale) (079) 827-9227
Babcock Plant Services (Sasolburg) (016) 976-1075	Talisman Hire 0861 87 87 87
GAUTENG	MPUMALANGA
Atlas Plant Hire (Midrand) (011) 310-9313	Afritool-Rent (Secunda) (017) 639-1433
Babcock Plant Services (Johannesburg) (011) 418-4407	Babcock Plant Services (Secunda) (017) 631-2847
Brackenwest Hardware & Hire (Johannesburg) (011) 867-6224	Babcock Plant Services (Middelburg) (013) 246-2870
File Hire Plant (Johannesburg) (011) 397-6463	Performance Plant Hire (013) 692-7441
Hard Hat Equipment Hire (Halfway House) (011) 609-6443	Talisman Hire 0861 87 87 87
Performance Plant Hire (Randburg) (011) 792-1224	Tony's Tool Hire ( Piet Retief) (017) 826-4683
Performance Plant Hire (Boksburg) (011) 823-5480	NAMIBIA
Performance Plant Hire (Midrand) (011) 312 5069	HireMAN (00264) 612 228 185
Propact Plant Hire (Johannesburg) (011) 680-2137	NORTH-WEST
Propact Plant Hire (Centurion) (012) 653-0245	Atlas Plant Hire (Rustenburg) (014) 569-5951
Rebel Plant Hire (Johannesburg) (011) 882-1048	Babcock Plant Services (Rustenburg) (082) 810-1229
Renttech South Africa Plant Rental SA (Wadeville) (011) 824-0410	Elmar Projects (Swartruggens) (014) 544-0677
Talisman Hire 0861 87 87 87	Talisman Hire 0861 87 87 87
KWAZULU-NATAL	PORT ELIZABETH
Atlas Plant Hire (Pinetown) (031) 700 1724	Atlas Plant Hire (Port Elizabeth) (041) 421-4266
Babcock Plant Services (Durban) (031) 705-2733	Talisman Hire 0861 87 87 87
B&B Plant & Equipment (Empangeni) (035) 787-0679	Swaziland
Hire Anything (Richards Bay) (035) 789-5997	TALISMAN Hire(Matsapha) (00268) 2518 4210
Machinery Mart (Durban) (031) 301-7069	WESTERN CAPE
Need-A-Tool (Durban) (031) 705-1470	Generator & Plant Hire (Cape Town) (021) 511-4185
Scotty's Plant Hire (Durban) (031) 700-8000	Hiretech (Cape Town) (021) 945-3317
Scotty's Plant Hire (Pietermaritzburg) (033) 386-1614	Ian Dickie & Co (Cape Town) (021) 534-3431
Talisman Hire 0861 87 87 87	Talisman Hire 0861 87 87 87

## 19. PUMPS

### 19.1 HIGH HEAD & JETTING DRI-PRIME PUMPS

DESCRIPTION	CAPACITY (M3 / hr)	TOTAL HEAD (n Rate per week	DESCRIPTION	CAPACITY (M3 / hr)	TOTAL HEAD (i per week	Rate per week
HL 100M (100mmx75mm)	225	46	HL 200M (200mm x 150mm)	500	45	R 7 475,00
	205	60		475	60	
	160	90		455	82	
	130	106		315	90	
	102	120		180	95	
HL125M (150mmx100mm)	225	55	HL 225M (250mm x 200mm)	840	30	R 8 475,00
	215	60		795	48	
	205	90		680	83	
	180	120		565	100	
	114	134		455	105	
HL 150M (150mmX150mm)	375	45	HL 250M (300mm x 250mm)	1085	58	R 10 905,00
	310	60		1020	70	
	285	90		905	90	
	225	125		680	100	
	160	135		455	105	

### 19.2 HEAD & JETTING DRI-PRIME PUMPS

DESCRIPTION	CAPACITY (M3 / hr)	TOTAL HEAD (n Rate per week	DESCRIPTION	CAPACITY (M3 / hr)	TOTAL HEAD (i per week	Rate per week
HL 130M (150mm x 100mm)	275	125	HL160M (200mm x 150mm)	225	55	R 5 605,00
	225	158		215	60	
	180	175		205	90	
	135	180		180	120	
	90	183		114	134	

### 19.3 GENERAL PURPOSE, SOLIDS HANDLING DRI-PRIME PUMPS

DESCRIPTION	CAPACITY (M3 / hr)	TOTAL HEAD (n Rate PER DAY	DESCRIPTION	CAPACITY (M3 / hr)	TOTAL HEAD (i Rate	Rate
CD 100M (100mm)	160	6	CD 300M (300mm)	1360	15	R 7475.00 / week
	115	12		1135	36	
	90	17		905	43	
	68	20		795	47	
	45	23		680	49	
CD150M (150mm)	450	11	CD400M (450mm x 400mm)	2265	10	R 52,635.00 / month
	395	18		2940	18	
	340	23		1815	25	
	225	28		1360	30	
	113	30		905	38	
CD225M (200mm)	725	6				
	680	12				
	610	18				
	565	25				
	475	30	R 1 245,00			

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## 19. PUMPS

### WHERE TO HIRE

BOTSWANA		MPUMALANGA	
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Steinmuller Plant & Equipment Hire	(017) 624-5000
Shumba Plant Hire (Maun)	(00267) 686-1100	Talisman Hire	0861 87 87 87
BORDER		NORTH-WEST	
Action Plant & Equipment (East London)	(043) 722-8294	Talisman Hire	0861 87 87 87
Talisman Hire	0861 87 87 87		
GAUTENG & NORTH-WEST		NAMIBIA	
Hard Hat Equipment Hire (Halfway House)	(011) 609-6443	HireMAN	(00264) 612 228 185
Ian Dickie & Co (Johannesburg)	(011) 609-4130		
KWAZULU- NATAL		PORT ELIZABETH	
Renttech South Africa Plant Rental SA (Wadeville)	(011) 824-0410	Ian Dickie & Co (Port Elizabeth)	(041) 451-1577
Talisman Hire	0861 87 87 87	Talisman Hire	0861 87 87 87
KWAZULU- NATAL		Swaziland	
Ian Dickie & Co (Durban)	(031) 709-1313	TALISMAN Hire(Matsapha)	(00268) 2518 4210
Talisman Hire	0861 87 87 87		
KWAZULU- NATAL		WESTERN CAPE	
Tony's Tool Hire (Dundee)	(034) 212-5232	Ian Dickie & Co (Cape Town)	(021) 534-3431
Tony's Tool Hire (Newcastle)	(034) 312 8396	Talisman Hire	0861 87 87 87
Tony's Tool Hire (Pongola)	(034) 413-3023		

## 20. ROLLERS

DESCRIPTION	Hourly Rate (Min. 9 hrs)	DESCRIPTION	HourlyRate (Min. 9 hrs)
<b>DOUBLE DRUM VIBRATORY ROLLERS:</b>		<b>STATIC ROLLERS</b>	
1,0 - 1,5 ton, width 0,70 - 1,0 m    Bitelli DTV315S	R 90,00	7 - 9 ton	R 158,00
1,5 - 2,5 ton, width 1,0 - 1,2 m    Bitelli DTV315S	R 110,00	9 - 11 ton	R 166,00
2,5 - 3,5 ton, width 1,2 - 1,4 m    Bitelli DTV345S,	R 138,00	11 - 13 ton	R 174,00
CAT CB214D; CB224D			
<b>PNEUMATIC ROLLERS</b>		<b>TOW-BEHIND ROLLERS</b>	
7 - 14.ton	R 167,00	Grid (excluding tow unit)	
14 - 21 ton	R 215,00	8-12 ton	R 89,00
21 - 28 ton Bitelli SB25,SB30;Simesa RG279	R 245,00	12-15 ton	R 134,00
<b>SINGLE-DRUM VIBRATORY ROLLERS, PADFOOT</b>		<b>Vibratory-Smooth (excluding tow unit)</b>	
4 - 7 ton, width 1,5 m	R 158,00	8-12 ton Simesa RVT100H,RVT200H	R 112,00
7 - 10 ton, width 1,7 m Bomag 212;CAT CP533D;	R 205,00	12-15 ton Simesa RVT400H	R 134,00
Dynapac; CA251PD;Simesa		<b>Vibratory-Padfoot (excluding tow unit)</b>	
NC10PD		8-12 ton Simesa RVT100H,RVT200H	R 112,00
10 - 14 ton, width 2,1 m Bomag 212;CAT CP563D;	R 229,00	12-15 ton Simesa RVT400H	R 134,00
Dynapac; CA251PD;Simesa		<b>Impact Rollers (excluding tow unit)</b>	
NC12PD		10 - 15 KJ Landpac	P.O.A.
14 - 20 ton Simesa NC15PD,NC17PD			
<b>SINGLE-DRUM VIBRATORY ROLLERS, SMOOTH</b>		<b>PEDESTRIAN ROLLERS</b> <b>Daily Rate (Min. 9 hrs)</b>	
4 - 7 ton, width 1,5 m	R 150,00	500 - 550 kg, width 390 mm	
7 - 10 ton, width 1,7 m Bomag 212;CAT CS533D;	R 198,00	650 - 700 kg, width 650 mm	R 350,00
Dynapac CA251SD;Simesa; NC10SD		800 - 900 kg, width 630 mm	R 447,00
10 - 14 ton, width 2,1 m Bomag 212;CAT CS563D;	R 221,00	900 - 1000 kg, width 750 mm	
Dynapac CA251SD;Simesa; NC10SD		1000 - 1500 kg, width 900 mm	R 482,00
14 - 20 ton Simesa NC15SD,NC17SD			
<b>WHERE TO HIRE</b>			
<b>BOTSWANA</b>		<b>BORDER continued</b>	
Babcock TCM Plant (Gaborone)	(00267) 393-6541	Peugair (East London)	(043) 748-2423
Excavator Hire (Gaborone)	(00267) 392-8392	Riegers Hire (East London)	(043) 732-1464
Jomaf Hiring Services (Gaborone)	(00267) 319-1585	Roberts Bros. Construction (East London)	(043) 748-2588
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Rumdel (Cape) (East London)	(043) 748-6417
Shumba Plant Hire (Maun)	(00267) 686-1100	Sokhulu Truck & Plant Hire (Matatiele)	(039) 737 4384
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	SL Contractors (East London)	(043) 745-2002
<b>BORDER</b>		<b>FREE STATE</b>	
AE Plant Hire (East London)	(083) 654-99871	Express Plant Hire (Bloemfontein)	(051) 436-4891
Action Plant & Equipment (East London)	(043) 722-8294	Sigg's Engineering & Projects (Sasolburg)	(016) 971-1204
Clarke Civil Eng Contractors (East London)	(043) 726-2076	Talisman Hire	0861 87 87 87
Anchor Plant Hire (East London)	(043) 745-0330	T&F Construction	(016) 421-4656
Civil & General Contractors (Queenstown)	(045) 857-0176	Umso Construction (East London)	(043) 748-4747
Inyathi Plant Hire (Beacon Bay)	(043) 732-1124		
Ukamva Civils (Mthatha)	(047) 531 1007		
Universal Equipment (Port Elizabeth)	(041) 453-1810		
WC Plant Hire (Gonubie)	(043) 732-1833		
Xesibe Construction ( Lusikisiki)	(039) 253-7264		

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## 20. ROLLERS continued

### WHERE TO HIRE

GAUTENG		KWAZULU- NATAL continued	
ALS Group (Centurion)	(012) 640-0040	Marlisha Transport (Westmead)	(031) 700 8616
Atlas Plant Hire (Midrand)	(011) 310-9313	Mckenzie Plant Hire (Richmond)	(033) 212-2181
A-Z Engineering & Plant Hire (Johannesburg)	(011) 462-7907	Midmar Plant Hire (Westmead)	(031) 700-9061
Barloworld Equipment The Cat Rental Store (Isando)	(011) 929-0419	Morgado Plant Hire (Durban)	(031) 569-4750
Basil Read Plant (Johannesburg)	(011) 418-6300	Motwell Plant Hire (Illovo Beach)	(082) 496 9673
Burma Plant Hire (Springs)	(071) 689-0711	Need-A-Tool (Durban)	(031) 705-1470
C.A.T.S Plant Hire (Roodepoort)	(011) 474-4261	Pat Smith Plant Hire (Dundee)	(034) 218-1295
EPH Plant Hire (Centurion)	(012) 660-3312	Protrans Plant & Civils (Port Shepstone)	(039) 6682 5695
File Hire Plant (Johannesburg)	(011) 397-6463	Raciti's Plant Hire (Estcourt)	(036) 352-5783
Hard Hat Equipment Hire (Halfway House)	(011) 609-6443	RADDS Transport(Empangeni)	(035) 787 3901
Hennox 170 (Johannesburg)	(011) 024 1057	Sage Trans (Durban)	(031) 266 1492
Hire Rite Equipment (Boksburg)	(011) 894-8311	Savemor Earthmoving (Durban)	(031) 702-9441
L & J Gemmel Plant Services (Benoni)	(011) 965-1463	Sealcoat Surfacing & Asphalt (Pietermaritzburg)	(033) 386-8998
L&R Civil (Fourways)	(086) 133 3667	Scotty's Plant Hire (Durban)	(031) 700-8000
Liviero & Son (Kyalami) (011) 466-2644	(011) 306-7300	Scotty's Plant Hire (Pietermaritzburg)	(033) 386-1614
Mzansi Plant Hire (Centurion)	(012) 669 3296	Sobuza Investments (Pinetown)	(031) 100 1023
Ngaphambi Hire (Alberton)	(011) 869-9279	Superdigger Plant Hire (Cliff Dale)	(031) 736 6010
Performance Plant Hire (Randburg)	(011) 792-1224	Talisman Hire	0861 87 87 87
Performance Plant Hire (Boksburg)	(011) 823-5480	Tony's Tool Hire (Dundee)	(034) 212-5232
Performance Plant Hire (Midrand)	(011) 312 5069	Tony's Tool Hire (Newcastle)	(034) 312 8396
Platinum Mile Plant (Witkoppies)	(083) 388 5959	Tony's Tool Hire (Pongola)	(034) 413-3023
Propact Plant Hire (Johannesburg)	(011) 680-2137	Tswella Trading (Kokstad)	(039) 727 5907
Propact Plant Hire (Centurion)	(012) 653-0245	Ubunye Plant Hire (Queensburgh)	(031) 464-6551
Rebel Plant Hire (Johannesburg)	(011) 882-1048	Universal Trading (Jacobs)	(031) 461 5008
Renico Plant Hire (Johannesburg)	(011) 794-1177	VIP Construction cc (Pietermaritzburg)	(076) 399 4596
Rickharding Plant Hire (Kempton Park)	(011) 979 4052		
Talisman Hire	0861 87 87 87		
T&F Construction (Vereeniging)	(016) 421-4656		
Theaco Roads & Earthworks (Vanderbijlpark)	(016) 451-3071		
Turner Morris (Johannesburg)	(011) 618-2620		
West Rand Plant Hire (Springs)	(011) 845-5160		
KWAZULU- NATAL		LIMPOPO	
Afroplant (Durban)	(031) 705-4490	Atlas Plant Hire (Lepelale)	(014) 763-6720
ALS Group (Newcastle)	(034) 341-1636	Kingdom Plant (Tzaneen)	(015) 307-3950
Aqua Transport & Plant Hire (Pinetown)	(031) 716-2300	Maruma Plant Hire (Pietersburg)	(015) 293-2902
B&B Plant & Equipment (Empangeni)	(035) 787-0679	Quality Plant Hire (Tzaneen)	(015) 304-3000
Barloworld Equipment Cat Rental	(031) 569-8500	Talisman Hire	0861 87 87 87
BB Transport (Glencoe)	(034) 393-1861		
City Park Trading (Mtubatuba)	(035) 550-1162		
Conan Construction (Pietermaritzburg)	(033) 346-2108		
Devray Plant & Earthworks (Richards Bay)	(035) 751-2141		
Dudula Civils (Pietermaritzburg)	(033) 346 4121		
Ekene Investments (Queensburgh)	(031) 767 1033		
EXR Construction (Mount Edgecombe)	(031) 539-9100		
GR Transport & Plant Hire (Darnall)	(035) 486-1903		
Induna Logistics & Terminals (Richards Bay)	(035) 797 4100		
JCR Transport (Pinetown)	(031) 700-6833		
Leomat Plant Hire (Richards Bay)	(035) 797-4611		
LT Earthmovers (Wartburg)	(033) 503-1355		
Mabona Civils & Plant Hire (Kokstad)	(039) 727 146		
Machinery Mart (Durban)	(031) 301-7069		
Major Machines (Merrivale)	(033) 330 5701		
		MPUMALANGA	
		ALS Group (Witbank)	(013) 689-1128
		Performance Plant Hire	(013) 692-7441
		Khulani's Trading Enterprise cc (Middelburg)	(013) 244 5017
		Opsicol Mining Services (Middelburg)	(013) 612-0503
		Talisman Hire	0861 87 87 87
		T&F Construction	(016) 421-4656
		Tony's Tool Hire (Piet Retief)	(017) 826-4683
		NAMIBIA	
		Windhoek Hire Sales & Services (Windhoek)	+264 61 233693.
		NORTHERN CAPE	
		ALS Group (Upington)	(054) 334-0140
		Talisman Hire	0861 87 87 87
		T&F Construction	(016) 421-4656
		NORTH-WEST	
		ALS Group (Potchefstroom)	(018) 290-8070
		Atlas Plant Hire (Rustenburg)	(014) 569-5951
		Elmar Projects (Swartruggens)	(014) 544-0677
		Talisman Hire	0861 87 87 87
		T&F Construction	(083) 306 4822
		West Rand Plant Hire (Orkney)	(018) 473-5551

**20. ROLLERS continued****WHERE TO HIRE**

PORT ELIZABETH		WESTERN CAPE	
Atlas Plant Hire (Port Elizabeth)	(041) 451-4266	Barloworld Equipment Cat Rental Store (Bellville)	(021) 959-8200
Burma Plant Hire (Port Elizabeth)	(041) 463-4033	Burma Plant Hire (Kuilsrivier)	(021) 905-8122
DK Pringle Earthworks (Bedford)	(046) 685-0858	Hiretech (Cape Town)	(021) 945-3317
Newport Plant Hire (Port Elizabeth)	(041) 463-2819	Sylco (Cape Town)	(021) 845-4494
Peugair (Port Elizabeth)	(041) 451-2722	T&F Construction	(016) 421-4656
Rand Civils (Port Elizabeth)	(041) 581-7791	Transand (Hartenbos)	(044) 695-0105
Sakhizwe Plant Hire (Port Elizabeth)	(082) 902 7000	Talisman Hire	0861 87 87 87
Scribante Construction (Port Elizabeth)	(041) 484-7211	Umhlaba Plant Hire (Kraaifontein)	(021) 987-1650/2
Stu Davidson & Sons (Port Elizabeth)	(041) 581-7711		
SJW Plant (Port Elizabeth)	(041) 372 1845		
Talisman Hire	0861 87 87 87		
Techni Civils (Newton Park)	(041) 364-3240		

**SCRAPERS**

<b>MASS</b>	<b>DESCRIPTION</b>	<b>HOURLY RATE</b>
20-45 Ton	Cat 611,621G	R 412,00
45-55 Ton	Cat 631G,637G	R 600,00
55-65 Ton	Cat 651E	R 712,00
65-75 Ton	Cat 657E	R 790,00

<b>WHERE TO HIRE</b>			
<b>Gauteng</b>		<b>NORTH-WEST</b>	
Bulk Machine Hire	(011) 964-1179	ALS Loader hire (Potchefstroom)	(018) 290-6060
CLM Positioning Solutions (Kya Sands)	(011) 708-7206	Elmar Projects (Swartruggens)	(014) 544-0677
<b>KwaZulu-Natal</b>		<b>PORT ELIZABETH</b>	
ALS Group (Newcastle)	(034) 341-1636	Scribante Construction (Port Elizabeth)	(041) 484-7211

## 22. SITE ACCOMODATION

*DELIVERY / COLLECTION charges applicable :-*

*(a) Caravans (local areas) = R100 / trip;*

*(b) Caravans (radius 50km and more) = R5 / km*

*(a) Containers (local areas) = R601 / trip*

*(b) Containers (radius 50km and more) = R6 / km*

Description	Daily Rate	Description	Daily Rate
<b>Caravans</b>		<b>Site offices</b>	
2 - berth	R 47,00	Kiosk - 2m2	
4 - berth	R 47,00	Container - 15m2	R 54,00
6 - berth	R 47,00	Toilets (includes 2 x free services per month)	R 376,00
Site Office	R 71,00	Service Charges (for additional service if required)	R 141,00
<b>Containers</b>			
6 m	R 36,00		
12 m	R 71,00		

### WHERE TO HIRE

BOTSWANA	MPUMALANGA
Shumba Plant Hire (Maun) (00267) 686-1100	Babcock Plant Services (Secunda) (017) 631-2847
BORDER	NORTHERN CAPE
Anchor Plant Hire (East London) (043) 745-0330	Babcock Plant Services (Middelburg) (013) 246-2870
Riegers Hire (East London) (043) 732-1464	Steinmuller Plant & Equipment Hire (017) 624-5000
Talisman Hire 0861 87 87 87	Talisman Hire 0861 87 87 87
	Tony's Tool Hire ( Piet Retief) (017) 826-4683
FREE STATE	NAMIBIA
Babcock Plant Services (Sasolburg) (016) 976-1075	HireMAN (00264) 612 228 185
Ferro Sales & Services (Bloemfontein) (082) 773 2165	
Talisman Hire 0861 87 87 87	
GAUTENG	NORTH-WEST
Babcock Plant Services (Johannesburg) (011) 418-4407	Babcock Plant Services (Rustenburg) (082) 810-1229
Renttech South Africa Plant Rental SA (Wadeville) (011) 824-0410	Talisman Hire 0861 87 87 87
Talisman Hire 0861 87 87 87	
KWAZULU-NATAL	PORT ELIZABETH
Babcock Plant Services (Durban) (031) 705-2733	Talisman Hire 0861 87 87 87
BB Transport (Glencoe) (034) 393-1861	
Leomat Plant Hire (Richards Bay) (035) 797-4611	
Tony's Tool Hire (Dundee) (034) 212-5232	
Tony's Tool Hire (Newcastle) (034) 312 8396	
Tony's Tool Hire (Pongola) (034) 413-3023	
LIMPOPO	SWAZILAND
Babcock Plant Services (Lepelale) (079) 827-9227	TALISMAN Hire(Matsapha) (00268) 2518 4210
Talisman Hire 0861 87 87 87	
WESTERN CAPE	
	Stelval Crane Hire (Epping Industrial) (021) 534-4291
	Sylco (Cape Town) (021) 845-4494
	Talisman Hire 0861 87 87 87

## 23. SKIDSTEER LOADERS

*DELIVERY and / or COLLECTION not included*

Mass (Ton)	Typical Makes & Models	Hourly Rate
1 - 2 ton	Bobcat 443,743 Hitachi SL35B	R 142,00
2 - 3 ton	Cat 216, 226 Bobcat 753 / 843	R 153.00
Case 1840, 1845 Hitachi SL45B,SL55B,SL65B JCB 150, 160, 165, 170		

### WHERE TO HIRE

Botswana	KWAZULU-NATAL continued
Rhino Plant Hire (Gaborone) (00267) 392-2512	Major Machines (Merrivale) (033) 330 5701
Ngamiland Generator & Diesel Services (Maun) (00267) 686-0253	Marlisha Transport (Westmead) (031) 700 8616
BORDER	RADDs Transport(Empangeni) (035) 787 3901
Inyathi Plant Hire (Beacon Bay) (043) 732-1124	Sealcoat Surfacing & Asphalt (Pietermaritzburg) (033) 386-8998
Mvezo Plant Hire ( East London) (043) 745-0467	Scotty's Plant Hire (Durban) (031) 700-8000
Plus Plant Hire (East London) (043) 736-3541	Scotty's Plant Hire (Pietermaritzburg) (033) 386-1614
Riegers Hire (East London) (043) 732-1464	Superdigger Plant Hire (Cliff Dale) (031) 736 6010
SL Contractors (East London) (043) 745-2002	Universal Trading (Jacobs) (031) 461 5008
T&F Construction (016) 421-4656	Upfold Plant Hire (Shelly Beach) (087) 808 6914
Universal Equipment (Port Elizabeth) (041) 453-1810	LIMPOPO
FREE STATE	Maruma Plant Hire (Pietersburg) (015) 293-2902
ALS Plant Hire (082) 375-4702	Ovoscape Plant Hire (Polokwane) (082) 716 3765
T&F Construction (016) 421-4656	MPUMALANGA
GAUTENG	Opsicol Mining Services (Middelburg) (013) 612-0503
Active Construction & Equipment (Benoni) (011) 425-4890/1	T&F Construction (016) 421-4656
A1 Rigging & Engineering Services (Johannesburg) (011) 609-2040	NORTHERN CAPE
Barloworld Equipment The Cat Rental Store (Isando) (011) 929-0600	Burma Plant Hire (Posmasburg) (053) 313-3646
Bears Plant Hire (Johannesburg) (0861) 232-777	Igloo Plant Hire (Kathu) (053) 723 1514
Bobcat Equipment Rentals (Alrode) (011) 389-4460	Ovoscape Plant Hire (Kuruman) (082) 207 3797
Burma Plant Hire (Springs) (071) 689-0711	T&F Construction (016) 421-4656
EPH Plant Hire (Centurion) (012) 660-3312	NORTH-WEST
Motsana Plant (Pretoria) (012) 771 4732	Bobcat Equipment Rentals (Rustenburg) (014) 538-1242
Ngaphambi Hire (Alberion) (011) 869-9279	T&F Construction (083) 306 4822
PG Plant Hire (Pretoria) (012) 803-8714	PORT ELIZABETH
Renico Plant Hire (Johannesburg) (011) 794-1177	Burma Plant Hire (Port Elizabeth) (041) 463-4033
Richard Irons Plant Rentals (JHB) (011) 315-1526/2080	Newport Plant Hire (Port Elizabeth) (041) 463-2819
Rickharding Plant Hire (Kempton Park) (011) 979 4052	Rand Civils (Port Elizabeth) (041) 581-7791
Riviera Hire(Witkoppies) (087) 941-1113	Sakhizwe Plant Hire (Port Elizabeth) (082) 902 7000
T&F Construction (Vereeniging) (016) 421-4656	SJW Plant (Port Elizabeth) (041) 372 1845
Uniloader Hire Services (Johannesburg) (082) 886-5984	Techni Civils (Newton Park) (041) 364-3240
KWAZULU-NATAL	WESTERN CAPE
Barloworld Equipment The Cat Rental Store (031) 569-8500	Barloworld Cat Rental Store (Bellville) (021) 959-8200
BB Transport (Glencoe) (034) 393-1861	Bobcat Equipment Rentals Rental (Cape Town) (021) 945-1423
Bob-Ann Plant (Durban) (031) 266-3656	Burma Plant Hire (Kuilsvier) (021) 905-8122
Bobcat Equipment Rentals (Richards Bay) (035) 751-1511	Sylco (Cape Town) (021) 845-4494
Devray Plant & Earthworks (Richards Bay) (035) 751-2141	T&F Construction (016) 421-4656
Induna Logistics & Terminals (Richards Bay) (035) 797 4100	

## 23.1 MULTI-TERRAIN LOADERS

*DELIVERY and / or COLLECTION not included*

Mass (Ton)	Makes & Models	Daily Rate
4.5 Ton	Case 445CT	R 1 810,00

### WHERE TO HIRE

GAUTENG	
Bears Plant Hire (Johannesburg)	(0861) 232-777

## 24. SMALL PLANT

### DELIVERY and / or COLLECTION :

- (1) LDV = R 9.00 per loaded kilometre, minimum charge = R 195.00  
 (2) Truck = R 16.00 per loaded kilometre, minimum charge = R 380.00  
 DEPOSIT : Minimum of 5 days hire payable on collection or delivery

DESCRIPTION	Daily RATE	DESCRIPTION	Daily RATE
<b>EARTH AUGERS</b>		<b>PLATE / ROUND COMPACTORS</b>	
Hand driven	R 50,00	Diesel	R 142,00
Motorised	R 250,00	Diesel, reversible (sr)	R 290,00
<b>BLOCK &amp; TACKLE</b>		Diesel, reversible (bi)	R 416,00
1.0 ton	R 67,00	Petrol	R 142,00
1.5 ton	R 84,00	Petrol, round	R 142,00
3.2 ton	R 116,00		
<b>BUILDER'S HOISTS</b>		<b>PLUMBING EQUIPMENT</b>	
<b>CABLE DETECTORS</b>		<b>PRIME PUMPS</b>	
<b>CHAIN SAWS</b>		Mechanical, fire heat	R 212,00
Electric	R 166,00	Motorised, gas heat	R 357,00
Petrol	R 332,00	<b>RAKES</b>	R 17,00
<b>COMPRESSORS</b>		<b>RAMMERS</b>	
Electric - 100 litre	R 173,00	Diesel	R 275,00
Petrol - 100 litre	R 250,00	Petrol	R 250,00
<b>CONVEYORS</b>		<b>REFUSE COMPACTORS</b>	
10m x 340mm	R 332,00	<b>ROAD BROOMS (excl. motive power unit)</b>	
Delivery, Erection, Dismantle Charge - Local	R 830,00	Hydraulic	R 475,00
<b>DUMPY LEVELS</b>		Mechanical	R 368,00
With Tripod	R 250,00	Bristle Usage Charge (per mm used)	R 43,00
Without Tripod	R 211,00	Bristles (per set)	R 3 818,00
<b>EARTH TILLERS</b>		<b>SAFETY EQUIPMENT</b>	
<b>EDGE TRIMMERS / WEEDEATERS</b>		<b>SCAFFOLDING</b>	
Electric	R 159,00	Frames	R 28,00
Petrol	R 159,00	Planks	R 20,00
<b>HIGH PRESSURE CLEANERS</b>		Stays	R 9,00
Electric	R 183,00	<b>SCREENING PLANTS</b>	R 498,00
Petrol	R 299,00	<b>SEWER PIPE JET CLEANERS</b>	R 498,00
<b>HILTI GUNS (excluding charges &amp; nails)</b>	R 133,00	<b>SHOVELS</b>	R 17,00
<b>HOT AIR GUNS</b>		<b>SHUTTERING</b>	
<b>JACKING EQUIPMENT</b>		<b>SPACE HEATERS (LPG type)</b>	R 332,00
<b>LADDERS</b>		<b>SPRAYPAINT GUNS</b>	R 60,00
Extension - 9 m	R 125,00	<b>STEAM CLEANERS</b>	
Extension - 11 m	R 149,00	<b>THEODOLITE</b>	
Folding - 2,5 m	R 99,00	With Tripod	R 416,00
Folding - 6 m	R 125,00	Without Tripod	R 374,00
<b>LAWNMOWERS</b>		<b>TILE CUTTERS</b>	
Electric	R 159,00	Electric	R 166,00
Petrol	R 159,00	Manual	R 100,00
<b>LIFTING EQUIPMENT</b>	R 60,00	<b>WASTE REMOVAL EQUIPMENT</b>	
<b>MEASURING WHEELS</b>	R 60,00	<b>WATER PIPE PRESSURE TESTERS</b>	
<b>METAL DETECTORS</b>		Mechanical	R 84,00
<b>PICKS</b>	R 17,00	Diesel	R 349,00
<b>PIPE CLAMPS</b>		Petrol	R 315,00
<b>PIPE THREADERS</b>	R 128,00		

## 24. SMALL PLANT continued

### DELIVERY and / or COLLECTION :

(1) LDV = R 9.00 per loaded kilometre, minimum charge = R 195.00

(2) Truck = R 16.00 per loaded kilometre, minimum charge = R 380.00

DEPOSIT : Minimum of 5 days hire payable on collection or delivery

DESCRIPTION	Daily RATE	DESCRIPTION	Daily RATE
<b>WATER PUMPS</b>		<b>WELDING MACHINES</b> (excl. rods, wire and gas)	
Electric submersible - 50 mm	R142.00	Diesel - 250 Amp	R332.00
Diesel centrifugal - 50 mm	R 142,00	Electric - 220 Amp	R 125,00
Diesel centrifugal - 100 mm	R 183,00	Petrol - 180 Amp	R300.00
Diesel centrifugal - 150 mm	R 1 494,00	Petrol - 200 Amp	R300.00
Diesel centrifugal - 200 mm	R 1 660,00	Tig / Mig	
Diesel submersible - 50 mm	R 233,00	<b>WHEELBARROWS</b>	R 33,00
Petrol centrifugal - 50 mm	R142.00	<b>WINCHES / TURFORS</b> - 3 ton	R125.00
Petrol centrifugal - 75 mm	R183.00		
Petrol submersible - 50 mm	R232.00		
Diesel Spate Pump - 100mm	R 664,00		
Petrol Spate Pump - 75mm	R 275,00		
WHERE TO HIRE			
BOTSWANA		KWAZULU -NATAL	
GHF (Pty) Ltd (Phakalane)	(00267) 392-2885	Babcock Plant Services (Durban)	(031) 705-2733
Jomaf Hiring Services (Gaborone)	(00267) 319-1585	B&B Plant & Equipment (Empangeni)	(035) 787-0679
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	Generator & Plant Hire (Durban)	(031) 466-4515
Shumba Plant Hire (Maun)	(00267) 686-1100	Generator & Plant Hire (Richards Bay)	(035) 751-1897
BORDER			
Action Plant & Equipment (East London)	(043) 722-8294	Hire Anything (Richards Bay)	(035) 789-5997
Riegers Hire (East London)	(043) 732-1464	Ian Dickie & Co (Durban)	(031) 709-1313
Talisman Hire	0861 87 87 87	KLM Plant Hire & Sales (Richards Bay)	(035) 789 0260
Xesibe Construction ( Lusikisiki)	(039) 253-7264	Machinery Mart (Durban)	(031) 301-7069
FREE STATE			
Babcock Plant Services (Sasolburg)	(016) 976-1075	Marlisha Transport (Westmead)	(031) 700 8616
Talisman Hire	0861 87 87 87	Need-A-Tool (Durban)	(031) 705-1470
GAUTENG			
A1 Rigging & Engineering Services (JHB)	(011) 609-2040	Scotty's Plant Hire (Durban)	(031) 700-8000
Afritool-Rent (Johannesburg)	(011) 974-2819	Scotty's Plant Hire (Pietermaritzburg)	(033) 386-1614
Babcock Plant Services (Johannesburg)	(011) 418-4407	Talisman Hire	0861 87 87 87
Brackenwest Hardware & Hire	(011) 867-6224	Tony's Tool Hire (Dundee)	(034) 212-5232
Brackenwest Hardware & Hire	(011) 867-6224	Tony's Tool Hire (Newcastle)	(034) 312 8396
Bobcat Equipment Rentals Rental (Alrode)	(011) 389-4460	Tony's Tool Hire (Pongola)	(034) 413-3023
File Hire Plant (Boksburg)	(011) 397-6463	<b>LIMPOPO</b>	
Generator & Plant Hire (Midrand)	(011) 312-0446	Talisman Hire	0861 87 87 87
Hard Hat Equipment Hire (Halfway House)	(011) 609-6443	<b>MPUMALANGA</b>	
Ian Dickie & Co (Johannesburg)	(011) 609-4130	Afritool-Rent (Secunda)	(017) 639-1433
Performance Plant Hire (Randburg)	(011) 792-1224	Babcock Plant Services (Secunda)	(017) 631-2847
Performance Plant Hire (Boksburg)	(011) 823-5480	Babcock Plant Services (Middelburg)	(013) 246-2870
Performance Plant Hire (Midrand)	(011) 312 5069	Performance Plant Hire	(013) 692-7441
Propact Plant Hire (Johannesburg)	(011) 680-2137	Steinmuller Plant & Equipment Hire	(017) 624-5000
Propact Plant Hire (Centurion)	(012) 653-0245	Talisman Hire	0861 87 87 87
Rebel Plant Hire (Johannesburg)	(011) 882-1048	Tony's Tool Hire (Piet Retief)	(017) 826-4683
Renttech South Africa Plant Rental SA (Wadeville)	(011) 824-0410	<b>NAMIBIA</b>	
Talisman Hire	0861 87 87 87	HireMAN	(00264) 612 228 185
		Walvis Bay Plant & Tool Hire Services	(00264) 642-03787
		Windhoek Hire Sales & Services (Windhoek)	+264 61 233693.

24. SMALL PLANT continued...

**24. SMALL PLANT continued****WHERE TO HIRE**

<b>NORTHERN CAPE</b>		<b>Swaziland</b>	
Talisman Hire	0861 87 87 87	TALISMAN Hire(Matsapha)	(00268) 2518 4210
<b>NORTH-WEST</b>		<b>WESTERN CAPE</b>	
Babcock Plant Services (Rustenburg)	(082) 810-1229	Generator & Plant Hire (Cape Town)	(021) 555-3238
Bobcat Equipment Rentals Rental (Rustenburg)	(014) 538-1242	Hiretech (Cape Town)	(021) 945-3317
Talisman Hire	0861 87 87 87	Ian Dickie & Co (Cape Town)	(021) 534-3431
<b>PORT ELIZABETH</b>		Talisman Hire	0861 87 87 87
Atlas Plant Hire (Port Elizabeth)	(041) 451-4266		
Talisman Hire	0861 87 87 87		

## 25. SWEEPERS & SCRUBBERS, CLEANING EQUIPMENT

*Prices exclude delivery / collection charges*

*Prices exclude VAT*

*Prices do not include fuel or operator*

*Operators can be provided*

*Prices are daily rates for minimum 5 day hire*

Description	Capacity m2 / hr	Power source	Daily Rate
Push sweeper	1000	Manual	R 85,00
Ride on sweeper	6000	Battery	R 1 185,00
Ride on sweeper	10200	Diesel	R 1 525,00
Road sweeper	20000	Diesel	R 3 565,00
Walk behind scrubber / drier	3000	Battery	R 645,00
Ride on scrubber	4250	Battery	R 1 230,00
Ride on sweeper / scrubber	10000	Diesel or LPG	R 2 230,00
Rotary scrubber / polisher	1250	Electric	R 310,00
Wet & dry industrial vacuums	N/A	Electric	R 108,00

### WHERE TO HIRE

BORDER		GAUTENG & NORTH-WEST	
Umso Construction (East London)	(043) 748-4747	Bears Plant Hire (Johannesburg)	(0861) 232-777
		Cubenco 194 (Vanderbijlpark)	(016) 931-9758
		Road Milling & Sweeping (Florida)	(011) 472 5333

## 26. TELESCOPIC HANDLERS

### WHERE TO HIRE

BOTSWANA		MPUMALANGA	
Shumba Plant Hire (Maun)	(00267) 686-1100	Babcock Plant Services (Secunda)	(017) 631-2847
BORDER		Babcock Plant Services (Middelburg)	(013) 246-2870
T&F Construction	(016) 421-4656	Ikotwe Plant Hire (White River)	(013) 750-1200
Universal Equipment (Port Elizabeth)	(041) 453-1810	T&F Construction	(016) 421-4656
FREE STATE		NAMIBIA	
Babcock Plant Services (Sasolburg)	(016) 976-1075	Walvis Bay Plant & Tool Hire Services	(00264) 642-03787
Barloword Equipment The Cat Rental Store (Sasolburg)	(016) 976-1184	Windhoek Hire Sales & Services	(+264) 6123 3693
T&F Construction	(016) 421-4656	<b>NORTHERN CAPE</b>	
GAUTENG		Burma Plant Hire (Posmasburg)	(053) 313-3646
A1 Rigging & Engineering Services (Johannesburg)	(011) 609-2040	T&F Construction	(016) 421-4656
Babcock Plant Services (Johannesburg)	(011) 418-4407	<b>NORTH-WEST</b>	
Barloworld Equipment The Cat Rental Store (Isando)	(011) 929-0600	Babcock Plant Services (Rustenburg)	(082) 810-1229
Bobcat Equipment Rentals Rental (Alrode)	(011) 389-4460	Bobcat Equipment Rentals Rental (Rustenburg)	(014) 538-1242
Burma Plant Hire (Springs)	(071) 689-0711	<b>PORT ELIZABETH</b>	
Renico Plant Hire (Johannesburg)	(011) 794-1177	Aerial Lifts Rentals (Port Elizabeth)	(083) 708-0473
T&F Construction	(016) 421-4656	Burma Plant Hire (Port Elizabeth)	(041) 463-4033
KWAZULU-NATAL		Sakhizwe Plant Hire (Port Elizabeth)	(082) 902 7000
Babcock Plant Services (Durban)	(031) 705-2733	<b>WESTERN CAPE</b>	
Barloworld Cat Rental Store (New Germany)	(031) 569-8500	Barloworld Cat Rental Store (Bellville)	(021) 959-8200
Need-A-Tool (Durban)	(031) 705-1470	Bobcat Equipment Rentals Rental (Cape Town)	(021) 945-1423
Universal Trading (Jacobs)	(031) 461 5008	Goscor Access Rental (Cape Town)	(021) 510-7307
LIMPOPO		Sylco (Cape Town)	(021) 845-4494
Babcock Plant Services (Lepelale)	(079) 827-9227	T&F Construction	(016) 421-4656

## 27. TRAILERS

Description	Daily Rate	Description	Daily Rate
Diesel Bowser Forgeweld 1000 l General Purpose	R165.00 - 240.00 POA	Roll-back Water Bowser 1000 - 5000 l	POA R165.00 - R785.00
WHERE TO HIRE			
BOTSWANA		KwaZulu-Natal continued	
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	Savemor Earthmoving (Durban)	(031) 702-9441
Shumba Plant Hire (Maun)	(00267) 686-1100	Sealcoat Surfacing & Asphalt (Pietermaritzburg)	(033) 386-8998
BORDER		Tony's Tool Hire (Dundee)	(034) 212-5232
Anchor Plant Hire (East London)	(043) 745-0330	Tony's Tool Hire (Newcastle)	(034) 312 8396
Civil & General Contractors (Queenstown)	(045) 857-0176	Tony's Tool Hire (Pongola)	(034) 413-3023
		LIMPOPO	
Inyathi Plant Hire (Beacon Bay)	(043) 732-1124	Babcock Plant Services (Lepelale)	(079) 827-9227
Riegers Hire (East London)	(043) 732-1464	Ovoscape Plant Hire (Polokwane)	(082) 716 3765
Roberts Bros. Construction (East London)	(043) 748-2588	MPUMALANGA	
SL Contractors (East London)	(043) 745-2002	Babcock Plant Services (Secunda)	(017) 631-2847
Umso Construction (East London)	(043) 748-4747	Babcock Plant Services (Middelburg)	(013) 246-2870
FREE STATE		Isambane Mining (Middleburg)	(071) 681-9939
Babcock Plant Services (Sasolburg)	(016) 976-1075	Steinmuller Plant & Equipment Hire	(017) 624-5000
GAUTENG		Tony's Tool Hire (Piet Retief)	(017) 826-4683
A-Z Engineering & Plant Hire (Johannesburg)	(011) 462-7907	NAMIBIA	
Babcock Plant Services (Johannesburg)	(011) 418-4407	Walvis Bay Plant & Tool Hire Services	(00264) 642-03787
Liviero & Son (Kyalami)	(011) 466-2644	NORTHERN CAPE	
PG Plant Hire (Pretoria)	(012) 803-8714	Ovoscape Plant Hire (Kuruman)	(082) 207 3797
Renttech South Africa Plant Rental SA (Wadeville)	(011) 824-0410	NORTH-WEST	
Sandton Plant Hire (Johannesburg)	(011) 805-3084	Babcock Plant Services (Rustenburg)	(082) 810-1229
Theaco Roads & Earthworks (Vanderbijlpark)	(016) 451-3071	Elmar Projects (Swartruggens)	(014) 544-0677
KwaZulu-Natal		PORT ELIZABETH	
Afro Plant (Durban)	(031) 705-4490	DK Pringle Earthworks (Bedford)	(046) 685-0858
Babcock Plant Services (Durban)	(031) 705-2733	Scribante Construction (Port Elizabeth)	(041) 484-7211
BB Transport (Glencoe)	(034) 393-1861	Stu Davidson & Sons (Port Elizabeth)	(041) 581-7711
Conan Construction (Pietermaritzburg)	(033) 346-2108	WESTERN CAPE	
Dreykon (Dundee)	(034) 212-1246	Hiretech (Cape Town)	(021) 945-3317
EXR Construction (Mount Edgecombe)	(031) 539-9100	Stelval Crane Hire (Epping Industrial)	(021) 534-4291
Induna Logistics & Terminals (Richards Bay)	(035) 797 4100		
Leomat Plant Hire (Richards Bay)	(035) 797-4611		
McKenzie Plant Hire (Richmond)	(033) 212-2181		

## 28. TRACTORS

Description	Typical Makes & Models	Hourly Rate
<b>Agricultural-Rigid</b>		
4 - 6 ton	Bell 1226,1866, Dezzi H60,H120T,Ford 5000, Massey Ferguson 290	R 123,00
<b>Tow Tractors</b>		
8 - 12 ton	Bell 2406D,Dezzi AH180	R 265,00
12 - 15 ton	Bell 2806D	R 305,00
15 - 20 ton	Bell 4206D	R 370,00
<b>WHERE TO HIRE</b>		
<b>BOTSWANA</b>	<b>KwaZulu-Natal continued</b>	
Excavator Hire (Gaborone) (00267) 392-8392	Ekene Investments (Queensburgh) (031) 767 1033	
Shumba Plant Hire (Maun) (00267) 686-1100	EXR Construction (Mount Edgecombe) (031) 539-9100	
<b>BORDER</b>		
Civil & General Contractors (Queenstown) (045) 857-0176	Hire Anything (Richards Bay) (035) 789-5997	
Inyathi Plant Hire (Beacon Bay) (043) 732-1124	Major Machines (Merrivale) (033) 330 5701	
Riegers Hire (East London) (043) 732-1464	Protrans Plant & Civils (Port Shepstone) (039) 6682 5695	
Roberts Bros. Construction (East London) (043) 748-2588	Sealcoat Surfacing & Asphalt (Pietermaritzburg) (033) 386-8998	
SL Contractors (East London) (043) 745-2002	Sobuza Investments (Pinetown) (031) 100 1023	
Umso Construction (East London) (043) 748-4747	VIP Construction cc (Pietermaritzburg) (076) 399 4596	
<b>FREE STATE</b>		
Express Plant Hire (Bloemfontein) (051) 436-4891	<b>LIMPOPO</b>	
Sigg's Engineering & Projects (Sasolburg) (016) 971-1204	Ovoscape Plant Hire (Polokwane) (082) 716 3765	
<b>GAUTENG</b>		
ALS Group (086) 125-7257	<b>MPUMALANGA</b>	
Babcock Plant Services (Johannesburg) (011) 418-4407	ALS Group (Witbank) (013) 689-1128	
Bulk Machine Hire (011) 964-1179	Babcock Plant Services (Secunda) (017) 631-2847	
L & J Gemmel Plant Services (Benoni) (011) 965-1463	Babcock Plant Services (Middelburg) (013) 246-2870	
Renico Plant Hire (Johannesburg) (011) 794-1177	Isambane Mining (Middleburg) (071) 681-9939	
	Steinmuller Plant & Equipment Hire (017) 624-5000	
<b>KwaZulu-Natal</b>		
	<b>NORTHERN CAPE</b>	
ALS Group (Newcastle) (034) 341-1636	Ovoscape Plant Hire (Kuruman) (082) 207 3797	
Aqua Transport & Plant Hire (Pinetown) (031) 716-2300	<b>NORTH-WEST</b>	
Babcock Plant Services (Durban) (031) 705-2733	ALS Group (086) 125-7257	
BB Transport (Glencoe) (034) 393-1861	Babcock Plant Services (Rustenburg) (082) 810-1229	
City Park Trading (Mtubathuba) (035) 550-1162	Elmar Projects (Swartruggens) (014) 544-0677	
Dreykon (Dundee) (034) 212-1246	<b>PORT ELIZABETH</b>	
	DK Pringle Earthworks (Bedford) (046) 685-0858	
	Rand Civils (Port Elizabeth) (041) 581-7791	
	Scribante Construction (Port Elizabeth) (041) 484-7211	

## 29. TRAXCAVATORS

Mass (ton)	Typical Makes & Models	Hourly Rate
4 - 10 ton	Komatsu D31S	R 123,00
10 - 15 ton	Cat 943, 953, Fiatallis FL10c, Komatsu D53-5	R 190,00
15 - 20 ton	Komatsu D57-S, Fiatallis FL 14c	R 280,00
20 - 25 ton	Cat 963, Komatsu D75-S3	R 305,00
25 - 30 ton	Cat 973, Fiatallis FL20	R 363,00
WHERE TO HIRE		
GAUTENG & NORTH-WEST		NAMIBIA
A-Z Engineering & Plant Hire (Johannesburg)	(011) 462-7907	Windhoek Hire Sales & Services (Windhoek) +264 61 233693.
EPH Plant Hire (Centurion)	(012) 660-3312	PORT ELIZABETH
KwaZulu-Natal		Scribante Construction (Port Elizabeth) (041) 484-7211
McKenzie Plant Hire (Richmond)	(033) 212-2181	

**30. TRENCHES**

<b>Description</b>	<b>Hourly RATE</b>	<b>Description</b>	<b>Hourly Rate</b>
Ditch Witch 1420	R 150,00	Ditch Witch 6510	R 307,00
Ditch Witch 2300	R 205,00	Ditch Witch 8100	R 395,00
<b>WHERE TO HIRE</b>			
<b>BORDER</b>		<b>WESTERN CAPE</b>	
Thompson's Transport (Queenstown)	(045) 839-5850	Burma Plant Hire (Kuilsvier)	(021) 905-8122
Plus Plant Hire (East London)	(043) 736-3541		
<b>GAUTENG &amp; NORTH-WEST</b>			
Bears Plant Hire (Johannesburg)	(0861) 232-777		

## 31. TRUCKS

Description	Hourly Rate
<b>Articulated Dump Trucks (ADT's)</b>	
11 - 13 m3	R 586,90
14 - 16 m3	R 804,80
17 - 20 m3	R 960,55
21 - 25 m3	R 1 131,15
26 - 30m3	R 1 331,13
<b>Concrete Mixer Trucks</b>	
5 - 6 m3	R 325,00
<b>Crane Trucks (Lift Capacity)</b>	
2 - 4 ton	R 238,00
4 - 6 ton	R 278,00
6 - 8 ton	R 332,00
<b>Flatbed Trucks</b>	
2 - 4 ton	R 150,00
4 - 6 ton	R 198,00
6 - 8 ton	R 254,00
<b>Lowbeds Less than 30 tons</b>	
Local move (per trip)	R 1 363,00
Local or long distance move (per hour)	R 397,00
Local or long distance move (per km)	R 14,00
<b>Lowbeds 30 - 40 tons</b>	
Local move (per trip)	R 1 665,00
Local or long distance move (per hour)	R 436,00
Local or long distance move (per km)	R 16,00
<b>Lowbeds more than 40 tons</b>	
Local move (per trip)	R 1 900,00
Local or long distance move (per hour)	R 515,00
Local or long distance move (per km)	R 18,00
<b>Roll-Back Trucks</b>	
8 ton	R 658,00
8 ton	R 238,00
8 ton	R 7,00
<b>Tipper Trucks</b>	
5 m3	R 191.00 (per hour)
10 m3	R 254.00 (per hour)
15m3	R 316.00 (per hour)
<b>Water Carts</b>	
4 - 6 000 litres	R 191.00 (per hour)
6 - 10 000 litres	R 221.00 (per hour)
10 - 15 000 litres	R 355.00 (per hour)

Please continue to next page ....

## 31. TRUCKS

### WHERE TO HIRE

BOTSWANA		GAUTENG & NORTH-WEST continued	
Anchor Plant Hire (East London)	(043) 745-0330	KLT Machinery & Plant Hire	(011) 730-7501
Babcock TCM Plant (Gaborone)	(00267) 393-6541	L & J Gemmel Plant Services (Benoni)	(011) 965-1463
Excavator Hire (Gaborone)	(00267) 392-8392	L&R Civil (Fourways)	(086) 133 3667
GHF (Pty) Ltd (Phakalane)	(00267) 392-2885	Liviero & Son (Kyalami)	(011) 466-2644
Ngamiland Generator & Diesel Services (Maun)	(00267) 686-0253	MD Plant & Equipment Sales (Bryanston)	(011) 706-7275
Rhino Plant Hire (Gaborone)	(00267) 392-2512	Mzansi Plant Hire (Centurion)	(012) 669 3296
Shumba Plant Hire (Maun)	(00267) 686-1100	Ngaphambi Hire (Alberton)	(011) 869-9279
Van & Truck Hire Hire (Gaborone)	(00267) 391-2280	PG Plant Hire (Pretoria)	(012) 803-8714
BORDER		KWAZULU-NATAL	
AE Plant Hire (East London)	(083) 654-99871	Afro Plant (Durban)	(031) 705-4490
Allen & Clarke Civil Eng. Contractors (East London)	(043) 726-2076	ALS Group (Newcastle)	(034) 341-1636
Bitline SA 1060 (Mthatha)	(047) 532 4691	Amaphiko Ejuba Transport Enterprises (Pinetown)	(031) 701-4759
Civil & General Contractors (Queenstown)	(045) 857-0176	Aqua Transport & Plant Hire (Pinetown)	(031) 716-2300
Emandleni Trading Enterprises (Mthatha)	(047) 531 3975	Babcock Plant Services (Durban)	(031) 705-2733
Inyathi Plant Hire (Beacon Bay)	(043) 732-1124	Barloworld Cat Rental Store (New Germany)	(031) 569-8500
Mvezo Plant Hire ( East London)	(043) 745-0467	BB Transport (Glencoe)	(034) 393-1861
Ntutu Civils & Construction (East London)	(043) 700-8700	Conan Construction (Pietermaritzburg)	(033) 346-2108
Orange Plant Hire (Queenstown)	(045) 839 2370	City Park Trading (Mtubathuba)	(035) 550-1162
Plus Plant Hire (East London)	(043) 736-3541	Desmonds Transport & Plant Hire (Port Shepstone)	(039) 685-4100
Qush Plant Hire (Vincent )	(043) 050 4444	Devray Plant & Earthworks (Richards Bay)	(035) 751-2141
Riegers Hire (East London)	(043) 732-1464	Dreykon (Dundee)	(034) 212-1246
Roberts Bros. Construction (East London)	(043) 748-2588	Dudula Civils (Pietermaritzburg)	(033) 346 4121
Rumdel (Cape) (East London)	(043) 748-6417	Ekene Investments (Queensburgh)	(031) 767 1033
SL Contractors (East London)	(043) 745-2002	EXR Construction (Mount Edgecombe)	(031) 539-9100
Sokhulu Truck & Plant Hire (Matatiele)	(039) 737 4384	GR Transport & Plant Hire (Darnall)	(035) 486-1903
T&F Construction	(016) 421-4656	Hire Anything (Richards Bay)	(035) 789-5997
Ukamva Civils (Mthatha)	(047) 531 1007	Ian Dickie & Co (Durban)	(031) 709-1313
Umso Construction (East London)	(043) 748-4747	Induna Logistics & Terminals ( Richards Bay)	(035) 797 4100
WC Plant Hire (Gonubie)	(043) 732-1833	JCR Transport (Pinetown)	(031) 700-6833
Xesibe Construction ( Lusikisiki)	(039) 253-7264	Leomat Plant Hire (Richards Bay)	(035) 797-4611
FREE STATE		GAUTENG & NORTH-WEST	
Sigg's Engineering & Projects (Sasolburg)	(016) 971-1204	LT Earthmovers (Wartburg)	(033) 503-1355
T&F Construction	(016) 421-4656	Mabona Civils & Plant Hire (Kokstad)	(039) 727 146
		Major Machines (Merrivale)	(033) 330 5701
A-Z Engineering & Plant Hire (Johannesburg)	(011) 462-7907	Marlisha Transport (Westmead)	(031) 700 8616
Active Construction & Equipment (Benoni)	(011) 425-4890/1	McKenzie Plant Hire (Richmond)	(033) 212-2181
ALS Group (Centurion)	(012) 640-0040	Midmar Plant Hire (Westmead)	(031) 700-9061
Barloworld Cat Rental Store (Isando)	(011) 929-0419	Morgado Plant Hire (Durban)	(031) 569-4750
Basil Read Plant (Johannesburg)	(011) 418-6300	Motwell Plant Hire (Illovo Beach)	(082) 496 9673
Bears Plant Hire (Johannesburg)	(0861) 232-777		
Bulk Machine Hire	(011) 964-1179		
Burma Plant Hire (Springs)	(071) 689-0711		
C.A.T.S Plant Hire (Roodepoort)	(011) 474-4261		
Catkom Plant (Boksburg North)	(011) 892 0775		
Cubenco 194 (Vanderbijlpark)	(016) 931-9758		
Diesel Power Group (Bredell)	(086) 196-1177		
Eco Plant Hire (Kew)	(082) 555 0095		
EPH Plant Hire (Centurion)	(012) 660-3312		
Hennop Crane Hire (Johannesburg)	(011) 828-0427		
Hennox 170 (Johannesburg)	(011) 024 1057		
Ian Dickie & Co (Johannesburg)	(011) 609-4130		
Jumbo Machine Moving (Alrode)	(011) 100-0908		

## 31. TRUCKS continued

### WHERE TO HIRE

KWAZULU-NATAL continued		NORTHERN CAPE	
Pat Smith Plant Hire (Dundee)	(034) 218-1295	ALS Group (Upington)	(054) 334-0140
Protrans Plant & Civils (Port Shepstone)	(039) 6682 5695	Burma Plant Hire (Posmasburg)	(053) 313-3646
RADDs Transport(Empangeni)	(035) 787 3901	Igloo Plant Hire (Kathu)	(053) 723 1514
Sage Trans (Durban)	(031) 266 1492	Ovoscape Plant Hire (Kuruman)	(082) 207 3797
Savemor Earthmoving (Durban)	(031) 702-9441	T&F Construction	(016) 421-4656
Scotty's Plant Hire (Pietermaritzburg)	(033) 386-1614	<b>NORTH-WEST</b>	
Scotty's Plant Hire (Durban)	(031) 700-8000	ALS Group	(086) 125-7257
Sealcoat Surfacing & Asphalt (Pietermaritzburg)	(033) 386-8998	Astrum Equipment (Brits)	(012) 003 2137
Sobuza Investments (Pinetown)	(031) 100 1023	Babcock Plant Services (Rustenburg)	(082) 810-1229
Superdigger Plant Hire (Cliff Dale)	(031) 736 6010	Elmar Projects (Swartruggens)	(014) 544-0677
Tony's Tool Hire (Dundee)	(034) 212-5232	North Reef Mining (Klerksdorp)	(018) 464-4071
Tony's Tool Hire (Newcastle)	(034) 312 8396	West Rand Plant Hire (Orkney)	(018) 473-5551
Tony's Tool Hire (Pongola)	(034) 413-3023	<b>PORT ELIZABETH</b>	
Tswella Trading (Kokstad)	(039) 727 5907	Algoa Plant Hire (Port Elizabeth)	(041) 453-2164
Ubunye Plant Hire (Queensburgh)	(031) 464-6551	Burma Plant Hire (Port Elizabeth)	(041) 463-4033
Ubunye Plant Hire (Queensburgh)	(031) 464-6551	DK Pringle Earthworks (Bedford)	(046) 685-0858
Universal Trading (Jacobs)	(031) 461 5008	Ian Dickie & Co (Port Elizabeth)	(041) 451-1577
Upfold Plant Hire (Shelly Beach)	(087) 808 6914	Lexintons Civil & Plant (Port Elizabeth)	(041) 372-1850
VIP Construction cc (Pietermaritzburg)	(076) 399 4596	Newport Plant Hire (Port Elizabeth)	(041) 463-2819
<b>LIMPOPO</b>		Primo Plant Hire (Humewwod)	(082) 973-4496
Assert Plant Hire (Polokwane)	(014) 763-6720	Rand Civils (Port Elizabeth)	(041) 581-7791
Kingdom Plant (Tzaneen)	(015) 307-3950	Sakhizwe Plant Hire (Port Elizabeth)	(082) 902 7000
Maruma Plant Hire (Pietersburg)	(015) 293-2902	Scribante Construction (Port Elizabeth)	(041) 484-7211
Ovoscape Plant Hire (Polokwane)	(082) 716 3765	SJW Plant (Port Elizabeth)	(041) 372 1845
<b>MPUMALANGA</b>		Stu Davidson & Sons (Port Elizabeth)	(041) 581-7711
ALS Group (Witbank)	(013) 689-1128	Techni Civils (Newton Park)	(041) 364-3240
Central Africa Machine Sales (Witbank)	(013) 691-2102	Uitenhage Crane & Plant Hire (Uitenhage)	(041) 922-8060
Cranes 4 Hire (Witbank)	(013) 696-1146	Venter Plant Hire	(082) 655 7590
Cranes 4 Hire (Middelburg)	(013) 699-9701	<b>WESTERN CAPE</b>	
F&K Hire (Middleburg)	(013) 246-1701	Barloworld Cat Rental Store (Bellville)	(021) 959-8200
T&F Construction	(016) 421-4656	Burma Plant Hire (Kuilsvrivier)	(021) 905-8122
Ikotwe Plant Hire (White River)	(013) 750-1200	Ian Dickie & Co (Cape Town)	(021) 534-3431
Isambane Mining (Middleburg)	(071) 681-9939	Mainline Civil Engineering Contractors (Woodstock)	(021) 461 7499
Opsicol Mining Services (Middelburg)	(013) 612-0503	Rainbow Plant Hire (Worcester)	(023) 347-0739
Quality Plant Hire (Tzaneen)	(015) 304-3000	Stelval Crane Hire (Epping Industrial)	(021) 534-4291
T&F Construction	(016) 421-4656	Sylco (Cape Town)	(021) 845-4494
Tony's Tool Hire (Piet Retief)	(017) 826-4683	T&F Construction	(016) 421-4656
<b>NAMIBIA</b>		Transand (Hartenbos)	(044) 695-0105
Roads Contractor Company (Windhoek)	(00264) 612 979 000	Umhlaba Plant Hire (Kraaifontein)	(021) 987-1650/2
Walvis Bay Plant & Tool Hire Services	(00264) 642-03787		
Wesbank Transport (Walvis Bay)	(00264) 6421 6000		
Windhoek Hire Sales & Services (Windhoek)	+264 61 233693.		
Windhoek Renovations (Windhoek)	(00264) 6123-6159		