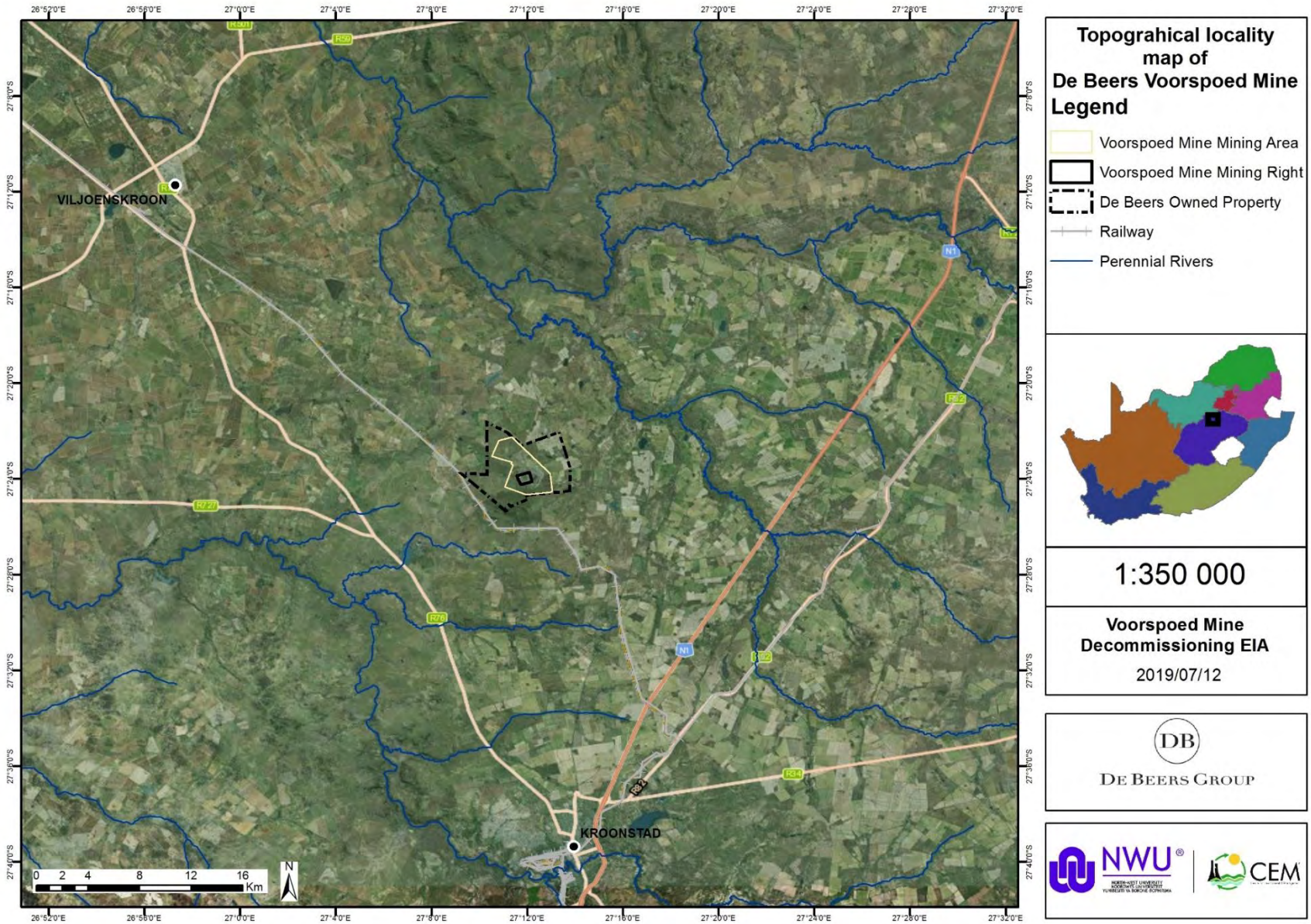
APPENDICES

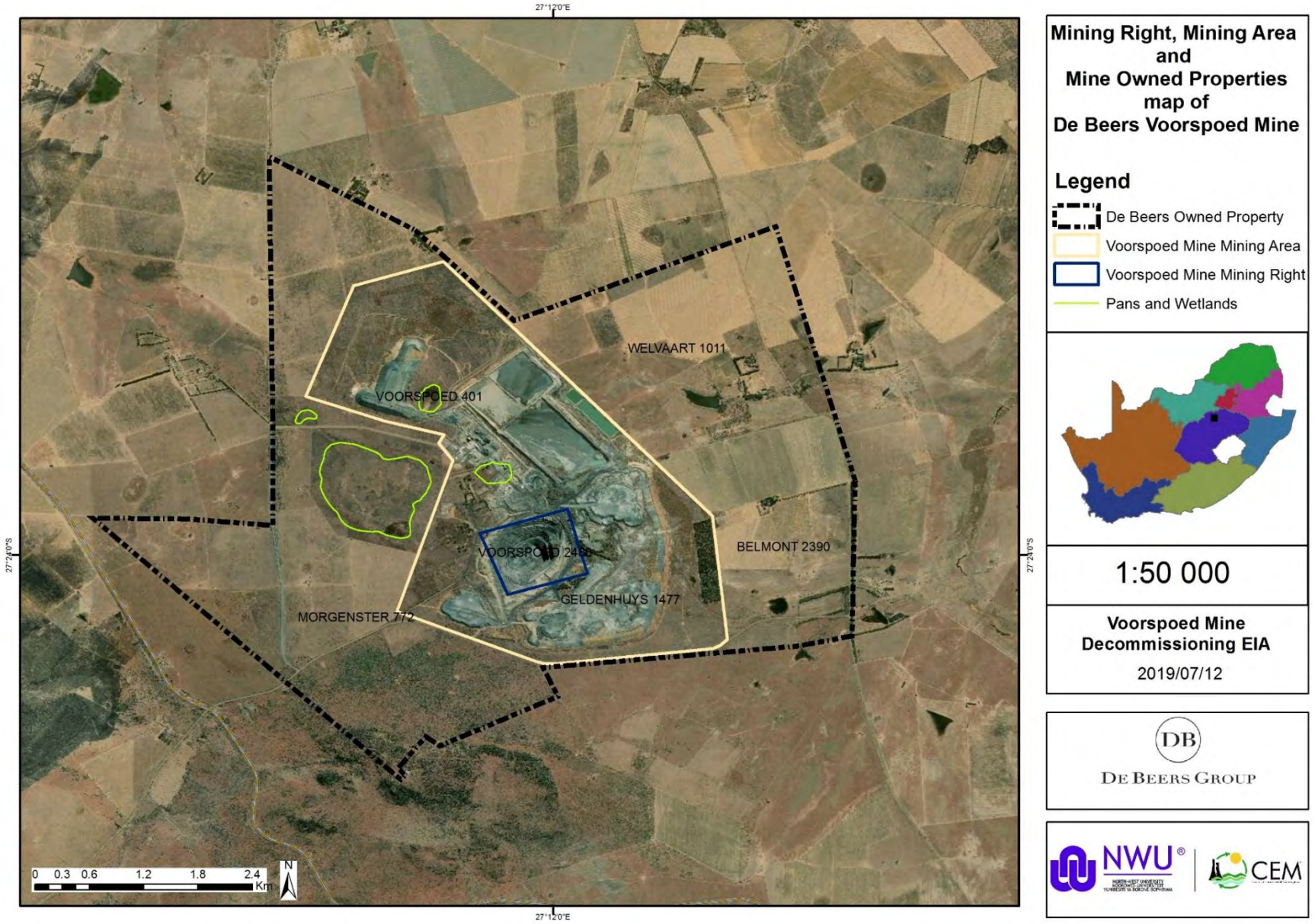
Appendix no.	Description
1	Voorspoed Mine locality map, showing the nearest towns and other infrastructure
2	Voorspoed Mine locality map, showing the mining right, mining area and surrounding mine owned properties
3	Scope of the proposed overall activity, showing the location of all the main and listed activities (facilities) and on-site infrastructure at Voorspoed Mine
4	Scope of the proposed overall activity, showing the location of all the off-site infrastructure at Voorspoed Mine
5	Scope of the proposed overall activity, showing the location of the main closure components at Voorspoed Mine
6	Environmental features and current land use map of Voorspoed Mine, showing all environmental features and current land use activities
7	Assessment of the environmental impacts/risks for the preferred open pit decommissioning and mine closure option
8	Assessment of the environmental impacts/risks for the alternative pit backfill decommissioning and mine closure option
9	Final decommissioning site map, showing the preferred decommissioning option with its associated structures and infrastructure, as well as the environmental sensitivities of the mining area, indicating areas that should be avoided, including buffers
10	Evidence of the EAP's expertise – CV
11	Voorspoed Mine Final Closure Plan, June 2019, Redco & Uvuna Sustainability
12	Voorspoed Mine Rehabilitation Plan 2019, (Annexure A to Final Closure Plan 2019), June 2019, Redco & Uvuna Sustainability
13	Voorspoed Mine – Pit Closure Study, Report E-TEK 10079, 21 June 2016, E-TEK Consulting & Redco
14	Technical Evaluation of the Risks, Impacts and Management Requirements into Pit Backfilling versus Current Mine Plan (Pit Lake), February 2019, Report 1792363-318923-1_Rev1, Golder Associates Africa (Pty) Ltd.
15	Proposed End Land Use Plan for Voorspoed Diamond Mine, not dated, NEKA Sustainability Solutions
16	Socio-economic impact assessment - Voorspoed Mine closure, April 2019, Environmental Resources Management (ERM)

Appendix no.	Description
17	Voorspoed Mine - Summary of surface and groundwater study for mine closure, October 2017 (Golder Associates)
18	Voorspoed Mine's Hydrological Monitoring Program (2018+) - monitoring sites, program and network upgrade
19	Baseline biodiversity assessment at De Beers Voorspoed Mine, October 2010 (Bucandi Environmental Solutions)
20	A Determination of Floristic Biodiversity at De Beers Voorspoed Mine, March 2013 (Bucandi Environmental Solutions)
21	A Wetland Delineation, Management and Rehabilitation Plan for the De Beers Voorspoed Mine, July 2017 (Exigo Sustainability)
22	An Alien Invasive Management Plan for the De Beers Voorspoed Mine, December 2016 (Exigo Sustainability)
23	A Heritage Impact Assessment (HIA) study for an EMP for the Voorspoed Diamond Mine near Kroonstad (J. Pistorius)
24	Correspondence between Voorspoed Mine and the Department of Mineral Resources regarding the section 52 process followed
25	Invitation letter that was circulated to all identified Interested and Affected Parties, inviting them to register and participate in the EIA process
26	Background Information Document with information about the decommissioning and mine closure process, as well as the EIA process and the role of interested and affected parties in the process, with a registration and feedback form that was circulated with the invitation letter to all identified I&APs
27	Evidence of the site notices that were displayed to inform prospective Interested and Affected Parties of the Voorspoed Diamond Mine decommissioning basic environmental impact assessment process
28	Evidence of the newspaper advertisements that were published to inform propspective Interested and Affected Parties of the Voorspoed Diamond Mine decommissioning basic environmental impact assessment process
29	Minutes of the public meeting held in Kroonstad at the Kroonstad Civil Centre on 19 August 2019, including copies of representations and comments received from registered interested and affected parties
30	Minutes of the public meeting held in Parys in the Mosepedi Site Hall, Tumahole, on 20 August 2019, including copies of representations and comments received from registered interested and affected parties

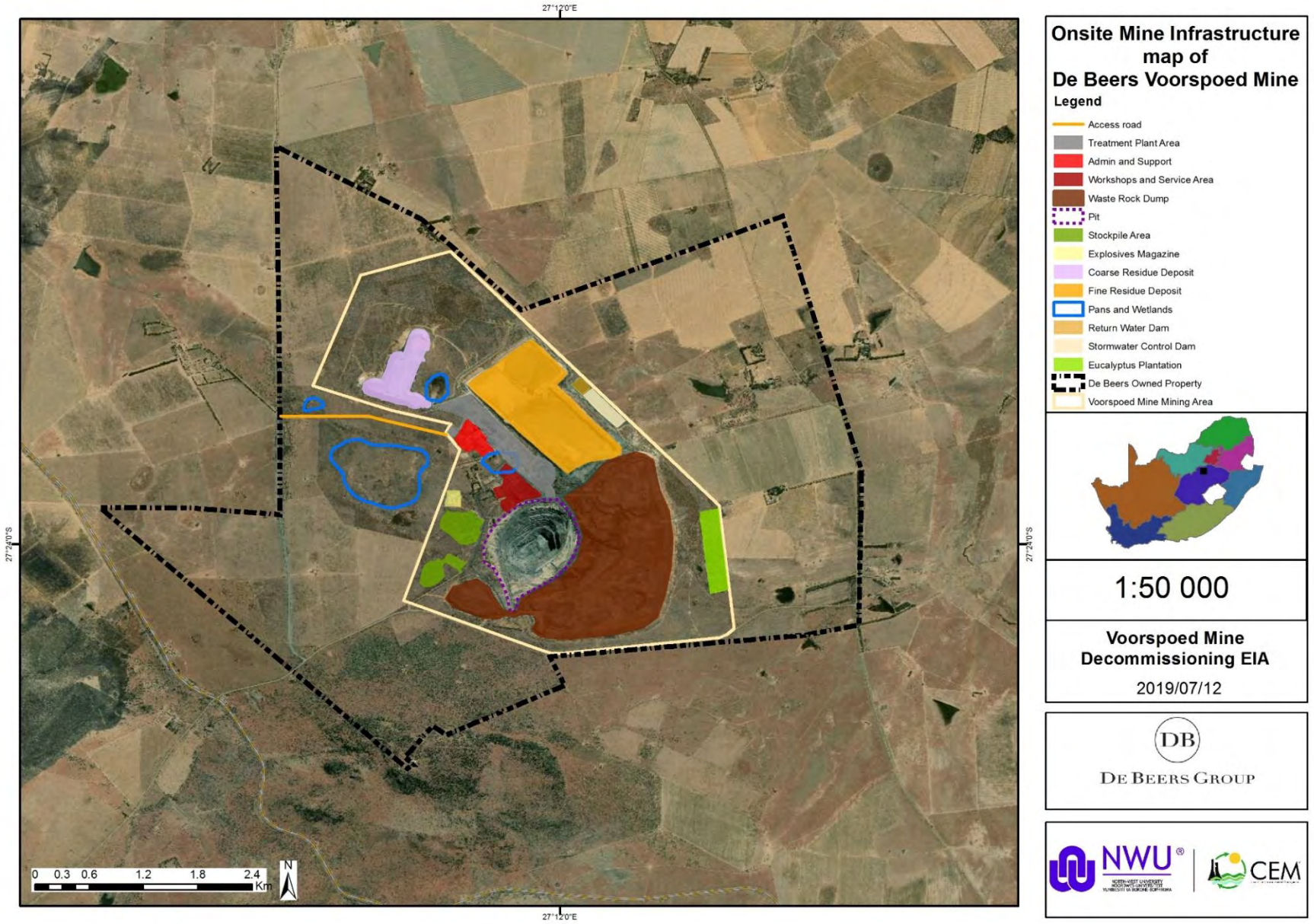
Appendix no.	Description
31	Minutes of a pre-application meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Mineral Resources on 1 March 2019 at their offices in Welkom
32	Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Water and Sanitation Regional Office on 3 March 2019 at their offices in Bloemfontein
33	Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Free State Department of Economic, Small Business, Tourism and Environmental Affairs on 10 April 2019 at their offices in Bloemfontein
34	Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Rural Development and Land Reform on 10 April 2019 at their offices in Bloemfontein
35	Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Agriculture, Forestry and Fisheries on 12 April 2019 at Voorspoed Mine
36	Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Water and Sanitation Head Office on 4 June 2019 at their offices in Pretoria
37	Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Ngwathe Municipality on 20 August 2019 at their offices in Parys
38	Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Moqhaka Municipality on 19 August 2019 at their offices in Kroonstad
39	Final comment received from the South African Heritage Resources Agency in terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) on the Voorspoed Mine decommissioning Environmental Authorisation application
40	Comments received from the DWS Chief Director: Water Quality Regulation, Department of Water and Sanitation on the Voorspoed Mine decommissioning Environmental Authorisation application
41	Comments received from the geohydrological specialist, Department of Water and Sanitation on the Voorspoed Mine decommissioning Environmental Authorisation application



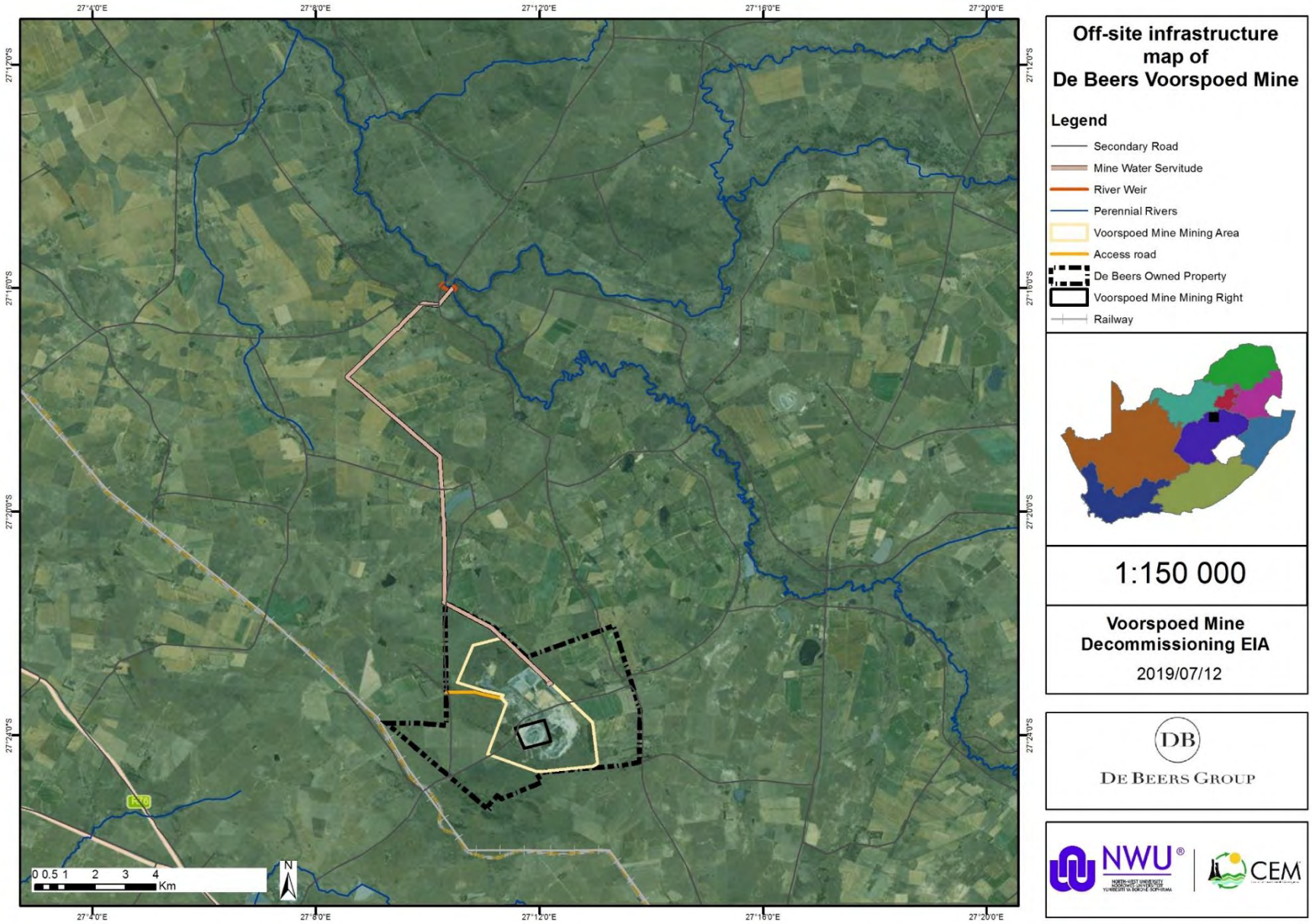
Appendix 1: Voorspoed Mine locality map, showing the nearest towns and other infrastructure



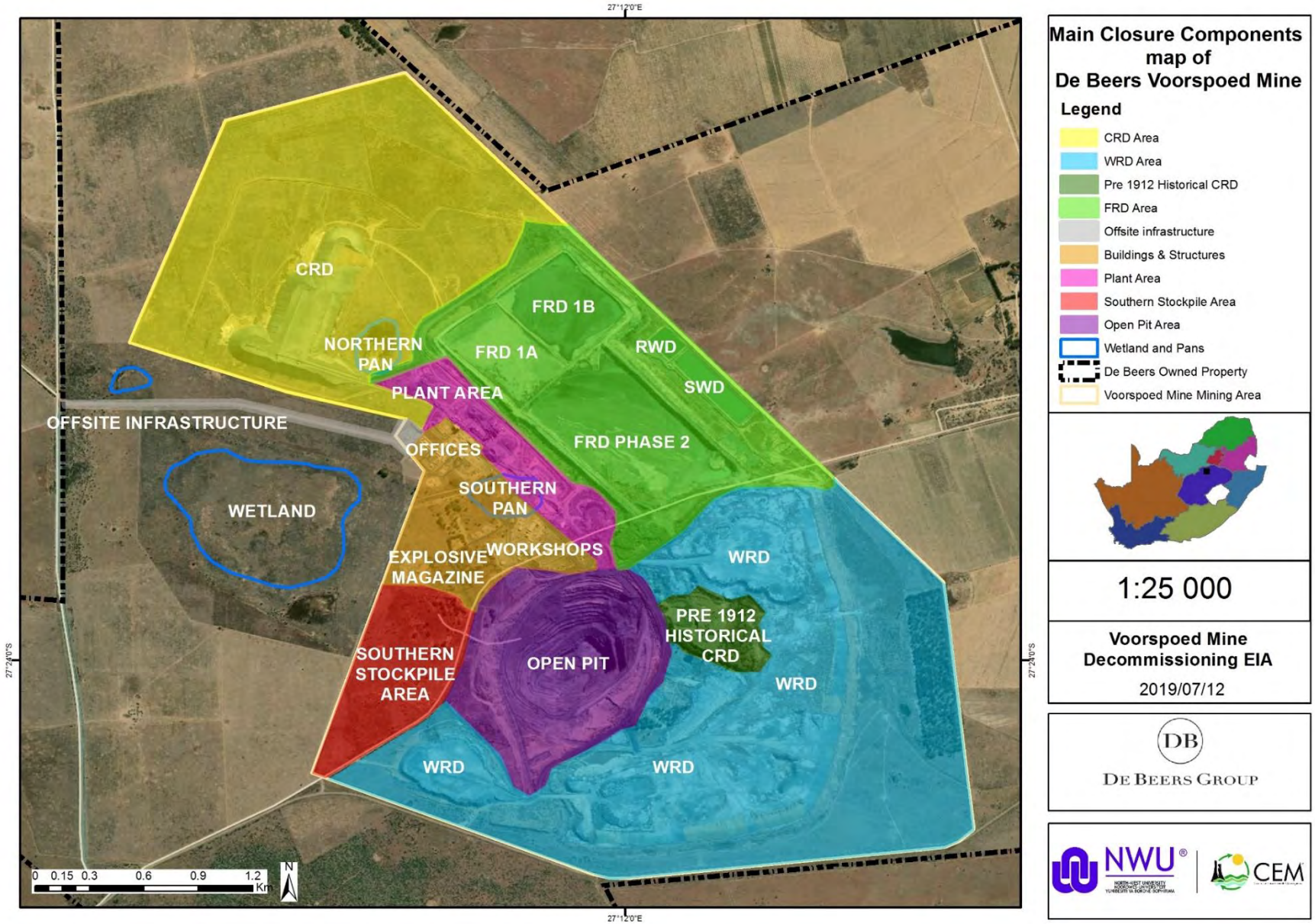
Appendix 2: Voorspoed Mine locality map, showing the mining right, mining area and surrounding mine owned properties



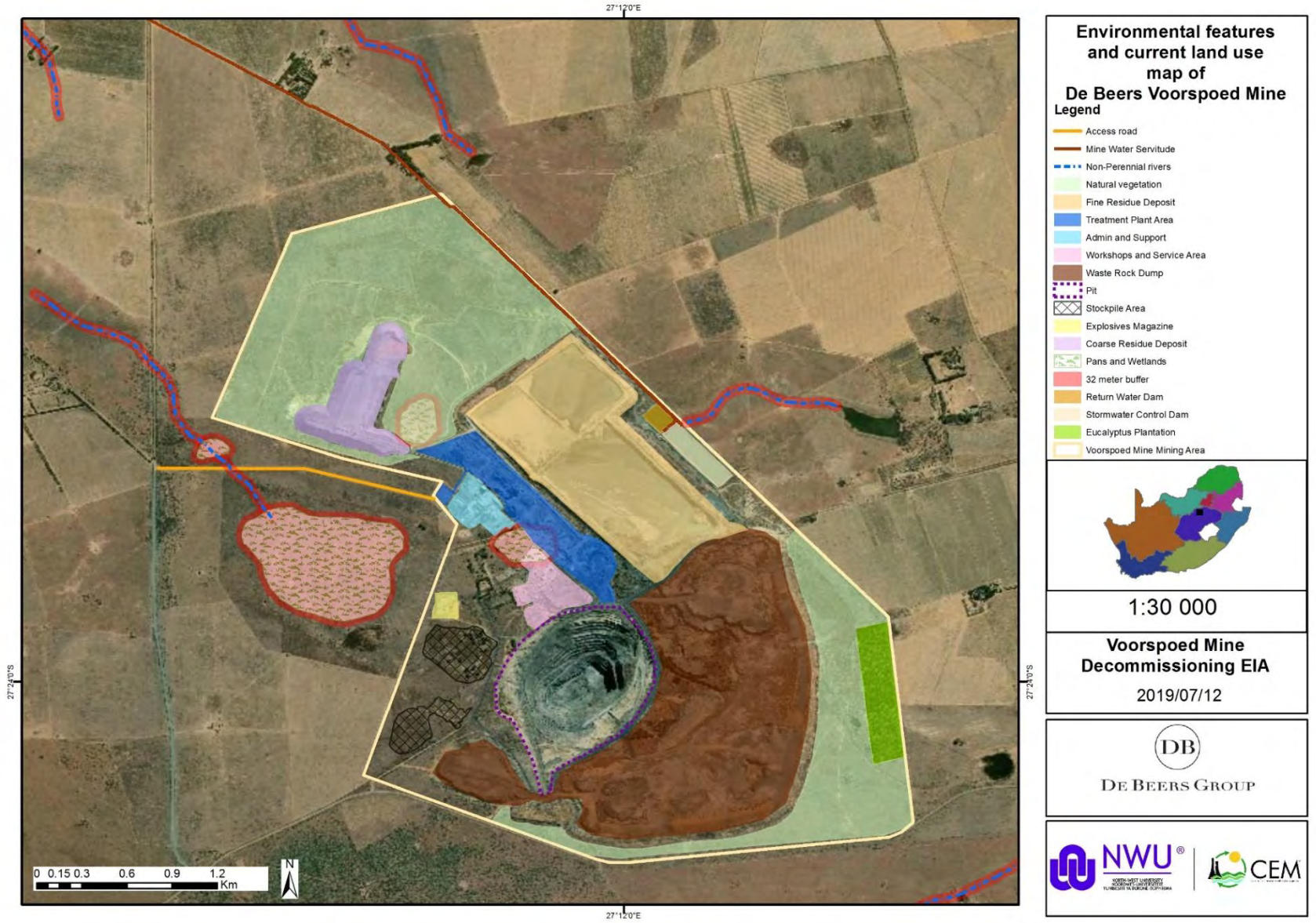
Appendix 3: Scope of the proposed overall activity, showing the location of all the main and listed activities (facilities) and on-site infrastructure



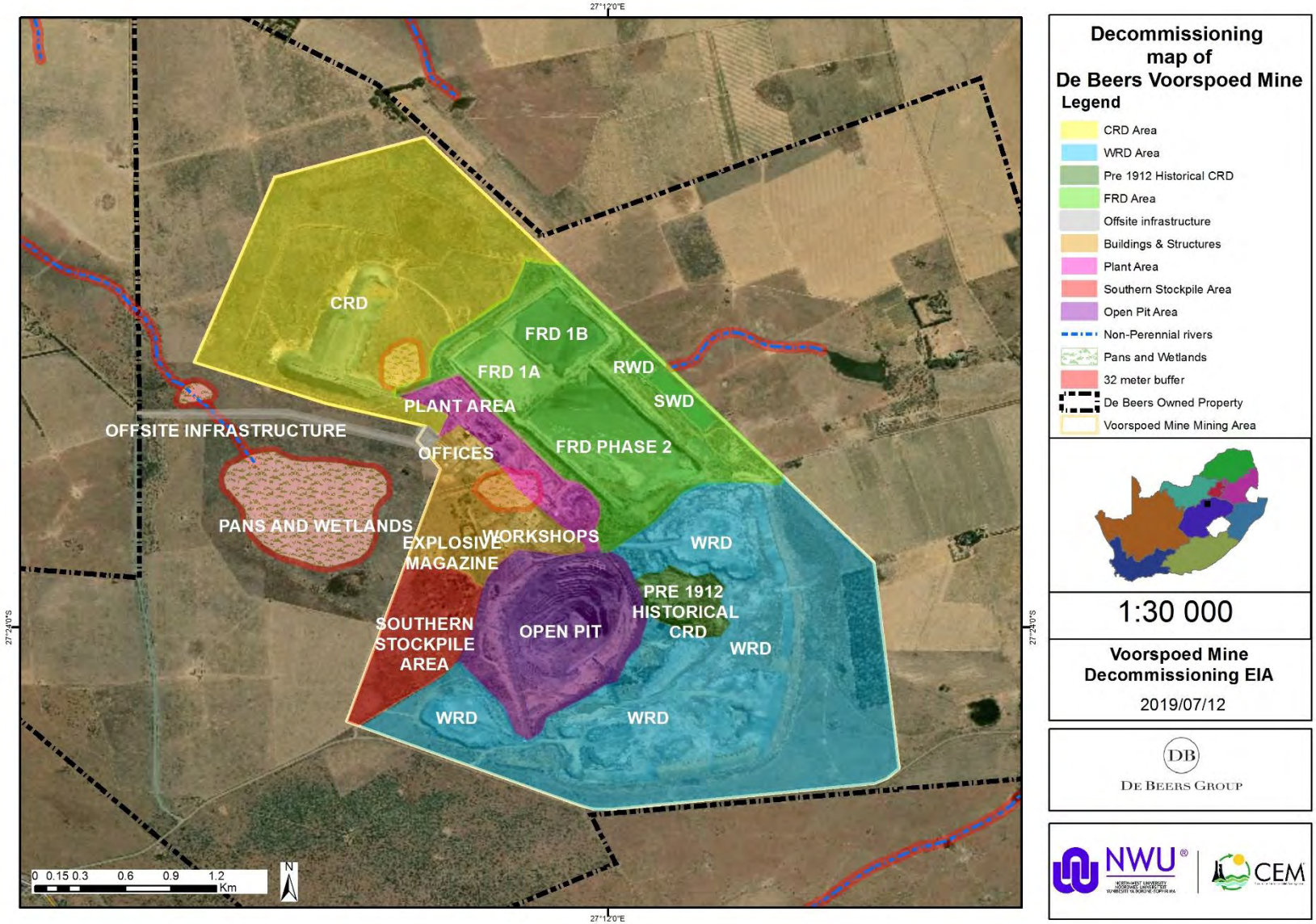
Appendix 4: Scope of the proposed overall activity, showing the location of the off-site infrastructure



Appendix 5: Scope of the proposed overall activity, showing the location of the main closure components at Voorspoed Mine



Appendix 6: Environmental features and current land use map of Voorspoed Mine, showing all environmental features and current land use activities



Appendix 7: Final Voorspoed Mine decommissioning site map, showing the preferred decommissioning option with its associated structures and infrastructure, as well as all environmental sensitivities of the mining area, indicating areas that should be avoided, including buffers

Appendix 8: Assessment of the environmental impacts/risks for the preferred open pit decommissioning and mine closure option

Impact	Pre mitigation impact assessment								Mitigation type	Post mitigation significance
	Extent	Duration	Magnitude	Probability	Reversibility	Extent of avoidance, management, mitigation	Extent of irreplaceable loss of resources	Significance		
Decommissioning activities										
Soil compaction	Site specific	Short	Low	Definite	Moderate	Low	Low	Moderate	Remedy through rehabilitation	Moderate
Soil pollution	Site specific	Short	Low	Moderate	Moderate	Low	Low	Low	Remedy through rehabilitation	Low
Land use/potential	Site specific	Short	Low	Definite	Moderate	Low	Low	Moderate	Remedy through rehabilitation	Moderate
Surface water run-off	Local	Short	Low	Definite	Moderate	Moderate	Low	Low	Control surface water run-off	Low
Surface water pollution	Local	Short	Low	Definite	Moderate	Moderate	Low	Low	Control & remedy through rehabilitation	Low
Generation of dust and fumes	Local	Short	Low	Definite	High	Moderate	Low	Low	Control through management	Low
Noise	Local	Short	Low	Definite	High	Low	Low	Low	Control through management	Low
Vegetation impacts	Site specific	Short	Low	High	Moderate	Moderate	Low	Low	Control through management	Low
Wildlife disturbance and killing/injury	Site specific	Short	Low	High	Moderate	Moderate	Low	Very low	Control through management	Very low
Visual impact	Local	Short	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Short	Low	Definite				High		High
Social impacts due to human injury & death	Site specific	Medium	Moderate	Definite	Low	Moderate	Low	High	Control through pit access control measures	Moderate
Other social & socio-economic impacts	Regional	Short	Low	Definite	Low	Low	Moderate	Moderate	Manage through social impact management measures	Moderate
Social & socio-economic impacts	Regional	Short	Low	Definite				Moderate		Moderate
Earthworks activities										
Soil compaction	Site specific	Short	Low	Definite	Moderate	Moderate	Low	Moderate	Remedy through rehabilitation	Moderate
Soil pollution	Site specific	Short	Low	Moderate	Moderate	Low	Low	Low	Remedy through rehabilitation	Low
Change in land use/potential	Site specific	Short	Low	Definite	Moderate	Low	Low	Moderate	Remedy through rehabilitation	Moderate
Surface water run-off	Local	Short	Low	Definite	Moderate	Moderate	Low	Low	Control & remedy through rehabilitation	Low
Surface water run-off	Local	Medium	Low	Definite				High		High
Surface water pollution	Local	Medium	Low	Definite	Moderate	Low	Moderate	Moderate	Control & remedy through rehabilitation	Moderate
Surface water pollution	Local	Long	Low	Definite				High		High

Impact	Pre mitigation impact assessment								Mitigation type	Post mitigation significance
	Extent	Duration	Magnitude	Probability	Reversibility	Extent of avoidance, management, mitigation	Extent of irreplaceable loss of resources	Significance		
Groundwater pollution	Local	Medium	Moderate	Moderate	Low	Low	Moderate	High	Control & remedy through rehabilitation	High
Groundwater pollution	Local	Long	Moderate	Very high				Moderate		Moderate
Generation of dust and fumes	Local	Short	Low	Definite	High	Moderate	Low	Low		Low
Noise	Local	Short	Low	Definite	High	Low	Low	Low		Low
Vegetation impacts	Site specific	Short	Low	High	Moderate	Moderate	Low	Low	Remedy through rehabilitation	Low
Wildlife disturbance and killing/injury	Site specific	Short	Low	High	Moderate	Moderate	Low	Very low	Control through management	Very low
Ecosystem services	Local	Short	Low	High	Moderate	Moderate	Low	High	Remedy through rehabilitation	Moderate
Ecosystem services	Local	Short	Low	High				High		High
Visual impact	Local	Short	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Permanent	Low	Definite				Very high		Very high
Social impacts due to human injury & death	Site specific	Medium	Moderate	Definite	Low	Moderate	Low	High	Control through pit access control measures	Moderate
Social & socio-economic impacts	Regional	Short	Low	Definite				Moderate		Moderate
Rehabilitation activities										
Soil compaction	Site specific	Medium	Low	Definite				Very high		Very high
Soil pollution	Local	Short	Moderate	Definite				High		High
Change in land use/potential	Site specific	Long	Moderate	Definite				Very high		Very high
Surface water run-off	Local	Medium	Moderate	Definite				High		High
Surface water pollution	Local	Medium	Moderate	High	Moderate	Moderate	Low	Moderate	Control & remedy through rehabilitation	Low
Surface water pollution	Local	Medium	Moderate	Definite				High		High
Groundwater pollution	Local	Medium	Moderate	High				High		High
Generation of dust and fumes	Local	Short	Low	Definite	High	Moderate	Low	Low	Control through management	Low
Generation of dust and fumes	Local	Medium	Low	High				High		High
Noise	Local	Short	Low	Definite	High	Low	Low	Very low	Control through management	Very low
Vegetation impacts	Site specific	Medium	Low	High				Moderate		Moderate

Impact	Pre mitigation impact assessment								Mitigation type	Post mitigation significance
	Extent	Duration	Magnitude	Probability	Reversibility	Extent of avoidance, management, mitigation	Extent of irreplaceable loss of resources	Significance		
Wildlife disturbance and killing/injury	Site specific	Short	Low	High	High	High	Low	Low	Control through management	Low
Wildlife disturbance and killing/injury	Site specific	Medium	Low	High				High		High
Ecosystem services	Local	Medium	Moderate	Moderate	Moderate	Moderate	Low	High	Remedy through rehabilitation	Moderate
Ecosystem services	Local	Medium	Moderate	High				Moderate		Moderate
Visual impact	Local	Short	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Permanent	Low	Definite				Very high		Very high
Social impacts due to human injury & death	Site specific	Medium	Moderate	Definite	Low	Moderate	Low	High	Control through pit access control measures	Moderate
Social & socio-economic impacts	Regional	Short	Low	Definite				Moderate		Moderate
Post rehabilitation management, maintenance and monitoring activities										
Change in land use/potential	Site specific	Long	Low	High				Very high		Very high
Surface water run-off	Local	Long	Low	High				High		High
Surface water pollution	Local	Long	Low	High				High		High
Groundwater pollution	Local	Long	Low	High				Moderate		Moderate
Generation of dust and fumes	Local	Medium	Low	High				Moderate		Moderate
Noise	Local	Permanent	Low	High				Very high		Very high
Vegetation impacts	Site specific	Long	Low	High				High		High
Wildlife disturbance and killing/injury	Site specific	Long	Low	High				High		High
Ecosystem services	Local	Medium	Moderate	Moderate	Moderate	Moderate	Low	High	Remedy through rehabilitation	Moderate
Ecosystem services	Local	Long	Low	High				High		High
Visual impact	Local	Medium	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Long	Low	High				High		High
Social impacts due to human injury & death	Site specific	Permanent	Moderate	Definite	Low	Moderate	Low	High	Control through pit access control measures	Moderate
Social & socio-economic impacts	Regional	Long	Low	Definite				Moderate		Moderate

Appendix 9: Assessment of the environmental impacts/risks for the alternative pit backfill decommissioning and mine closure option

Impact	Pre mitigation impact assessment								Mitigation type	Post mitigation significance
	Extent	Duration	Magnitude	Probability	Reversibility	Extent of avoidance, management, mitigation	Extent of irreplaceable loss of resources	Significance		
Decommissioning activities										
Soil compaction	Site specific	Short	Low	Definite	Moderate	Low	Low	Moderate	Remedy through rehabilitation	Moderate
Soil pollution	Site specific	Short	Low	Moderate	Moderate	Low	Low	Low	Remedy through rehabilitation	Low
Land use/potential	Site specific	Short	Low	Definite	Moderate	Low	Low	Moderate	Remedy through rehabilitation	Moderate
Surface water run-off	Local	Short	Low	Definite	Moderate	Moderate	Low	Low	Control surface water run-off	Low
Surface water pollution	Local	Short	Low	Definite	Moderate	Moderate	Low	Low	Control surface water pollution	Low
Generation of dust and fumes	Local	Short	Low	Definite	High	Moderate	Low	Low	Control through management	Low
Noise	Local	Short	Low	Definite	High	Low	Low	Low	Control through management	Low
Vegetation impacts	Site specific	Short	Low	High	Moderate	Moderate	Low	Low	Control through management	Low
Wildlife disturbance and killing/injury	Site specific	Short	Low	High	Moderate	Moderate	Low	Very low	Control through management	Very low
Visual impact	Local	Short	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Short	Low	Definite				High		High
Social impacts due to human injury & death	Site specific	Short	Moderate	Very low	Low	Moderate	Moderate	High		Moderate
Social & socio-economic impacts	Regional	Short	Low	Definite	Low	Low	Moderate	Moderate	Manage through social impact management measures	Moderate
Social & socio-economic impacts	Regional	Short	Low	Definite				Moderate		Moderate
Earthworks activities										
Soil compaction	Site specific	Short	Low	Definite	Moderate	Moderate	Low	Moderate	Remedy through rehabilitation	Moderate
Soil pollution	Site specific	Short	Low	Moderate	Moderate	Low	Low	Low	Remedy through rehabilitation	Low
Change in land use/potential	Site specific	Short	Low	Definite	Moderate	Low	Low	Moderate	Remedy through rehabilitation	Moderate
Surface water run-off	Local	Short	Low	Definite	Moderate	Moderate	Low	Low	Control & remedy through rehabilitation	Low
Surface water run-off	Local	Medium	Low	Definite				High		High
Surface water pollution	Local	Medium	Low	Definite	Moderate	Low	Moderate	Moderate	Control & remedy through rehabilitation	Low
Surface water pollution	Local	Long	Low	Definite				High		High

Impact	Pre mitigation impact assessment								Mitigation type	Post mitigation significance
	Extent	Duration	Magnitude	Probability	Reversibility	Extent of avoidance, management, mitigation	Extent of irreplaceable loss of resources	Significance		
Groundwater pollution	Local	Medium	Moderate	Moderate	Low	Low	Moderate	High	Control & remedy through rehabilitation	Moderate
Groundwater pollution	Local	Long	Moderate	Very high				Moderate		Moderate
Generation of dust and fumes	Local	Short	Low	Definite	High	Moderate	Low	Low		Low
Noise	Local	Short	Low	Definite	High	Low	Low	Low		Low
Vegetation impacts	Site specific	Short	Low	High	Moderate	Moderate	Low	Low	Remedy through rehabilitation	Low
Wildlife disturbance and killing/injury	Site specific	Short	Low	High	Moderate	Moderate	Low	Very low	Control through management	Very low
Ecosystem services	Local	Short	Low	High	Moderate	Moderate	Low	High	Remedy through rehabilitation	Moderate
Ecosystem services	Local	Short	Low	High				High		High
Visual impact	Local	Short	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Permanent	Low	Definite				Very high		Very high
Social impacts due to human injury & death	Site specific	Short	Moderate	Very low	Low	Moderate	Moderate	High		Moderate
Social & socio-economic impacts	Regional	Short	Low	Definite				Moderate		Moderate
Rehabilitation activities										
Soil compaction	Site specific	Medium	Low	Definite				Very high		Very high
Soil pollution	Local	Short	Moderate	Definite				High		High
Change in land use/potential	Site specific	Long	Moderate	Definite				Very high		Very high
Surface water run-off	Local	Medium	Moderate	Definite				High		High
Surface water pollution	Local	Medium	Moderate	High	Moderate	Moderate	Low	Moderate	Control surface water pollution	Low
Surface water pollution	Local	Medium	Moderate	Definite				High		High
Groundwater pollution	Local	Medium	Moderate	High				High		High
Generation of dust and fumes	Local	Short	Low	Definite	High	Moderate	Low	Low	Control through management	Low
Generation of dust and fumes	Local	Medium	Low	High				High		High
Noise	Local	Short	Low	Definite	High	Low	Low	Very low	Control through management	Very low
Vegetation impacts	Site specific	Medium	Low	High				Moderate		Moderate

Impact	Pre mitigation impact assessment								Mitigation type	Post mitigation significance
	Extent	Duration	Magnitude	Probability	Reversibility	Extent of avoidance, management, mitigation	Extent of irreplaceable loss of resources	Significance		
Wildlife disturbance and killing/injury	Site specific	Short	Low	High	High	High	Low	Low	Control through management	Low
Wildlife disturbance and killing/injury	Site specific	Medium	Low	High				High		High
Ecosystem services	Local	Medium	Moderate	Moderate	Moderate	Moderate	Low	High	Remedy through rehabilitation	Moderate
Ecosystem services	Local	Medium	Moderate	Moderate				Very high		Very high
Visual impact	Local	Short	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Permanent	Low	Definite				Very high		Very high
Social & socio-economic impacts	Regional	Short	Low	Definite				Moderate		Moderate
Post rehabilitation management, maintenance and monitoring activities										
Change in land use/potential	Site specific	Long	Low	High				Very high		Very high
Surface water run-off	Local	Long	Low	High				High		High
Surface water pollution	Local	Long	Low	High				High		High
Groundwater pollution	Local	Long	Moderate	High	Low	Moderate	Moderate	High	Control through pollution plume borehole capturing system & subsequent storage and/or treatment of polluted water	High
Generation of dust and fumes	Local	Medium	Low	High				Moderate		Moderate
Noise	Local	Permanent	Low	High				Very high		Very high
Vegetation impacts	Site specific	Long	Low	High				High		High
Wildlife disturbance and killing/injury	Site specific	Long	Low	High				High		High
Ecosystem services	Local	Medium	Moderate	Moderate	Moderate	Moderate	Low	High	Remedy through rehabilitation	Moderate
Ecosystem services	Local	Long	Low	High				High		High
Visual impact	Local	Medium	Low	Definite	Low	Low	Low	High		High
Visual impact	Local	Long	Low	High				High		High
Social & socio-economic impacts	Regional	Long	Low	Definite				Moderate		Moderate

Appendix 10: The EAP's CV as evidence of his expertise

TC Meyer
Curriculum Vitae

1. **Surname:** Meyer
2. **First names:** Theunis Christoffel
3. **Date of birth:** 1961-11-29
4. **Nationality:** South African
5. **Marriage status:** Married
6. **Education/qualifications:**

Institution [Date from - Date to]	Qualifications obtained
University of Orange Free State [1982-1992]	B. Sc. Agric, B.Sc. Agric Honours (Pasture Science), M.Sc. Agric (Pasture Science)
University of Pretoria [1987-1987]	B.Sc. Honours (Wildlife Management)
Technikon RSA 1992-1996	National Higher Diploma (Management Practice)
Potchefstroom University 1999-2003	M. (Environmental Management)
Maccauvlei Learning Academy 2010	Assessor Programme Certificate
North West University 2015	Advanced Management Programme Certificate in Strategic Management
Maccauvlei Learning Academy 2017	Moderator Programme Certificate

7. **Language skills:**

Indicate competency on a scale of 1 to 5 (1=excellent; 5=basic)

Language	Reading	Speaking	Writing
Afrikaans	1	1	1
English	1	1	1
German	5	5	

8. **Membership of professional bodies:**

- Registered Professional Natural Scientist – Ecological Science and Environmental Science. (400029/08)
- Certified Senior Environmental Management System Auditor - Southern African Auditor Training and Certification Association (E058)
- International Association for Impact Assessment (South African Chapter)
- Grassland Society of Southern Africa

- Former member of Arid Zone Ecology Forum and Wildlife Management Association of Southern Africa

9. Present position and location:

Chief Subject Specialist, Centre for Environmental Management, North-West University, Potchefstroom

10. Years within the organisation: 18 years

11. Professional experience

11.1 Areas of specialisation

Environmental law, mine closure and rehabilitation, Environmental Impact Assessment, Environmental Management Frameworks, Environmental and Occupational Health and Safety management systems, Environmental Management Systems auditing, environmental legal compliance auditing, municipal environmental management, Green Economy, estate management, invader plant control, biodiversity offsets, karoo, grassland and savannah ecology, wildlife and protected area management, plant-animal interactions.

11.2 Work experience

No	Activity	Key Experience
1.	Project Management	• Managed a number of large, multi-stakeholder projects for public and private sector clients.
2.	Conducting and facilitating Environmental Impact Assessments (EIAs) for clients	• Conducted numerous EIAs throughout South Africa in terms of the Environmental Conservation Act (No. 73 of 1989) (ECA), the National Environmental Management Act (No. 107 of 1998) (NEMA) and the Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA) for shopping malls, PV solar facilities and mining projects.
3	Development of Environmental Management Frameworks (EMFs) for clients	• Team leader for the development of Environmental Management Frameworks for the Vredefort Dome World Heritage Site, Moqhaka, Ngwathe and Taung Local Municipalities, Mangaung Metropolitan Municipality, as well as Bojanala Platinum District Municipality.
4.	Conducting environmental legal compliance, Environmental Management System (EMS), as well as environmental performance audits	• Conducted numerous environmental legal compliance, EMS and Environmental Performance audits for clients in the mining, energy, chemical, explosives, defence and local government sectors.

No	Activity	Key Experience
5.	Working with local government	• Developed and delivered various environmental management training interventions for local government in the past - Municipalities in Mpumalanga, selected municipalities in SADC, Western Cape and Northern Cape.
6.	Working with communities on issues related to sustainable land management, invader plant control and biodiversity conservation	• Development of an Environmental Sector Master Plan for Metsimaholo Municipality • Development of Invader Plant Control Strategies and Action Plans
7.	Technical • Sustainable agriculture • Veld management • Invader plant control	• Involved in projects to improve/ensure sustainable veld/range management in rural areas –Department of Agriculture & Namibian Department of Nature Conservation • Involved in projects to control alien invasive trees – Department of Agriculture • Involved in veld rehabilitation projects – Department of Agriculture
8.	Training	• Developed and facilitated EIA reviewer training course of 11 competent authorities from 2016 - 2018 • Lecturer, Environmental Management and Environmental Law Masters Programmes - North-West University (2006 – present) • Lecturer, MBA Programmes - School of Business and Governance North-West University (2016 – present) • Lecturer, Environmental management awareness & Environmental Management Systems - North-West University, School of Environmental Sciences and Development, Faculties of Law and Engineering (2002-2005) • Lecturer - Environmental Management module in MBA training programme, Tshwane University of Technology (2012) • External examiner, B. Sc Hons, M. Sc. & M. Sc. Agric programmes – Free State University, North-West University & University of Venda (2001-present) • External moderator, Botany 1 - Technikon of Namibia (1988 – 1989) & Pasture Science II & III - Potchefstroom Agricultural College (1996-2000) • Member of Executive Committee, Environmental Sciences, Environmental Management & Waste Management Standards Generating Body - NSB 10, South African Qualifications Authority (2003-2009) • Lecturer & presenter, formal education & short courses - Grootfontein Agricultural College (1990 – 1994) • Course developer & presenter, short courses - North West

No	Activity	Key Experience
		Department of Agriculture (1994-2001) • Course developer& presenter, Train the trainer: Veld Management - Boskop Training Centre (1995), Train the trainer: Bush control - National Educational Veld Rehabilitation Programme & North West Province Department of Agriculture (1995–2001) • Lecturer, Bush control - Resource Identification and Utilisation Course, North West Province Department of Agriculture (1995–2000) • Course developer & presenter, Train the trainer: Environmental awareness - Impala Platinum Mine (2000), Jwaneng Diamond Mine, Botswana (2001) • Technical course co-ordinator (developer) & presenter: Environmental law, Mine closure and rehabilitation, Environmental Management Systems, Environmental Impact Assessment, Environmental awareness, EMS auditing, Occupational Health and Safety law, Occupational Health and Safety Management Systems, OHSAS 18001 Auditing, Internal SHE Management System Auditing, Handling & Storage of Dangerous Goods - Centre for Environmental Management, North-West University (2001-present) • Programme developer & co-ordinator: Municipal Environmental Management Capacity Building Programmes - Mpumalanga Department of Agriculture and Land Administration, Metsimaholo Local Municipality, Northern Cape Department of Tourism, Environment and Conservation, Ekurhuleni Metropolitan Municipality, Capricorn District Municipality • Programme developer & presenter: Senior management introduction to Environmental and Occupational Health and Safety Management Systems • Programme developer & presenter: Senior management introduction to environmental law and legal liability

11.3 Specific Professional Experience

Dates	Location	Company	Position
2001 – present	Potchefstroom	Centre for Environmental Management, North-West University,	Chief Subject Specialist
Description of experience	• Development, co-ordination and presentation of environmental management and occupational health and safety management, mine closure and rehabilitation, as well as environmental law courses • Conducting and facilitating Environmental Impact Assessments, public participation, integrated Environmental Authorisation and mine closure and rehabilitation processes • Performing environmental legal compliance, environmental performance assessment and environmental management system audits • Development and implementation of ISO 14001 environmental management systems • Providing support to improve the environmental performance of local authorities, as well as public & private sector organisations • Project management • Development of a biodiversity offset proposal and Environmental Management Frameworks • Participation in Standard Generation Body for Environmental Sciences, Environmental Management and Waste Management – also developing standard for post graduate diploma for EAPs • Developing student assessment procedure for CEM Quality Management System • Regular assessment and evaluation of short course training students		
1994 - 2001	Potchefstroom	North West Department of Agriculture	Senior Agricultural scientist
Description of experience	• Planning and execution of research and development projects (grazing capacity, veld management, bush control, veld reclamation) • Development and presentation of training courses on veld management and bush control • Communicating research results through reports, articles and presentations		
1989 - 1994	Middelburg Eastern Cape	Department of Agriculture, Karoo Region	Agricultural scientist
Description of experience	• Planning and execution of research and development projects (grazing capacity, veld management, veld reclamation) • Presentation of training courses on veld management • Formal student training at Grootfontein Agricultural College • Communicating research results through reports, articles and presentations		
1988 – 1989	Windhoek, Namibia	Directorate Nature Conservation, Namibia Government	Nature Conservation Scientist
Description of experience	• Planning and execution of research projects • Development and presentation of training courses on wildlife management • Communicating research results through reports, articles and presentations • Formulation of management recommendations for game reserves		

12 Environmental impact assessment experience

Involved in numerous EIAs throughout South Africa, conducted in terms of the Environmental Conservation Act (No. 73 of 1989) (ECA), the National Environmental Management Act (No. 107 of 1998) (NEMA) and the Mineral and Petroleum Resources Development Act (No. 28 of 2002) (MPRDA). Responsibilities in these EIAs included the facilitation of the EIA and public participation processes, the identification and assessment of environmental impacts and the development of environmental management plans and programmes.

Co-ordinated the EIA reviewer training for competent authorities that was developed and delivered on behalf of the Department of Environmental Affairs and trained nearly 600 EIA reviewers from 11 competent authorities from 2016 to 2018. He also co-ordinated the popular environmental law public short course at the CEM for many years and regularly lectures on the legal EIA requirements to various audiences. These presentations cover the requirements of Section 24 of the NEMA (No. 107 of 1998), the various regulations and listing notices published in terms of the NEMA, as well as the EIA guidelines published by Department of Environmental Affairs (DEA), Gauteng Department of Agriculture and Rural Development (GDARD) and the Western Cape Department of Environmental Affairs and Development Planning (DEADP).

13 Environmental auditing experience

Conducted more than 80 Environmental Management System audits and environmental legal compliance and performance reviews of Mine Environmental Management Programmes, Water Use, Waste and Atmospheric Emissions Licenses, as well as Biodiversity Offsets, spanning more than 150 auditor days on-site for clients in the mining, energy, chemical, explosives, defence and local government sectors.

14 Other relevant information

- **6 Book contributions**

➢ Hoffman M.T., Cousins B., Meyer T.C., Petersen A. & Hendricks H. 1998. Historical and contemporary agricultural land use and the desertification of the Karoo. In: Dean W.R.J. & Milton S.J. (eds.) The Karoo: ecological patterns and processes. Cambridge University Press.

➢ Meyer, T.C., Kellner, K. & Viljoen, C. 2002. Land transformation and soil quality (Chapter 9). North West State of the Environment Report, 2002. CD ROM. North West Department of Agriculture, Conservation and Environment, Mmabatho.

➢ Meyer TC & Le Roux E, 2006. Capacity building for effective municipal environmental management in South Africa. The Sustainable City IV, WIT Press, Southampton, UK.

➢ Meyer TC & Roos C, 2015. Hazardous Substances Control. In: Du Plessis A (ed.) Environmental Law and Local Government in South Africa, Juta.

➢ Meyer TC, 2015. Soil and Land Management. In: Du Plessis A (ed.) Environmental Law and Local Government in South Africa, Juta.

➢ Meyer TC, Verster E, Hattingh A, Snow TV, Olivier NJJ & Du Plessis, W. 2018. Soil, Land and Agriculture. In: King NA, Strydom HA & Retief FP (eds.) Fuggle and Rabie's Environmental Management in South Africa, Juta.

- **11 Semi-scientific publications**

➢ Meyer T.C. & Immelman W.F. 1993. Botaniese dieetsamestelling van Afrino's op Dorre Karooveld. Karoo Agric 5(2): 5-9

➢ Hoon J.H. & Meyer, T.C. 1998. Effek van die toediening van 'n kommersiële tannien inhibeerder op die prestasie van Angorabokke op Spekboomveld. Groofontein Agric 1(1): 8-10.

- Meyer T.C., van den Heever J. 1998. Interactions between livestock farming, human needs and the environment in the communal farming sector – perceptions of field workers in the Ganyesa District of the North West Province. Proceedings of a Symposium on Policy-making for the Sustainable Use of southern African Communal Rangelands. University of Fort Hare, Alice, South Africa.
- Meyer T.C., Venter I.S. & Van Zijl I.J.M. 1998. The sustainability of livestock farming in communal rangelands in the North West Province – experience from a long term grazing experiment. Proceedings of a Symposium on Policy-making for the Sustainable Use of southern African Communal Rangelands. University of Fort Hare, Alice, South Africa.
- Meyer T.C., van den Heever J. 1999. Perceptions in Ganyesa on livestock farming. North West Focus, 1999(1): 6-8 . Department of Agriculture, North West Province, Potchefstroom.
- Meyer T.C. & Richter C.G.F. 2000. Die Prosopis bedreiging in die ariede gebiede van Suid-Afrika. North West Focus 2000(2). Department of Agriculture, North West Province, Potchefstroom.
- Richter C.G.F. & Meyer T.C. 2000. Die beheer en bestryding van Prosopis. North West Focus 2000(2). Department of Agriculture, North West Province, Potchefstroom.
- Richter C.G.F. & Meyer T.C. 2001. Perspective on bush encroachment in the North West Province. North West Focus 2001(1). Department of Agriculture, North West Province, Potchefstroom.
- Meyer, T.C., C.F.G. Richter & G.N. Smit. 2001. The implications of vegetation dynamics in the Kalahari Thornveld for game ranching. North West Focus 2001(2): 3-10. NW DACE, Potchefstroom.
- Meyer T.C. & Nel J.G. 2002. Towards sustainable development: promoting environmental awareness and training in the mining sector. Proceedings of the First Botswana International Mining Conference, Gaborone, November.
- Meyer T.C. & Le Roux E. 2006. Capacity building for effective municipal environmental management in South Africa. The Sustainable City IV: Urban Regeneration and Sustainability. WITPress, Southampton.
  - Numerous popular publications
  - 39 Presentations at professional congresses/symposia

2019-08-26

Appendix 11: Voorspoed Mine Final Closure Plan, June 2019, Redco & Uvuna Sustainability

Appendix 12: Voorspoed Mine Rehabilitation Plan 2019, (Annexure A to Final Closure Plan 2019), June 2019, Redco & Uvuna Sustainability

Appendix 13: Voorspoed Mine – Pit Closure Study, Report E-TEK 10079, 21 June 2016, E-TEK Consulting & Redco

Appendix 14: Technical Evaluation of the Risks, Impacts and Management Requirements into Pit Backfilling versus Current Mine Plan (Pit Lake), February 2019, Report 1792363-318923-1_Rev1, Golder Associates Africa (Pty) Ltd.

Appendix 15: Proposed End Land Use Plan for Voorspoed Diamond Mine, not dated, NEKA Sustainability Solutions

Appendix 16: Socio-economic impact assessment - Voorspoed Mine closure, April 2019, Environmental Resources Management (ERM)

Appendix 17: Voorspoed Mine - Summary of surface and groundwater study for mine closure, October 2017 (Golder Associates)

Appendix 18: Voorspoed Mine's Hydrological Monitoring Program (2018+) - monitoring sites, program and network upgrade

Appendix 19: Baseline biodiversity assessment at De Beers Voorspoed Mine, October 2010 (Bucandi Environmental Solutions)

Appendix 20: A Determination of Floristic Biodiversity at De Beers Voorspoed Mine, March 2013 (Bucandi Environmental Solutions)

Appendix 21: A Wetland Delineation, Management and Rehabilitation Plan for the De Beers Voorspoed Mine, July 2017 (Exigo Sustainability)

Appendix 22: An Alien Invasive Management Plan for the De Beers Voorspoed Mine, December 2016 (Exigo Sustainability)

Appendix 23: A Heritage Impact Assessment (HIA) study for an EMP for the Voorspoed Diamond Mine near Kroonstad (J. Pistorius)

Appendix 24: Correspondence between Voorspoed Mine and the Department of Mineral Resources regarding the section 52 process followed

DE BEERS GROUP

13 December 2018

The Department of Mineral Resources (the "**DMR**")
Corner Meintjies and Francis Baard Street
Building 2C Trevenna Campus
Pretoria

By email: busi.mlawuli@dmr.gov.za

Dear Mr Smunda Mokoena

UPDATE FOLLOWING THE INVESTIGATION SITE VISIT OF 30 NOVEMBER 2018 REGARDING THE NOTICE IN TERMS OF SECTION 52(1)(b) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 28 OF 2002 ("MPRDA")

1. We refer to the site visit by the Mining Sustainability and Employment Committee ("MSEC") of the Minerals and Petroleum Board on 30 November 2018 and our response letter to the questions raised during the investigation visit submitted to the committee on 4 December 2018. This site visit followed a section 52(1)(b) notice having been lodged with the DMR in respect of Voorspoed mine.

2. In our letter of 4 December 2018, we highlighted that the difference in opinion between De Beers and the NUM was with regards to the ability of the remaining interested bidder, Karabo Ya Phoka Consortium ("Karabo") to purchase Voorspoed Mine and mine it sustainably. We also highlighted that a without prejudice session was being scheduled between De Beers, the NUM, Standard Bank and Karabo to align views regarding their technical and financial ability to mine Voorspoed Mine sustainably.

3. The parties in point 2 above held the said without prejudice session on 10 December 2018 and Karabo was provided an opportunity to present their offer. They highlighted that they now have a new ownership structure, a new technical partner, Consulmet and a new funder, Shabtai Investments. No feasible plan was presented and De Beers agreed to provide Karabo and its new partners a chance to review all the information and prepare a business plan by 15 January 2019.

4. While the technical challenges as presented to MSEC on 30 November 2018 remain, De Beers remains open to considering Karabo's proposal and providing all the necessary information for Karabo to finalise their proposal.

The following update is provided under the auspices of section 29 of the MPRDA (read with section 30 thereof), as such all information provided to the DMR in light with this process is afforded protection in line with section 30 of the MPRDA. A further update will therefore be sent to MSEC following the analysis of Karabo's submission.

Yours sincerely

PHILLIP BARTON
CHIEF EXECUTIVE OFFICER
DE BEERS CONSOLIDATED MINES

De Beers Consolidated Mines Proprietary Limited

Corner Diamond Drive and Crownwood Road Theta Ext 4 Johannesburg 2013 Private Bag X01 Southdale 2135 South Africa
Tel +27 (0)11 374 7000 | Fax +27 (0)11 374 7700 | www.debeersgroup.com
Registered Office: 36 Stockdale Street Kimberley 8301 South Africa | Registration number 1888/000007/07

A member of the Anglo American plc group

DE BEERS GROUP

22 February 2019

The Department of Mineral Resources (the "**DMR**")
Corner Meintjies and Francis Baard Street
Building 2C Trevenna Campus
Pretoria

By email: busi.mlawuli@dmr.gov.za

Dear Mr Smunda Mokoena

UPDATE FOLLOWING OUR LETTER OF 13 DECEMBER 2018 REGARDING THE NOTICE IN TERMS OF SECTION 52(1)(b) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 28 OF 2002 ("MPRDA")

1. We refer to the section 52(1)(b) investigation by the Mining Sustainability and Employment Committee ("MSEC") of the Minerals and Petroleum Board and our last letter to the committee dated 13 December 2018.

2. In our letter of 13 December 2018, we highlighted that Karabo Ya Phoka Resources (Pty) Ltd and its new partners (together "KYPR") had been given an opportunity to review all the information and prepare a business plan for submission by 15 January 2019.

3. KYPR presented its business plan on the 25th of January 2019 and the assessment that was conducted highlighted that there was a lack of understanding of the technical complexities associated with mining the Voorspoed resource and that the plan was estimated to make a R195 million loss over the next five years.

4. A close-out meeting was held with KYPR and the NUM National office on 19 February 2019 to officially provide feedback to all the stakeholders.

5. We have therefore concluded that the mining of the Voorspoed Mine open pit resource is not viable and have consequently closed the disposal process.

We hereby confirm that we have closed all the outstanding next steps from the Committee and hereby request for the Committee to confirm this in writing.

The above update is provided under the auspices of section 29 of the MPRDA (read with section 30 thereof).

Yours sincerely

PHILLIP BARTON
CHIEF EXECUTIVE OFFICER
DE BEERS CONSOLIDATED MINES

De Beers Consolidated Mines Proprietary Limited
Corner Diamond Drive and Crownwood Road Theta Ext 4 Johannesburg 2013 Private Bag X01 Southdale 2135 South Africa
Tel +27 (0)11 374 7000 | Fax +27 (0)11 374 7700 | www.debeersgroup.com
Registered Office: 36 Stockdale Street Kimberley 8301 South Africa | Registration number 1888/000007/07
A member of the Anglo American plc group

Appendix 25: Invitation letter that was circulated to all identified Interested and Affected Parties, inviting them to register and participate in the EIA process

NWU
Internal Box 150, Private Bag X6001, Potchefstroom, South Africa 2520
Centre for Environmental Management
Tel: +27 (0) 18 299-1467
Fax: + 27 (0) 18 299-4266
Email: theunis.meyer@nwu.ac.za
Web: www.nwu.ac.za/cem

29 July 2019

Land Owners and other Interested and Affected Parties
per mail, e-mail & fax

Sir/Madam

NOTICE OF BASIC ENVIRONMENTAL IMPACT ASSESSMENT AND PUBLIC PARTICIPATION PROCESS WITH LAND OWNERS AND OTHER INTERESTED AND AFFECTED PARTIES IN RESPECT OF THE APPLICATION FOR AN ENVIRONMENTAL AUTHORISATION FOR DECOMMISSIONING AND CLOSURE OF THE VOORSPOED DIAMOND MINE BY THE DE BEERS GROUP (PTY) LTD

Voorspoed Mine is an open pit diamond mine, located approximately 30km north of Kroonstad and 50km south of Vredefort and owned by the De Beers Group. Operation at the mine commenced in 2008 and the mining activities are licenced until October 2023. However, operations at the mine ceased in December 2018 and the mine is currently in the decommissioning and closure phase.

In order to decommission the mine infrastructure as part of the mine closure process, Voorspoed Mine is required to obtain an Environmental Authorisation (EA), prior to commencement of the decommissioning activities. The listed activity that the mine need authorisation for is Activity 22 in Listing Notice 1: The decommissioning of any activity requiring a closure certificate in terms of section 43 of the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002).

The application has been delivered to the Department of Mineral Resources (DMR) on 05 July 2019. In terms of the 2014 EIA regulations, the applicant must give notice to all potential interested and affected parties of an application that is subjected to public participation.

The Centre for Environmental Management (CEM) has been appointed to act as the independent Environmental Assessment Practitioner (EAP) to conduct a basic Environmental Impact Assessment (EIA) and related processes and specialist studies for the purpose of obtaining the environmental authorisation for the decommissioning of the mine. The process is being undertaken in terms of the National Environmental Management Act (No. 107 of 1998) and the 2014 EIA regulations.

One of the most important parts of the environmental authorisation processes is public participation and consultation, which provides Interested and Affected Parties (I&APs) with the opportunity to gain a better understanding of the proposed project and to raise any environmental issues or concerns

they may have. You are invited to register as an I&AP in the environmental assessment process of the Voorspoed Mine decommissioning and closure project. Registered I&APs will be able to participate in the EIA process in the following ways:

- Receive information on the project in the Background Information Document (BID), as well as at public meetings;
- Assist in the identification of specific environmental issues and concerns that you must be considered in the EIA, as well as suggestions on how to prevent or mitigate potential environmental impacts;
- Review and comment on the Basic (Environmental Impact) Assessment Report (BAR), Environmental Management Progamme (EMPr) and Closure Plan (CP), before submission to the DMR.

Registration and Background information

You are hereby requested to register as and I&AP and peruse the attached BID. Please complete the feedback form attached to the BID and return it to the EAP, in order to assist in the identification of specific environmental issues and concerns, as well as any suggestions on how to prevent or mitigate potential environmental impacts.

Contact details for the EAP are as follows:

Land-line	018 299 4299	Fax	018 299 4266	Cell phone	078 804 5126
e-mail	Tshepiso.Seobi@nwu.ac.za				

Public meetings

Two public meetings will be held to provide information about the project and allow I&APs to participate. You are invited to attend and participate in the meetings. The details are as follows:

Venue: Kroonstad Town Hall
Date: Monday, 19 August 2019
Time: 16:00

Venue: Parys Town Hall
Date: Tuesday, 20 August 2019
Time: 16:00

Review of the BAR, EMPr and CP before submission

Copies of the BAR, EMPr and CP will be made available by to all registered I&APs in August for review and public comments, before finalisation and submission of the reports to the Department of Mineral Resources for evaluation and decision-making.

Your participation is appreciated.

Yours sincerely

Mr. T.C. Meyer

Environmental Assessment Practitioner, Pri. Sci. Nat

CENTRE FOR ENVIRONMENTAL MANAGEMENT

Appendix 26: Background Information Document with information about the decommissioning and mine closure process, as well as the EIA process and the role of interested and affected parties in the process, with a registration and feedback form that was circulated with the invitation letter to all identified I&APs

Background Information Document for the decommissioning and closure of the Voorspoed Diamond Mine in terms of section 24 of the National Environmental Management Act (107 of 1998) and section 43 of the Minerals and Petroleum Resources Development Act (28 of 2002) by the De Beers Group (Pty) Ltd

Background

Voorspoed Mine is an open pit diamond mine, owned by the De Beers Group. De Beers acquired the mine in 1912, but only established operations between 2006 and 2008. Operation at the mine commenced in 2008 and the mining activities are licenced until October 2023. However, operations at the mine ceased in December 2018 and the mine is currently in the decommissioning and closure phase.

Location of the mine

The mine is located approximately 30km north of Kroonstad and 50km south of Vredefort in the Ngwathe Local Municipality, in the Fezile Dabi District of the Free State (Figure 1).

Figure 1: Locality of the Voorspoed Diamond Mine

Mine environmental impacts and environmental management

Prior to the development of the mine in 2006, the area on which the mine is located was relatively undeveloped and used for agricultural purposes, primarily livestock grazing. Within the vicinity of the current open pit area, remnants from mining activities in the early 1900s were present, including a relatively shallow open pit and a waste (spoil) dump.

During the life of the mine infrastructure was developed on and off the mining area, while various residue deposits were also dumped on the mining area. These created environmental impacts that were managed in terms of the various environmental authorisations issued to the mine, as well as the approved Environmental Management Programme and Integrated Water and Waste Management Plan of the mine.

Description of the decommissioning and mine closure process

Voorspoed Mine's overarching closure objective is to ensure sustainability beyond mine closure and leave a positive legacy. Specific closure objectives are to:

- Restore as much as possible of the mining area to a condition consistent with the pre-determined post closure land use objectives;
- Ensure that the area is left in a condition that poses an acceptable level of risk to public health and safety; and
- Reduce the need for post closure intervention, either in the form of monitoring or on-going remedial work, as far as is practicably possible.

The overall rehabilitation goal is to manage the mine site and implement rehabilitation measures in order to meet the end land use of grazing for livestock and game after closure. This can be achieved by the physical rehabilitation of disturbed areas, by preparing the areas for revegetation, i.e. implement earthworks to create suitable habitats and support the ecological stability (e.g. erosion resistance) of rehabilitated areas. Once this has been done, vegetation will be established that will have the desired stability, species diversity and ecological functioning. In addition, natural water drainage of the rehabilitated site will be re-established where possible, while artificial drainage will be controlled.

Environmental Impact Assessment Process

In order to **decommission** the mine infrastructure as part of the mine closure process, Voorspoed Mine is required to obtain an Environmental Authorisation (EA), prior to commencement of the decommissioning activities. The listed activity that the mine need authorisation for is Activity 22 in Listing Notice 1: The decommissioning of any activity

requiring a closure certificate in terms of section 43 of the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002).

The Centre for Environmental Management (CEM) has been appointed to act as the independent Environmental Assessment Practitioner (EAP) to conduct an Environmental Impact Assessment (EIA) and related processes and specialist studies for the purpose of obtaining the required authorisation for the decommissioning of the mine. The process is being undertaken in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA).

Purpose of the EIA process

The 2014 EIA regulations, promulgated in terms of NEMA, prescribe the procedure that must be followed in the EIA process. The regulations aim to provide the competent authority with adequate information to make decisions that will ensure that activities that may have unacceptable negative impacts on the environment are not authorised, and activities that are authorised are undertaken in such a manner that the environmental impacts are managed to acceptable levels.

The aims of environmental impact assessment are to:

- establish the environmental sensitivity of the site;
- determine environmental impacts related to the project;
- identify alternatives to the current proposals;
- inform Interested and Affected Parties (e.g. neighbours & community groups) (I&APs) about the project and provide them the opportunity to identify issues and alternatives;
- assess the proposals and the issues raised.

What type of EIA process will be undertaken?

The 2014 EIA Regulations provide for two types of assessment processes i.e. a Basic (Environmental Impact) Assessment process and a Scoping and Environmental Impact Assessment process.

The EIA process requires that an application for environmental authorisation must be submitted to the Department of Mineral Resources (DMR), supported by specialist reports where required.

The environmental assessment process for this project will involve the following steps:

- Engaging with competent authorities
- Development of Background Information Document, advertisements & site notices
- I&AP registration & circulation of BID
- Conducting of specialist studies
- Drafting of Basic Assessment Report (BAR), Environmental Management Programme (EMPr) and Closure Plan (CP)
- Public participation meeting
- Circulation of draft BAR, EMPr and CP to registered I&APs for review
- Revision of BAR, EMPr and CP, based on I&AP comments
- Submission of final BAR, EMPr and CP to DMR for decision-making
- Informing registered I&APs of the decisions by competent authorities.

Once the DMR has taken a decision on the application, an appeal may be lodged against the decision, if any party involved in the EIA process does not agree with the decision.

What is the role of I&APs in the EIA process?

One of the most important parts of the environmental authorisation processes is public consultation and participation, which provides I&APs with the opportunity to gain a better understanding of the proposed development and to raise any environmental issues or concerns they may have. You are invited to register as an I&AP and participate in the EIA process of the Voorspoed Mine decommissioning and closure project.

How do I register as an I&AP?

Please note that in order to be registered as an I&AP, you must request that your name be added to the registered I&AP list or provide written comments on the proposal or raise issues/concerns that you would like to be addressed in the assessment (see attached form). Future correspondence will only be distributed to registered I&APs.

Details of the EAP

Mr. Theunis Meyer
Telephone: 018 299 1467 Fax: 086 513 7996
E-mail: theunis.meyer@nwu.ac.za

Contact person for I&AP registration and correspondence regarding the EIA process:
Mr. Tshepiso Seobi
Centre for Environmental Management
Private Bag X6001, Potchefstroom, 2520
Telephone: 018 299 4299 or 078 804 5126 **Fax:** 086 513 7996
E-mail: Tshepiso.Seobi@nwu.ac.za

INTERESTED & AFFECTED PARTY (I&AP) REGISTRATION FORM

Application for the decommissioning and closure of the Voorspoed Diamond Mine in terms of the National Environmental Management Act (107 of 1998) and the Minerals and Petroleum Resources Development Act (28 of 2002) by the DeBeersgroup (Pty) Ltd

1. **I, hereby, acknowledge receipt of information regarding the application.**
   - I wish to register as I&AP and receive further information ☐
   - I DO NOT wish to register as I&AP and to receive further information ☐
2. **Name and surname:**
   _____
   _____
3. **Name of business/entity that you represent:**
   _____
   _____
4. **Physical Address:**
   _____
   _____
5. **Language preference:**
   Afrikaans ☐ English ☐ Sesotho ☐
6. **Communication preference?**
   Letter ☐ Fax ☐ E-mail ☐
   WhatsUp ☐ SMS ☐ Please call me ☐
7. **Postal address:**
   _____
   _____

8. Telephone number:		**9. Cell phone number:**	
10. Fax number:		**11. E-mail address:**	

12. **Do you wish to receive future communication?**
    Yes ☐ No ☐
13. **Please indicate any environmental issues of concern regarding the decommissioning and mine closure?**
    _____
    _____
    _____
    _____
    _____
14. **Please indicate any suggestions to control identified environmental impacts?**
    _____
    _____
    _____
    _____
    _____
15. **Please indicate any suggestions to improve the decommissioning, mine closure and public participation processes?**
    _____
    _____
    _____
    _____
    _____

Thank you very much for your participation!

Appendix 27: Evidence of the site notices that were displayed to inform propspective Interested and Affected Parties of the Voorspoed Diamond Mine decommissioning basic environmental impact assessment process

- Turn-off to Voorspoed Diamond Mine from the Kroonstad- Viljoenskroon road

- Turn-off to Voorspoed Diamond Mine from the Kroonstad- Vredefort road

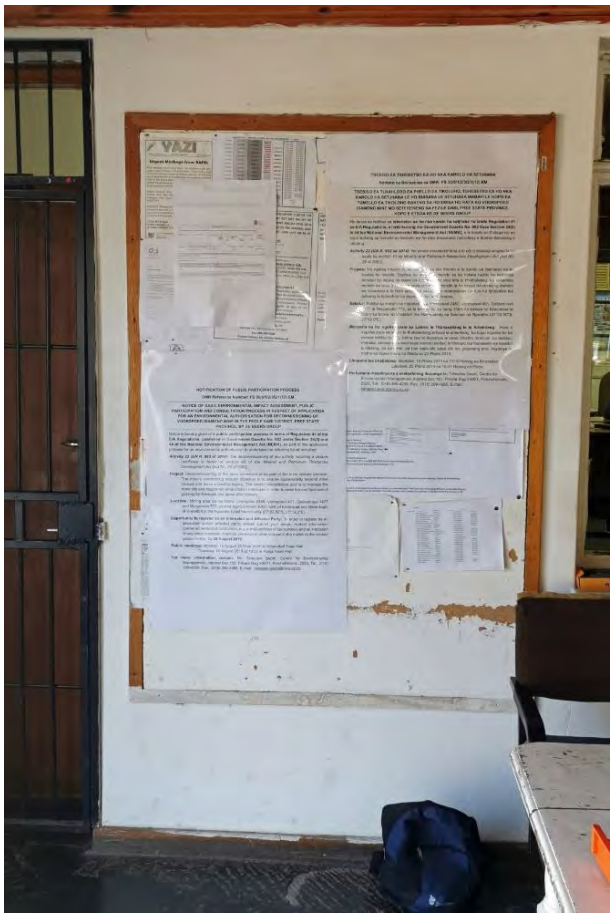
- Voorspoed Diamond Mine entrance

- Municipal offices, Moqhaka Municipality, Kroonstad

- Kroonstad public library

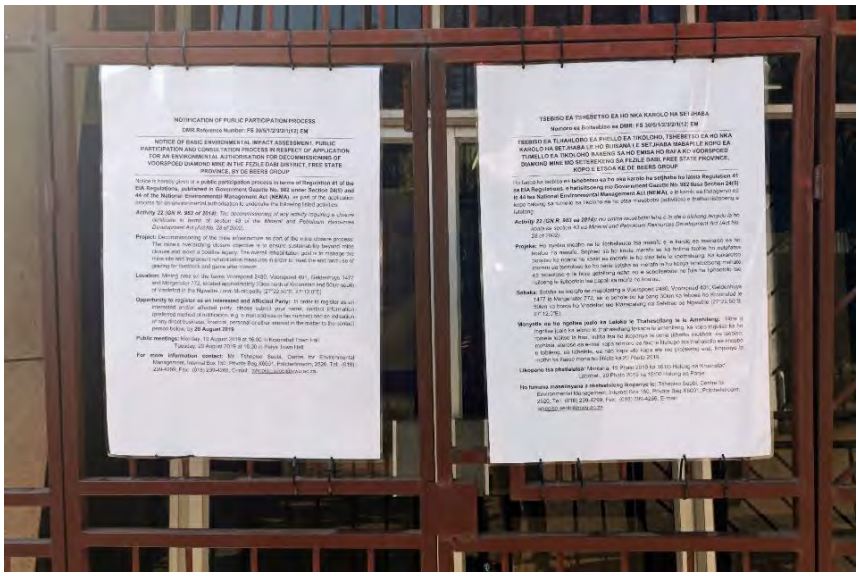
- Viljoenskroon public library

- Municipal offices, Moqhaka Municipality, Viljoenskroon



- Municipal offices, Ngwathe Municipality, Parys

- Parys public library



- Vredefort public library

- Koppies public library

Appendix 28: Evidence of the newspaper advertisements that were published to inform propspective Interested and Affected Parties of the Voorspoed Diamond Mine decommissioning basic environmental impact assessment process

- Business Times, 4 August 2019

- Kroonnuus, 6 August 2019

NOTIFICATION OF PUBLIC PARTICIPATION PROCESS

DMR Reference Number: FS 30/5/1/2/3/2/1(12) EM

NOTICE OF BASIC ENVIRONMENTAL IMPACT ASSESSMENT, PUBLIC PARTICIPATION AND CONSULTATION PROCESS IN RESPECT OF APPLICATION FOR AN ENVIRONMENTAL AUTHORISATION FOR DECOMMISSIONING OF VOORSPOED DIAMOND MINE IN THE FEZILE DABI DISTRICT, FREE STATE PROVINCE, BY DE BEERS GROUP

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- Parys Gazette, 1 August 2019

Van die Voortrekker-maats van Parys Voortrekkerkommando wat Woensdag hul broodbydraes gegee het.

Brood vir hulle in nood

Liezl Scheepers

Teen Vrydagmiddag was daar reeds 638 brode vir Vrystaat Versorging in Aksie (VVA) se jaarlikse Broodjiedag-projek geskenk. Die projek is vanjaar op 24, 25 en 26 Julie aangepak en is daar gepoog om soveel moontlik brode in te samel vir hulle in nood. Soveel mense en instansies het gegee, waaronder Amot, NG Wes, Parys Primêr, ABC Naskool, Kiewiet-kleuterskool, Parys Christelike Skool en Parys Voortrekkerkommando.

Van die brode is by VVA se kantoor uitgedeel vir hulle in nood, terwyl daar ook brood versprei is na Basa Park, Gleniffer, vir motorwagte in die dorp en Epilepsie SA se Vrystaat/Noordwes-sentrum. Dankie aan elkeen wie se harte oop was vir hierdie projek.

Agter die dromme vir Nashville musiekfees

Liezl Scheepers

Waar jy kom op straat speel musiek, want Nashville is 'n musiekstad. Hiervan kan Theuns Botha, 'n oudskolier van Parys getuig. Hy het onlangs die groot eer te beurt geval om saam met die bekende kunstenaar Roan Ash by die Country Music Association se musiekfees in Nashville, Amerika, te kon speel. Dit was die eerste keer dat 'n Suid-Afrikaanse kunstenaar genooi is om deel te wees van die fees, gesels Theuns, jongste seun van Gert en Ethel Botha van Parys. Met Roan agter die mikrofoon en op die kitaar, het Theuns die dromme gespeel, en was Dawie de Jager (vroeër van Klopjag) op die baskitaar, en Danny Smoke op die elektriese kitaar.

Vir die baie Suid-Afrikaners wat die fees bygewoon het, was dit beslis 'n groot bonus.

"Die fees is baie groter as wat ons aan gewoond is, met al die groot name daar," vertel Theuns. Hy beskryf hul optrede as 'n groot beloning wat die kroon span op baie harde werk as kunstenaar.

En noudat hulle terug is, is daar beslis groot planne vir 'n CD-opname.

Theuns het na matriek sy diploma in die Uitvoerende Kunste verwerf, waar hy in dromme gespesialiseer het. Hy het gou begin naam maak as deel van orkeste vir bekende kunstenaars soos Kurt Darren, Elizma Theron, Heinz Winkler, Hugo en Mel Botes, asook in produksie in die Johannesburg Civic Theatre en vir CD-opnames.

Die afgelope tien jaar bedryf hy sy eie onderneming TMB Acoustics in Pretoria, waarby sy broer, Mike, ook die afgelope drie jaar betrokke is. So doen die twee klankateljees en is teaters soos Ster Kinekor en Universal Music van hul kliënte.

Tussendeur is Theuns, benewens vir Roan Ash, ook gereeld agter die dromme vir groot musiekname soos Jannie du Toit en Beeskraal.

Theuns Botha agter die dromme. Foto: Verskaf

Hulle stap met die louere weg by rolbalkragmeting

Parys-rolbalklub se laaste kompetisies vir die seisoen is afgehandel. Die wenners van die gemengde driespel is Rudi Jacobs, Stienie Brown en Frik du Preez.

Die veterane enkels kampioenskappe het goeie rolbal opgelewer. In die mans finaal het Raymond Loubser goud gewen toe hy vir Frik du Preez (silwer) geklop het. In die dames finaal het Toets van der Westhuizen vir Lazuya Serfontein geklop.

Die wenners van die gemengde driespel was Rudi Jacobs, Stienie Brown en Frik du Preez. Foto: Verskaf

Regs: Toets van der Westhuizen en Raymond Loubser wat onderskeidelik die mans- en dameswenners van die veterane enkels kragmeting was.

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- Dumelang News, 2 August 2019

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"Racial spat" at BFN School dismissed as "nothing"

Education Department dismisses the incident as nothing but violence among pupils

A alleged race-related spat – fuelled by allegations of a stolen tablet – reached alarming proportions last Friday when white and black pupils ganged up against each other in a full-on fist-fight.

The alleged racially-charged incident was recorded and a video involving a number of black and white boys fighting in the school yard of Sand du Plessis Hoerskool in Bloemfontein has gone viral on social media, raising concerns in the province.

According to a pupil at the school, the incident was "a long time coming and could not be prevented." See the video online www.dumelangnews.co.za.

Attempts to get comment from the school drew a blank yesterday, however, the provincial Department of Education dismissed the incident as nothing more than "violence among pupils". Spokesperson Howard Ndaba confirmed the incident but said it had nothing to do with racism, and the situation was immediately dealt with and brought to normality. "We also, however, continuing with our investigating into the matter on a serious note.

I can tell you that the was not a racial fight; it is alleged that pupils were just fighting over a missing device and it began with two of them.

It was just a tensive between children and it had nothing to do with racism," said Ndaba.

In the video, a white pupil is seen holding the black schoolmate to the ground while fellow pupils were assisting with punches to his face. It also shows black pupils throwing punches at white pupils in defence of their fellow pupil.

Ndaba said pupils in the video will be identified and disciplinary measures will be put in place.

"We want to send a stern warning to pupils out there throughout the province that we

A frame from the high school spat that has been doing the rounds on social media. The video has been removed from certain sites for violating community guidelines, but can be viewed on our website www.dumelangnews.co.za.

are extremely concerned about the level of violence is schools. Our schools are not battle grounds," said Ndaba said.

Sharp Sharp NEWS

Triple murder shocks Motshabi

DALEB Motshabi residents in Bloemfontein are still living in fear after three men were found lying in a pool of blood on Sunday morning.

During the discovery, two men were already dead while one was still alive and was taken to a local hospital where he was fighting for his life and later died the following day.

Kopanong police are pleading to members of the public to assist them to trace suspects of these brutal murders.

Provincial spokesperson for police Colonel Thandi Mbambo, said the trio was found near the newly built school in Caleb Motshabi.

She said the police rushed to the scene and found three victims aged between 35 and 40.

"Upon the police arrival, paramedics were already busy at the scene with one victim showing signs of life, he was rushed to a local hospital in a critical condition and the other two were certified dead at the scene.

The third victim later died on Monday, all three victims had bullets wounds, two in the head and the other was shot in the upper body," Mbambo said adding that deceased are all South Africans.

She said they are investigating a murder case and no one has been arrested yet but investigation is at its advance stage.

are appealing to anyone who might have an information that may lead to the arrests to contact Detective Captain Tsietsi Mapuru at 079 464 0223 or can also be contacted on police crime line on 08600 10111," said Mbambo.

Deneysville erupts in protest

A service delivery protest erupted yesterday in the small town of Deneysville in the Free State, where protesters barricaded roads with burning tyres and rocks.

Shack dwellers in the area took to the streets demanding the provision of water and electricity, accusing the municipality of ignorance and failing to hear their voices. "We spoke to the municipality last year and a number of promises were made to us even prior to elections this year, but nothing has since happened," said a resident who spoke to Dumelang News. Police spokesperson, Josephine Rani, said members of Public Order Policing have been deployed to the area to monitor the situation. "Police are monitoring the situation in Deneysville and we are appealing to motorists to use alternative roads," said Rani. However, the situation was said to have calmed down in the evening. No arrest were made at the time of going to print.

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Appendix 29: Minutes of the public meeting held in Kroonstad at the Kroonstad Civil Centre on 19 August 2019, including copies of representations and comments received from registered interested and affected parties

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Minutes of the Public Meeting for the Application for Environmental Authorisation for the Proposed Decommissioning of the Voorspoed Diamond Mine, in the Ngwathe Local Municipality, Free State held on 19 August 2019 in the Allen Rautenbach Hall, Hill Street, Kroonstad

1. **Welcome**

   Mr Tshepiso Seobi welcomed all attendees to the meeting and briefly explained the purpose of the meeting.

2. **Attendance**

   The meeting was attended by the North-West University project team, ten representatives from Voorspoed Mine and ten members of the public. See attendance register, attached as Appendix A.

3. **Safety moment**

   Mr Andrew Moremi from Voorspoed Diamond Mine shared a safety moment with the public meeting attendees. The topic of the moment was on the hazards associated with the use of many extension cords in the venue were the meeting was being held. Meeting attendees were cautioned to take care when moving around in the venue.

4. **Public meeting presentation**

   The meeting was held, using a PowerPoint presentation, which is attached as Appendix B.

5. **Introduction to the facilitator, Environmental Assessment Practitioner and project team**

   The meeting was facilitated by Prof Johan Nel from the North-West University's (NWU) Centre for Environmental Management (CEM). The Environmental Assessment Practitioner (EAP) for the Environmental Impact Assessment is Mr Theunis Meyer, also from the NWU, CEM. Mr Tshepiso Seobi, who assists with the Public Participation (PP) component of the project, and Mrs Simoné van Rooyen (who recorded the minutes of the meeting) also forms part of the NWU CEM project team.

   Voorspoed Diamond Mine was represented by Mr Petrus Jordaan (Closure Manager), Mr Andrew Moremi (Public Relations Manager) and Mr Hans Kgasago (Rehabilitation Manager). Mr DP van der Merwe, a mine rehabilitation specialist from Redco, is one of the specialists that assisted with the development of the mine closure plan that also attended the meeting.

6. Meeting format

Prof Johan Nel explained the format of the meeting, i.e. a presentation will be presented by the project team, after which all attendees will be invited to participate in a question and answer session. After this session, the road ahead will be explained.

7. Introduction

7.1 Understanding the legal requirements for decommissioning and mine closure

The legal requirements for decommissioning and mine closure was explained by the Mr Theunis Meyer (see slides 8 to 17 of Appendix B). Reference was made to some requirements of the Mineral and Petroleum Resources Development Act 28 of 2002 and the National Environmental Management Act 107 of 1998 (NEMA).

7.2 Understanding the Environmental Impact Assessment process

The Environmental Impact Assessment (EIA) process that is required by the NEMA was also explained by Mr Theunis Meyer (see slides 18 to 26). A process flow displayed the generic EIA process.

7.3 Understanding the Public Participation process

The PP process that is required as part of the EIA process was also explained by Mr Theunis Meyer (see slides 27 to 36). The aim of the PP process was explained using a figure.

7.4 Introduction to the Voorspoed Diamond Mine decommissioning and closure process

The Voorspoed Diamond Mine decommissioning and closure process was explained by Mr Petrus Jordaan (see slides 37 to 47). The location, the current mine infrastructure and status of the mining pit were also displayed using maps.

7.5 Community benefits

The benefits to the community was explained by Mr Andrew Moremi (see slides 48 to 56). Contents from the Socio-economic Impact Assessment and Social Labour Plan were presented to explain the way in which the community benefitted during the operational phase of the mine, as well as those that will be continuing until mine closure.

8. Voorspoed Diamond Mine closure plan

8.1 Alternatives considered

The alternatives considered was explained by Mr Hans Kgasago (see slides 57 to 68). Various alternatives as well as the preferred option were described.

8.2 End land use

The end land use (ELU) was also explained by Mr Hans Kgasago (see slides 69 to 78). Content from the ELU Plan was presented. The ELU, farms or areas included in the ELU Plan, the current land use and soil and land capability were also displayed using maps.

8.3 Decommissioning and rehabilitation actions

The decommissioning and rehabilitation actions were also explained by Mr Hans Kgasago (see slides 79 to 94). Updates on rehabilitation for the periods 2014 to 2018 and 2019 were displayed using numerous photographs.

9. PP process followed to date

The PP process followed to date was explained by Mr Tshepiso Seobi (see slides 95 to 106). Reference was made to the publication of newspaper advertisements as well as the placement of site notices.

10. Identification of environmental issues and mitigation measures related to the decommissioning and mine closure process

10.1 Identification of environmental issues identified by the EAP and the specialists

The environmental issues identified was discussed by Mr Theunis Meyer (see slides 107 to 110). Soil compaction and pollution, surface water run-off, groundwater quality deteriorating etc., were identified as issues.

10.2 Facilitation of process to identify additional environmental issues by Interested and Affected Parties

The facilitator, Prof Johan Nel, facilitated a session in which the Interested and Affected Parties (I&APs) could raise additional environmental issues of concern (see slides 111 to 113 of the presentation). A number of comments and questions were raised by participants (attached as Appendix C) and responded to by the EAP and representatives of Voorspoed Mine (attached as Appendix D).

10.3 Identification of rehabilitation actions and mitigation measures identified by the EAP and the specialists

The rehabilitation actions identified to address the environmental impacts caused by the mining activities and to reinstate most of the rehabilitated footprint area back to agricultural land was discussed by Mr Theunis Meyer (see slides 114 to 116). These included decommissioning existing structures and infrastructure, ripping areas with compacted soil, bio-remediating hydrocarbon polluted soils, reshaping steep slopes of mine residue deposits and reinstating surface water drainage lines on-site, to mention a few.

10.4 Facilitation of process to identify additional rehabilitation actions and mitigation measures by Interested and Affected Parties

The facilitator facilitated a session in which the I&APs were invited to raise additional rehabilitation actions and mitigation measures (see slides 117 to 118). No comments or questions were received from the participants.

11. General question and answer session

The facilitator invited the participants to raise any other issues related to the decommissioning and closure of the mine not yet discussed during the meeting (see slide 119). No additional issues were raised by any participant.

12. The road ahead

The EAP, Mr Meyer, explained the road ahead for the EIA process (see slides 120 to 121). It includes, amongst others, the finalisation of the draft Basic Assessment Report (BAR), Environmental Management Programme (EMPr) and Closure Plan (CP) and the reviewing of and commenting on the BAR, EMPr and CP by I&APs.

13. Closure

The facilitator closed the public meeting by thanking all for their attendance and providing the contact details of Messrs Theunis Meyer and Tshepiso Seobi for further engagement (see slides 122 to 123).

Appendix A: Attendance register

DE BEERS GROUP

NWU® | CEM Centre for Environmental Management

ATTENDANCE REGISTER

Project: EIA for Decommissioning of De Beer Voorspoed Mine
Event: Public Meeting
Locality: Allen Rautenbach Hall, Hill Street, Kroonstad
Date and Time: Monday 19 August 2019 at 16h00

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
MR N. PALM	RAUCOM Business Chamber	082397 0652	skr101@vweb.co.za	[signature]
MNR ERNIE VAN RENSBURG	KRO BUSINESS & TOURISM	0824163674	ernie@penguinelek.co.za	[signature]
Mev Ronell Leonard nms George Leonard	G+R Leonard (Edms) Bpk Neighbour + Stakeholder	082 7854 826 082 5713 456	george-l@mweb.co.za ronell@ocb.co.za	[signature]

Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 1 of 5

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
JOSEPH SEHLHAMULE	DE BEERS	0846973693		[signature]
Lungile Zinw	De Beers	056-2168489		[signature]
F.P. [illegible]	"	056 2168498		[signature]
MR Moeletsi Radebe	"	073 5531421		[signature]
Mr. Andrew Moremi	De Beers	0629178334 056 2168474		[signature]

Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 2 of 5

NWU® | CEM Centre for Environmental Management

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
WINDY SENOGE	Public Participation Office	072 595 5946	13476 Kockoe Village Kroonstad	
MPAKA STEPHEN SEHUME	PUBLIC PARTICIPANT	0849940991	7 Stoiver Str Suidrand KROONSTAD 9499	
Reboitile Kgaka	DeBeers	056 2168509	reboitile.kgaka@debeersgroup.com	
Thandi Thibile	De Beers Environmental Officer	056 5168530	thandi.thibile@debeersgroup.com	
Mojabeng Pinkoane	De Beers Corporate Affairs	056 216 8562	mojabeng.pinkoane@debeersgroup.com	

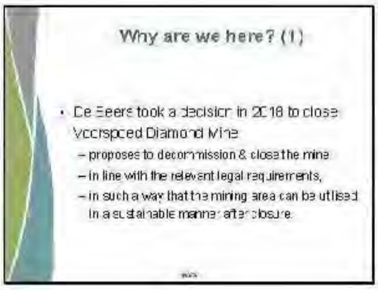
Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 3 of 5

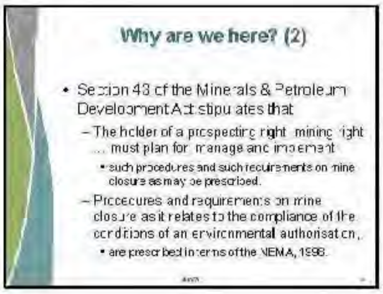
Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Mr. Sebata Lehana	SIGN LANGUAGE INTERPRETER	0731918084	supa.lehana@gmail.com	
Mr Tlisetso Nyangwa	Public	063 836 7631	[illegible]	
Tshepiso Seobi	North-West Univ. Centre for Env. Management	0182994299 078 804 5126	Tshepiso.Seobi@nwu.ac.za	
SIMONE VAN ROOYEN	NWU CEM	018 299 4468	simone.vanrooyen@nwu.ac.za	
Johan Nel	NWU CEM	0836370682	johan.nel@nwu.ac.za	

Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 4 of 5

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
DP VD MERWE	REDCO	082 903 1628	dp@redcoservices.co.za	
PS JORDAAN	De Beers	056-216 8466	petrus.jordaan@debeersgroup.com	
HANS KGASAGO	DE BEERS	056 216 8605	hans.kgasago@debeersgroup.com	
TSWETSWE	Tshelanang Trading	0736980847	tshelanangprojects@gmail	
Pakiso Mapeten & Dikeledi	Pakiso tech and gadgets (Pty) Ltd / Barlads	073 186 5896 / 0760811363	mpakiso@yahoo.com	

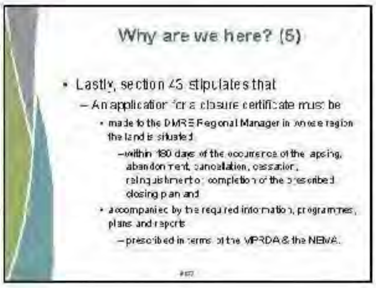
Appendix B: PowerPoint presentation that was used during the meeting

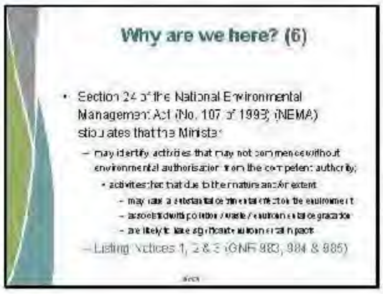

Why are we here? (1)
• De Beers took a decision in 2018 to close Voorspoed Diamond Mine
– proposes to decommission & close the mine
– in line with the relevant legal requirements,
– in such a way that the mining area can be utilised in a sustainable manner after closure.

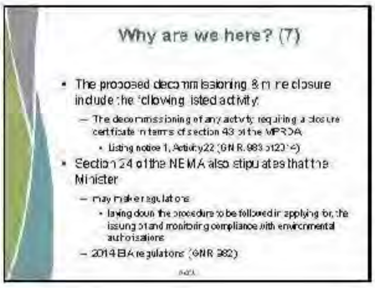

Why are we here? (2)
• Section 43 of the Minerals & Petroleum Development Act stipulates that
– The holder of a prospecting right, mining right ... must plan for, manage and implement
• such procedures and such requirements on mine closure as may be prescribed.
– Procedures and requirements on mine closure as it relates to the compliance of the conditions of an environmental authorisation,
• are prescribed in terms of the NEMA, 1998.


Why are we here? (3)
• It also stipulates that
– The holder of a mining right ....
• remains responsible for any environmental liability, pollution, ecological degradation, the pumping and treatment of extraneous water, compliance to the conditions of the environmental authorisation and the management and sustainable closure thereof
• until the Minister has issued a closure certificate in terms of this Act to the holder or owner concerned.


Why are we here? (4)
• In addition, section 43 stipulates that
– the holder of a prospecting right, mining right .... must apply for a closure certificate upon-
• the lapsing, abandonment or cancellation of the right or permit in question;
• cessation of the prospecting operation;
• the relinquishment of any portion of the land to which a right, permit or permission relate; or
• completion of the prescribed closing plan to which a right, permit or permission relate.


Why are we here? (5)
• Lastly, section 43 stipulates that
– An application for a closure certificate must be
• made to the DMRE Regional Manager in whose region the land is situated
– within 180 days of the occurrence of the lapsing, abandonment, cancellation, cessation, relinquishment or completion of the prescribed closing plan and
• accompanied by the required information, programmes, plans and reports
– prescribed in terms of the MPRDA & the NEMA.

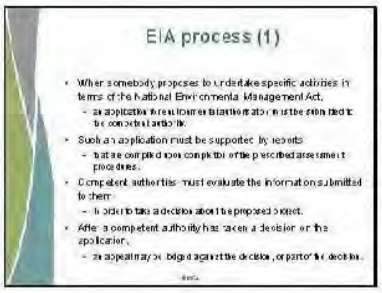

Why are we here? (6)
• Section 24 of the National Environmental Management Act (No. 107 of 1998) (NEMA) stipulates that the Minister
– may identify activities that may not commence without environmental authorisation from the competent authority;
• activities that that due to the nature and/or extent
– Listing Notices 1, 2 & 3 (GNR 983, 984 & 985)

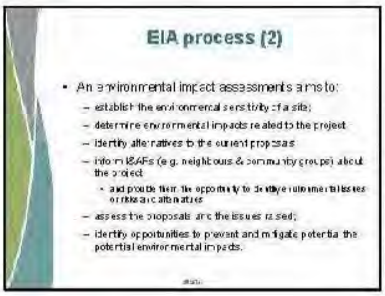

Why are we here? (7)
• The proposed decommissioning & mine closure include the following listed activity:
– The decommissioning of any activity requiring a closure certificate in terms of section 43 of the MPRDA
• Listing notice 1, Activity 22 (GN R.983 of 2014)
• Section 24 of the NEMA also stipulates that the Minister
– may make regulations
• laying down the procedure to be followed in applying for, the issuing of and monitoring compliance with environmental authorisations
– 2014 EIA regulations (GNR 982)

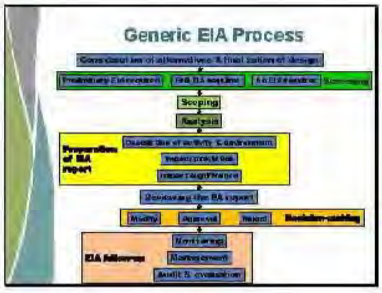

Why are we here? (8)
• Section 24 of the NEMA further stipulates that
– the potential consequences for the environment, or impacts on the environment
• must be considered, investigated, assessed & reported on
• to the competent authority or the Minister responsible for mineral resources, ...
– for listed activities or specified activities

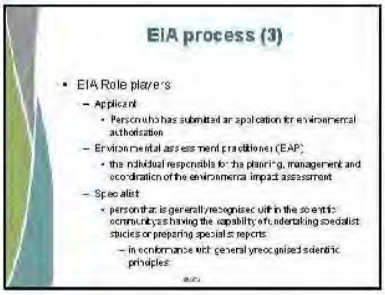

Why are we here? (3)
• Lastly section 24 of the NEMA stipulates that:
– Every applicant must comply with the requirements prescribed in terms of this Act in relation to—
• steps to be taken before submitting an application, where applicable;
• any prescribed report;
• any procedure relating to public consultation and information gathering;
• any environmental management programme;
• the submission of an application for an environmental authorisation and any other relevant information; and
• the undertaking of any specialist report, where applicable.

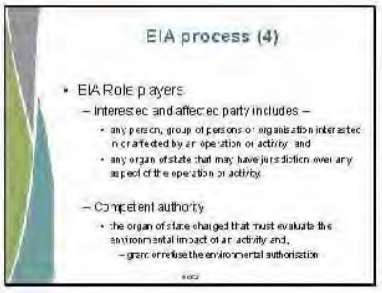

Why are we here?
Understanding the EIA process
Theuns Meyer

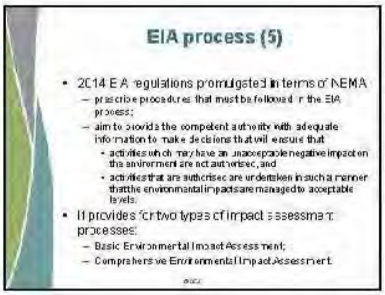

EIA process (1)
• When somebody proposes to undertake specific activities in terms of the National Environmental Management Act,
– an application in a prescribed form must be submitted to the competent authority.
• Such an application must be supported by reports
– that are compiled upon completion of the prescribed assessment procedures.
• Competent authorities must evaluate the information submitted to them
– in order to take a decision about the proposed project.
• After a competent authority has taken a decision on the application,
– an appeal may be lodged against the decision, or parts of the decision.

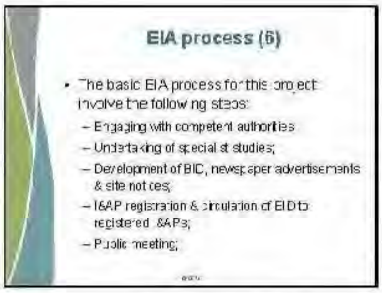

EIA process (2)
• An environmental impact assessments aims to:
– establish the environmental sensitivity of a site;
– determine environmental impacts related to the project
– identify alternatives to the current proposals
– inform I&APs (e.g. neighbours & community groups) about the project
• and provide them the opportunity to identify environmental issues or risks and alternatives
– assess the proposals and the issues raised;
– identify opportunities to prevent and mitigate potential the potential environmental impacts.


Generic EIA Process
Scoping
Impact prediction
Monitoring
Audit & evaluation

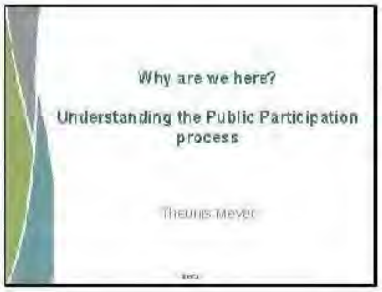

EIA process (3)
• EIA Role players
– Applicant
• Person who has submitted an application for environmental authorisation
– Environmental assessment practitioner (EAP);
• the individual responsible for the planning, management and coordination of the environmental impact assessment
– Specialist
• person that is generally recognised within the scientific community as having the capability of undertaking specialist studies or preparing specialist reports
– in conformance with general recognised scientific principles


EIA process (4)
• EIA Role players
– Interested and affected party includes –
• any person, group of persons or organisation interested in or affected by an operation or activity; and
• any organ of state that may have jurisdiction over any aspect of the operation or activity.
– Competent authority
• the organ of state charged that must evaluate the environmental impact of an activity and,
– grant or refuse the environmental authorisation

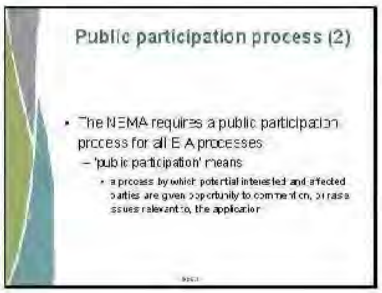

EIA process (5)
• 2014 EIA regulations promulgated in terms of NEMA
– prescribe procedures that must be followed in the EIA process;
– aim to provide the competent authority with adequate information to make decisions that will ensure that
• activities which may have an unacceptable negative impact on the environment are not authorised, and
• activities that are authorised are undertaken in such a manner that the environmental impacts are managed to acceptable levels.
• It provides for two types of impact assessment processes:
– Basic Environmental Impact Assessment;
– Comprehensive Environmental Impact Assessment

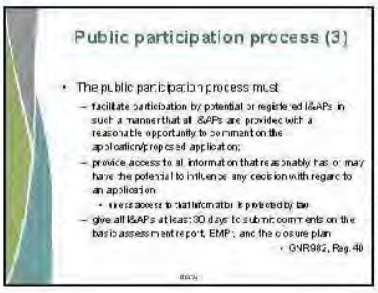

EIA process (5)
• The basic EIA process for this project involve the following steps:
– Engaging with competent authorities
– Undertaking of specialist studies;
– Development of BIC, newspaper advertisements & site notices;
– I&AP registration & circulation of EIDto registered I&APs;
– Public meeting;


EIA process (7)
– Drafting of Basic Assessment Report (BAR), Environmental Management Programme (EMPr) & Closure Plan (CP);
– Circulation of BAR, EMPr & CP to registered I&APs for review;
– Revision of BAR, EMPr & CP based on I&AP comments;
– Submission of final BAR, EMPr & CP to competent authority for decision-making;
– Informing registered I&APs of the decision by the competent authority (letter).


Why are we here?
Understanding the Public Participation process
Theunis Meyer

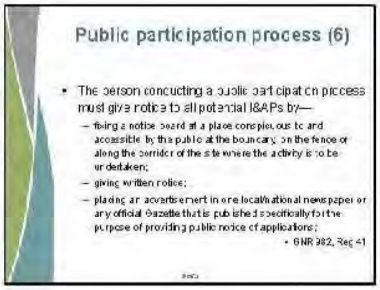

Public participation process (1)
• The NEMA principles recognises that:
– the environment is held in public trust for the people
– the consequences of environmental resources must serve the public interest
– the environment must be protected as the people's common heritage.
– the participation of all interested and affected parties (I&APs) in environmental governance must be promoted

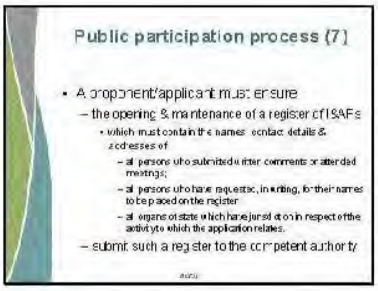

Public participation process (2)
• The NEMA requires a public participation process for all EA processes
– 'public participation' means
• a process by which potential interested and affected parties are given opportunity to comment on, or raise issues relevant to, the application

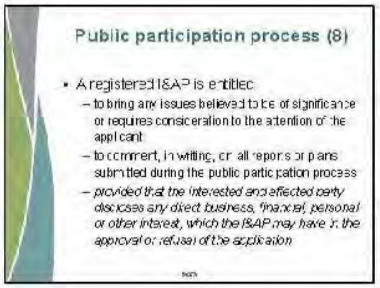

Public participation process (3)
• The public participation process must
– facilitate participation by potential or registered I&APs in such a manner that all I&APs are provided with a reasonable opportunity to comment on the application/proposed application;
– provide access to all information that reasonably has or may have the potential to influence any decision with regard to an application
• unless access to that information is protected by law
– give all I&APs at least 30 days to submit comments on the basic assessment report, EMPr, and the closure plan
• GNR982, Reg 40

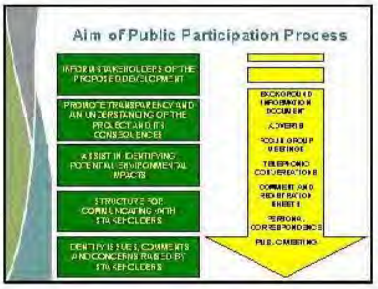

Public participation process (4)
• Must include consultation with
– competent authority
– every State department that administers a law relating to a matter affecting the environment relevant to the application
– all organs of state which have jurisdiction in respect of the activity to which the application relates
• relevant government departments, agencies and institutions responsible for the infrastructure which may be affected by the proposed project.
GNR 982, Reg 40

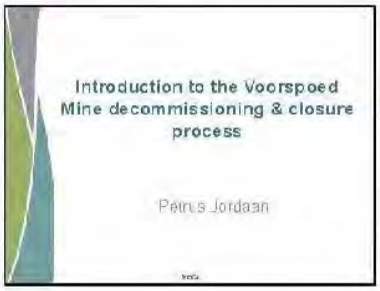

Public participation process (5)
• Must include consultation with
– all potential or registered interested and affected parties (I&APs)
• Land owners
• Lawful land occupiers
• Person in control of the land
• Neighbours (owners, occupiers & persons in control)
• Local Municipality & Ward councilor
• any organisation of ratepayers that represent the community in the area
GNR 982, Reg 41


Public participation process (6)
• The person conducting a public participation process must give notice to all potential I&APs by—
– fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of the site where the activity is to be undertaken;
– giving written notice;
– placing an advertisement in one local/national newspaper or any official Gazette that is published specifically for the purpose of providing public notice of applications;
• GNR 982, Reg 41


Public participation process (7)
• A proponent/applicant must ensure
– the opening & maintenance of a register of I&APs
• which must contain the names, contact details & addresses of
– all persons who submitted written comments or attended meetings;
– all persons who have requested, in writing, for their names to be placed on the register
– all organs of state which have jurisdiction in respect of the activity to which the application relates.
– submit such a register to the competent authority


Public participation process (8)
• A registered I&AP is entitled:
– to bring any issues believed to be of significance or requires consideration to the attention of the applicant
– to comment, in writing, on all reports or plans submitted during the public participation process
– provided that the interested and affected party discloses any direct business, financial, personal or other interest, which the I&AP may have in the approval or refusal of the application


Aim of Public Participation Process
INFORM STAKEHOLDERS OF THE PROPOSED DEVELOPMENT
PROMOTE TRANSPARENCY AND AN UNDERSTANDING OF THE PROJECT AND ITS CONSEQUENCES
ASSIST IN IDENTIFYING POTENTIAL ENVIRONMENTAL IMPACTS
STRUCTURE FOR COMMUNICATING WITH STAKEHOLDERS
IDENTIFY ISSUES, COMMENTS AND CONCERNS RAISED BY STAKEHOLDERS
BACKGROUND INFORMATION DOCUMENT
ADVERTS
FOCUS GROUP MEETINGS
TELEPHONIC CONVERSATIONS
COMMENT AND RESPONSE SHEETS
PERSONAL CORRESPONDENCE
PUBLIC COMMENTS


Introduction to the Voorspoed Mine decommissioning & closure process
Petrus Jordaan

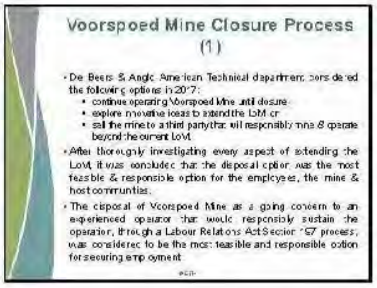

Locality map


Historical background (1)
• Voorspoed Mine's history dates back to 1906
• Operated from 1908 to 1912 by Voorspoed Diamond Mining Company ("VDMC")
• De Beers acquired the mine from VDMC in 1912, but never operated the mine.
• Mining license approved on 10 October 2006 and construction commenced the same month
• Total capital investment of ~R13 billion.
• Mine opened on 4 November 2008 as a marginal mine that exploits an inferred resource.
• Mine ceased production in November 2018 and proceeded with the responsible closure of the mine at the end of 2018.


Historical background (2)
• Key operational highlights (as at end 2018)
• Open pit operation
• 27 Mt tonnes treated to date
• 6 Mct ouns recovered to date
• Mined to an approximate depth of 214 m
• Known for exotic and occasional large diamonds
• Mine Closure Plan
• Mine Closure & Rehabilitation Plan drafted in 2014
• Revised in December 2017
• Updated in May 2019

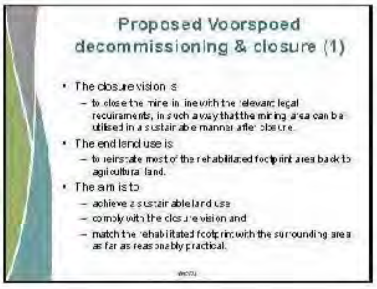

Current mine infrastructure

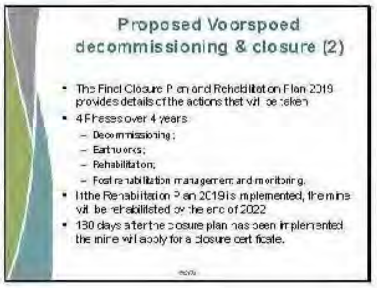

Status of mining pit

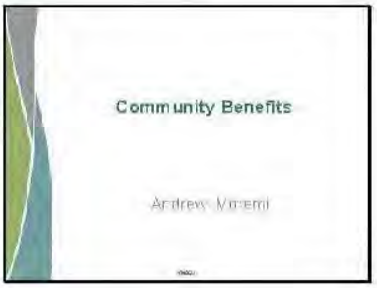

Voorspoed Mine Closure Process (1)
• De Beers & Anglo American Technical departments considered the following options in 2017:
• continue operating Voorspoed Mine until closure
• explore innovative ideas to extend the LoM or
• sell the mine to a third party that will responsibly mine & operate beyond the current LoM.
• After thoroughly investigating every aspect of extending the LoM, it was concluded that the disposal option was the most feasible & responsible option for the employees, the mine & host communities.
• The disposal of Voorspoed Mine as a going concern to an experienced operator that would responsibly sustain the operation, through a Labour Relations Act Section 197 process, was considered to be the most feasible and responsible option for securing employment


Voorspoed Mine Closure Process (2)
• De Beers & Standard Bank conducted a thorough review of potential purchasers' their empowerment credentials, technical capability, access to funding & commitment to regional socio-economic development.
– 42 parties indicated interest in Voorspoe Mine and were provided with the Request for Expressions of Interest document.
– 12 parties submitted Expressions of Interest documents that fully satisfied the documentation and cash deposit requirements.
• Following this extensive process De Beers could not find a suitable operator to acquire and operate Voorspoed Mine in a sustainable manner.
• In July 2018 the DBCM Board decided to cease mining activities by the end of 2018 and proceed with responsible closure of the mine.
• The DMR requested extension of the site process to Aug 2018, to allow other interested parties to be considered

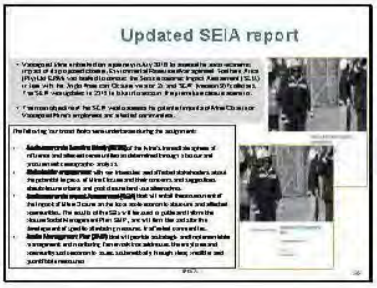

Voorspoed Mine Closure Process (3)
• A Section 52 process was followed and the Mining Sustainability and Employment Committee (MSEC), who advises the minister on mine closure issues, visited Voorspoed Mine on 30 November 2018.
• One remaining interested party participated up to end January 2019 & the process was concluded on 19 February 2019.
• The Minister officially responded to the CEO of De Beers Consolidated Mines in a letter dated 15 August 2019, where he stipulates the requirements should the mine close.

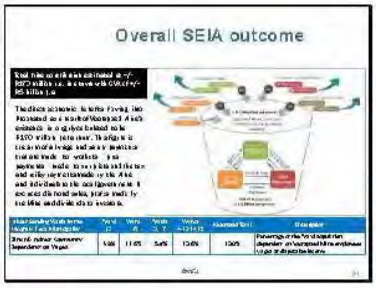

Proposed Voorspoed decommissioning & closure (1)
• The closure vision is
– to close the mine in line with the relevant legal requirements, in such a way that the mining area can be utilised in a sustainable manner after closure.
• The end land use is
– to reinstate most of the rehabilitated footprint area back to agricultural land.
• The aim is to
– achieve a sustainable land use
– comply with the closure vision and
– match the rehabilitated footprint with the surrounding area as far as reasonably practical.


Proposed Voorspoed decommissioning & closure (2)
• The Final Closure Plan and Rehabilitation Plan 2019 provides details of the actions that will be taken
• 4 Phases over 4 years
– Decommissioning;
– Earthworks;
– Rehabilitation;
– Post rehabilitation management and monitoring.
• If the Rehabilitation Plan 2019 is implemented, the mine will be rehabilitated by the end of 2022
• 180 days after the closure plan has been implemented the mine will apply for a closure certificate.

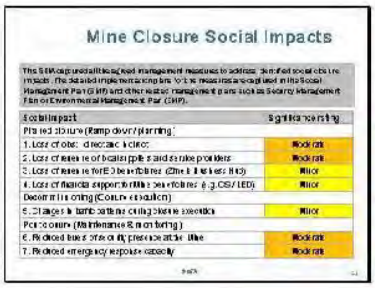

Community Benefits
Andrew Nyemi


Host & Labour-sending Area


Updated SEIA report


Overall SEIA outcome


Community viability outcome


Mine Closure Social Impacts


SLP 3: 2017 – 2021 Progress & Outcomes

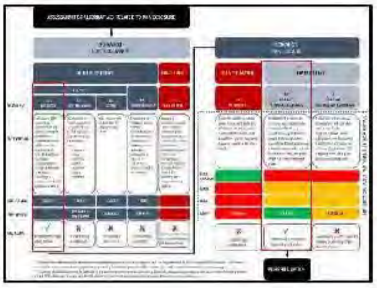

SLP 2: 2012 – 2016 Progress & Outcomes

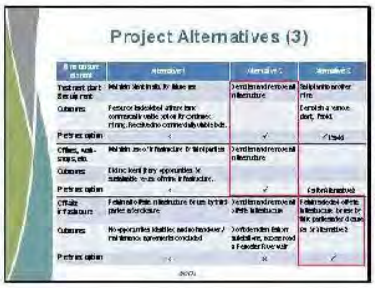

SLP 1: 2007 – 2011 Progress & Outcomes

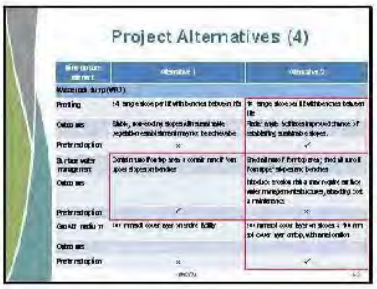

Voorspoed Mine Closure Plan –
alternatives considered

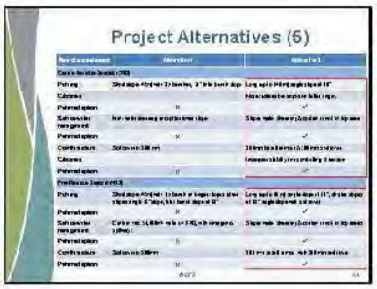

Project Alternatives (1)

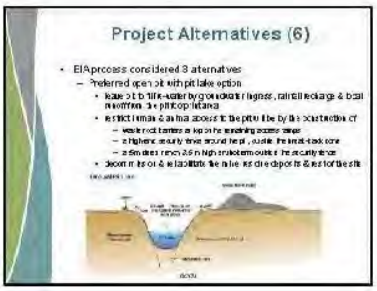

Project Alternatives (2)
No alternative sites were considered
No site lay-out alternatives, as the location of infrastructure and activities on the site were established during the construction and operational phases of the mine.
Alternatives involved the determination of how the existing infrastructure and facilities on and off the mining area must be decommissioned and rehabilitated, in such a way that the mining area can be utilised in a sustainable manner after closure.
Alternatives considered:
Strategic land-use alternatives;
Pit closure alternatives;
Rehabilitation design alternatives; and
End land-use alternatives.




Project Alternatives (3)

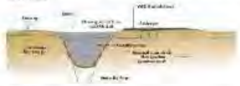

Project Alternatives (4)


Project Alternatives (5)


Project Alternatives (6)
EIA process considered 3 alternatives
Preferred open pit with pit lake option

Project Alternatives (7)

- EIA process considered 3 alternatives
  - Alternative pit backfill option
    - backfilling the open pit, primarily with material from the waste rock dump
    - decommission & rehabilitate the mine residue deposits & rest of the site



  - No-go option
    - do not decommission any of the mine activities and infrastructure and do not rehabilitate the mine residue deposits & areas disturbed by mining.
    - deserted, unsafe & polluting mine infrastructure & mining area

Alternatives comparison

Preferred open pit with pit lake	Alternative pit backfilling
Open pit, with pit crest instability and associated break back, pose safety risk	The pit no longer pose a safety risk
Pit water level remain below natural water table level, & groundwater will not migrate to the surrounding aquifer system(s)	Water level will rebound to the natural water table level and groundwater will migrate to the surrounding aquifer system(s)
No pollution of groundwater or the water underground	Polluted groundwater movement from the pit will pollute the underground water
No continued capture & treatment of polluted groundwater	Groundwater pollution will require continued capture & treatment
Reasonable cost option for decommissioning	Excessive cost, disproportionate to the benefits achieved by backfilling, and the benefit of the mining activities

Preferred open pit decommissioning option

- All accessible diamond-bearing ore was removed from the pit
- Open pit will be left to fill/re-water, resulting in pit lake
- Human and animal access to the pit will be prevented by constructing
  - waste rock barriers at the top of the remaining pit access ramps
  - a high-end security fence around the open pit, outside the break-back zone
  - a 5m deep trench and 5m high enviroberm, outside the security fence
- The remaining mine residue deposits will be reshaped, covered with cover material and/or soil and rehabilitated with a vegetation cover.
- The vegetation will be managed and utilised until closure to ensure that the success criteria are achieved.
- Surface and groundwater, as well as vegetation and biodiversity monitoring will be undertaken to evaluate the success of the rehabilitation efforts

Picture of preferred option

Voorspoed Mine Closure Plan – end land use

Hans Kgasago

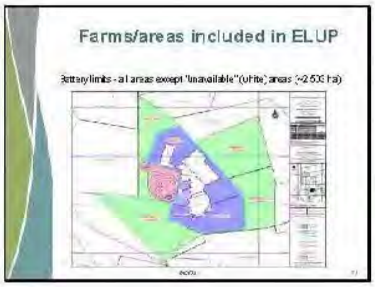
End land use plan (1)

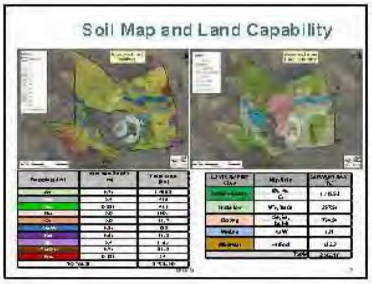
- Specialist study to develop an End Land Use Plan that is aligned with:
  - The mine's closure planning initiatives;
  - The mine's Preliminary Mine Closure Plan (2011 and 2014);
  - The mine's Rehabilitation Plan (2014);
  - Social Closure Plan; and
  - The Fezile Dabi Integrated Development Plan (IDP).
- The study aimed to:
  - Develop a comprehensive list of potential end land uses for evaluation to determine which of the options had the highest likelihood of succeeding beyond closure; and
  - Evaluate the financial viability for selected options.

End land use map

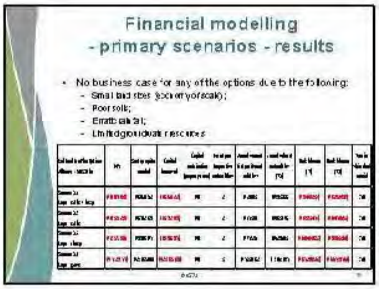
Voorspoed End Land Use Plan – Scope

- Current land use
- Land available for ELUP
- Potential ELU Options - Added to during Workshop
- Results
  - Soil survey / land capability
  - Vegetation assessment / carrying capacity
  - Potential ELU options (list & rank)
  - Financial evaluation of proposed ELU options (scenarios)


Farms/areas included in ELUP


Soil Map and Land Capability


Potential ELU Options – Added to during workshop
Original Voorspoed list
Extensive cattle farming
Extensive sheep farming
Intensive cattle farming (feedlot)
Intensive sheep farming
Commercial piggery
Chicken farming (broilers& layers)
Dryland maize & other crops (sunflower/soya)
Sunflower& soya – supply to bio-fuel plant
Maize under centre pivot irrigation
Vegetable production under centre pivot irrigation (pit lake)
Vegetable production in greenhouses
New
Cut flower production
Conservation - wetlands/biodiversity
Game farming - high value species
Game farming
Aggregate production - WRD
Brick making CRE
Brick making FRD
Solar farm
Mining tourism
Pecan nut plantation


Financial modelling
- primary scenarios - results
No business case for any of the options due to the following:
Small market (economy of scale);
Poor soils;
Erratic rainfall;
Limited groundwater resources


Voorspoed Mine Closure Plan – decommissioning & rehabilitation actions


Mine closure components


Decommissioning & mine closure
Overarching mine closure objective:
– to ensure sustainability beyond mine closure and leaving a positive legacy.
Specific mine closure objectives:
– Restore as much as possible of the mining area to a condition consistent with the pre-determined post closure land use objectives;
– Ensure that the area is left in a condition that poses an acceptable level of risk to public health and safety; and
– Reduce the need for post closure intervention, either in the form of monitoring or on-going remedial work, as far as is practically possible.


Proposed decommissioning & rehabilitation actions (1)
Closure objectives will be achieved by:
– A phased decommissioning of existing structures & infrastructure;
– Preparing areas to be rehabilitated to create suitable habitats and support other ecological stability (e.g. erosion resistance), i.e. implement earthworks:
Reshaping the steep slopes of the Mine Residue Deposits (WRDs) to minimise the effects of water erosion on the slopes;
Covering all mining related residues with cover material (soil), to ensure that potentially contaminated material is isolated from the environment;


Proposed decommissioning & rehabilitation actions (2)
• Covering the disturbed areas with suitable soil or material that can serve as growth medium;
• Ripping of rehabilitation areas to alleviate compaction and/or mix the cover layer with the underlying material;
• Reinstating affected surface drainage lines and catchment areas to pre-, as far as possible;
– Establishing vegetation that will be stable over the long term and have the desired ecological function, but also provide suitable species diversity for utilisation by animals
• Cultivating and ameliorating the rehabilitation areas with compost and fertilizer, based on soil analysis.


Proposed decommissioning & rehabilitation actions (3)
• Seeding the area with a mixture of local indigenous grass and tree seeds that are adapted to the area;
• Applying follow-up fertiliser where specified
• Controlling weeds and invader plant species;
• Stimulating the vegetation on rehabilitated areas by selective and controlled grazing that will also aid to spread seeds to increase bio-diversity over the area.
– Conducting on-going monitoring programmes, to provide key data regarding surface and groundwater, as well as biodiversity responses to the rehabilitation efforts...
• Rehabilitation actions will ensure that rehabilitated areas are self-sustainable over the long term, with limited on-going care & maintenance

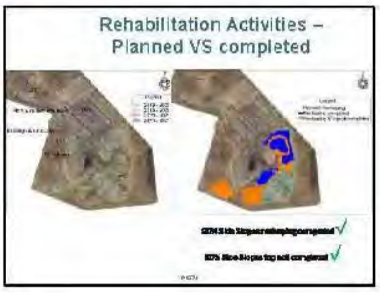

Rehabilitation Update: 2014 - 2018


Waste Rock Dump – Progress (Reshaped, Topsoiled & Vegetated)


Waste Rock Dump – Successful Rehabilitation (Reshaped, Topsoiled & Vegetated)


Rehabilitation Update - 2019


Waste Rock Dump – Progress (Reshaped, Topsoiled & Vegetated)


Rehabilitation Activities – Planned VS completed

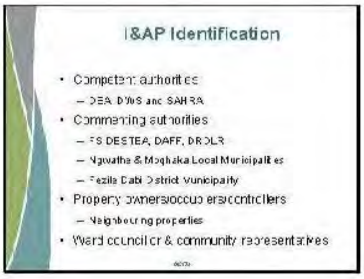

Waste Rock Dump – 2019 Rehab Progress


Waste Rock Dump – 2019 Rehab Progress


Southern Pan – Bluegum Trees Eradication


Northern Pan – Slangbos Eradication


Public Consultation Process followed to date
Tshepiso Seoki


I&AP Identification
• Competent authorities
– DEA, DWS and SAHRA
• Commenting authorities
– FS DESTEA, DAFF, DRDLR
– Ngwatha & Moqhaka Local Municipalities
– Fezile Dabi District Municipality
• Property owners/occupiers/controllers
– Neighbouring properties
• Ward councillor & community representatives


Public participation process followed (1)
• Invitations to register as interested and affected parties (I&APs) and attend meetings
– 1-6 August 2019:
• Newspaper advertisements (English & Sesotho)
• Business Times, Kroonrus, Parys Gazette & Dumelang News
– 5 August 2019:
• Personal invitations – e-mail, fax & registered mail
– 31 July 2019
• On-site notice
• Other localities – Municipal offices & libraries (11)


Newspaper Advertisements (1)
• Business Times, 4 August 2019


Newspaper Advertisements (2)
• Kroonnuus, 6 Augus: 2019


Newspaper Advertisements (3)
• Parys Gazette, August 2019


Newspaper Advertisements (4)
• Dumelang News, 2 August 2019

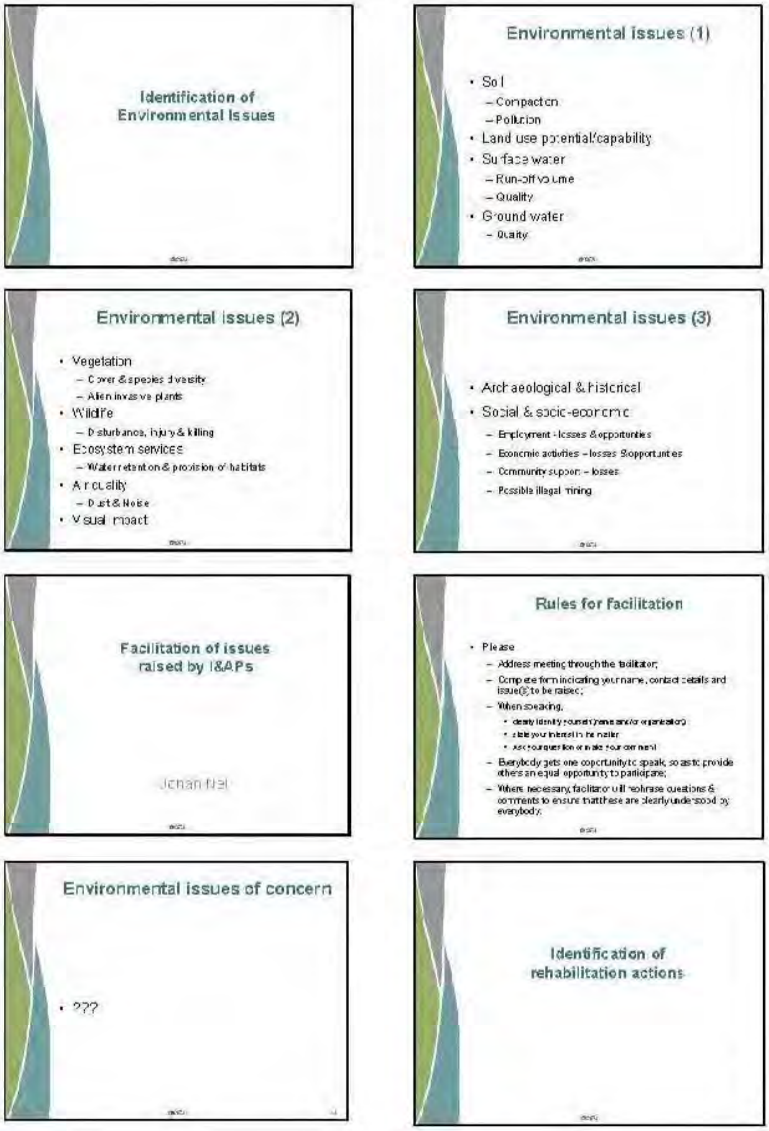

Voorspoed Mine site notices


Kroonstad site notices


Parys site notices


Viljoenskroon site notices


Vredefort & Koppies site notices


Identification of Environmental Issues
Environmental issues (1)
• Soil
– Compaction
– Pollution
• Land use potential/capability
• Surface water
– Run-off volume
– Quality
• Ground water
– Quality
Environmental issues (2)
• Vegetation
– Cover & species diversity
– Alien invasive plants
• Wildlife
– Disturbance, injury & killing
• Ecosystem services
– Water retention & provision of habitats
• Air quality
– Dust & Noise
• Visual impact
Environmental issues (3)
• Archaeological & historical
• Social & socio-economic
– Employment - losses & opportunities
– Economic activities – losses &opportunities
– Community support – losses
– Possible illegal mining
Facilitation of issues raised by I&APs
Johan Nel
Rules for facilitation
• Please
– Address meeting through the facilitator;
– Complete form indicating your name, contact details and issue(s) to be raised;
– When speaking,
• clearly identify yourself (name and/or organisation)
• state your interest in the matter
• Ask your question or make your comment
– Everybody gets one opportunity to speak, so as to provide others an equal opportunity to participate;
– Where necessary, facilitator will rephrase questions & comments to ensure that these are clearly understood by everybody;
Environmental issues of concern
• ???
Identification of rehabilitation actions


Rehabilitation actions identified (1)
Rehabilitation actions identified (2)
Facilitation of mitigation measures raised by I&APs
Proposed mitigation measures
???
Other issues
???
The Road Ahead
Theuns Meyer
What next?
Final isation of draft BAR, EMPr & CP
I&AP Review and commenting on draft BAR, EMPr & CP – 2E Aug to 25 Sept
Submission of final BAR, EMPr & CP to CA – 4 October
Evaluation of final EAR, EMPr & CP by CA
Decision-making by CA – January 2020
Informing all I&APs of decision
Appeal process
Closure
We thank you for your attendance!


Contact us:
NWU

Appendix C: Issues and comments raised by the participants

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: Mr Initials N. Surname: Palm

Organisation / Firm (if applicable): RavCom Business Chamber

Position / Nature of involvement. E.g. property owner: Chairperson.

Street address: Reitz Street Vereeniging

Postal address:

Tel and area code: (Work) 0823970652 (Home)

(Cell) 0823970652 (Fax)

E-mail: info@ravcomchamber.com
skriel@mweb.co.za

Please state your issues / comments / concerns:

1. How to protect against Zama-Zama activities.
2. Possible use of rocks/aggregates for brick making or other.
3. Possible solar plant development. Yes or No.

RavCom Business Chamber

NICO PALM

Cell +27 (0)82 397 0652
Fax +27 (0)86 609 0408

Email info@ravcomchamber.com
Web www.ravcomchamber.com

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: MR Initials M.S. Surname: SEKUME

Organisation / Firm (if applicable): PUBLIC PARTICIPANT

Position / Nature of involvement. E.g. property owner:

Street address: 7 STAINER STR

Postal address: SUIDRAND KRUGERSDORP 9499

Tel and area code: (Work) 0562169235 (Home)

(Cell) 0824940991 (Fax)

E-mail: mpatrickstephen@gmail.

Please state your issues / comments / concerns:

- My concern is the way the DE BEERS CONSOLIDATED distributed opportunities both social and employment because children of surrounding farm labourers were never considered for anything for economic development.
- The re-establishment of mining operations at VOORSPOED brought more distress and misery to already economically depressed farm labourers families.

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: Mr Initials Ronel Surname: Leonard

Organisation / Firm (if applicable): G+R Leonard Pty Ltd

Position / Nature of involvement. E.g. property owner: Director of above

Street address: Farm Belmont

Postal address: PO Box v164 Kroonstad 9501

Tel and area code: (Work) 0825715456 (Home)

(Cell) 0827854326 (Fax)

E-mail: george-1@mweb.co.za

Please state your issues / comments / concerns:

Using the old mine heap and mine on Sisling or another adjacent farm is there and will there be a proper EAP before giving the ok to mine that heap

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: Mr Initials EP Surname: Mofokeng

Organisation / Firm (if applicable): Pakiso Tech and Gadgets

Position / Nature of involvement. E.g. property owner:

Street address: 370 Brand Street Kroonstad

Postal address: SAME AS ABOVE.

Tel and area code: (Work) (Home)

(Cell) 073 186 5896 (Fax)

E-mail: m.pakiso@yahoo.com

Please state your issues / comments / concerns:

- Exhibition museum at the pit.
- Tendering process so far for the mine closure.
-

Appendix D: Issues and response table with a summary of the issues raised by the public and the responses provided by the EAP and mine representatives at the meeting

Interested and affected parties	Issues raised	EAP's response to issues as mandated by the applicant
Ronel Leonard	Heard rumours that a party is busy moving some of the historic mine dump from the Mine's premises to another site where it is being re-mined for diamonds	*Response by PJ Jordaan (on behalf of the Mine):* One party was interested in re-mining the historic dump. The Mine requested that this party must first conform to all of the regulatory requirements to proceed with this activity. The party has to date not conformed to the requirements, thus the dump is currently not being reworked.
Ronel Leonard	Suggested that Renosterkop be transformed into a conservation area as an alternative mitigation/rehabilitation measure	*Response by PJ Jordaan (on behalf of the Mine) and by Theunis Meyer, the EAP:* The Renosterkop area referred to is situated outside the mining area and was not negatively impacted by the Mine. Strictly speaking, it does not fall within the ambit of the decommissioning scope of the EIA. The conservation proposal, previously made by the adjacent land owners, was not pursued by the Mine, due to constraints the Mine faced at the time. Land owners are requested to submit a new proposal for consideration.
Mpaka Stephen Sehume	Why has the surrounding farm labourers never benefited economically and socially from the Mine's activities, i.e. employments, education etc.	*Response by PJ Jordaan, Andrew Moremi, Lungile Zinnu, Rebotile Kgaka and Mojabeng Pinkoane (on behalf of the Mine):* The Mine did not directly/specifically target the surrounding farm labourers as beneficiaries. Neither did the Mine directly/specifically exclude the surrounding farm labourers as beneficiaries. The corporate social responsibility programmes of the Mine are administered through the Moqhaka and Ngwathe Local Municipalities and other stakeholders, such as the Department of Labour. These parties were tasked to identify beneficiaries that meet the specifications of the projects, i.e. equipment, level of education needs etc. Thus, the surrounding farm labourers need to meet these needs to be eligible beneficiaries, e.g. currently five people from the surrounding communities are employed by the Mine, of which two work in the Supply Chain Department.

Interested and affected parties	Issues raised	EAP's response to issues as mandated by the applicant
Nico Palm	Does the Mine have a plan in place to deal with illegal Miners (Zama-Zamas)?	*Response by PJ Jordaan (on behalf of the Mine):* The Mine recognises the potential threat that illegal Miners may pose and has thus made provision for this in the closure plan in the following manners: 1. All diamonds have been mined from the pit, thus there are no reason/incentive to enter the pit; 2. The access ramps to the pit have already failed and can not be used to access the pit; 3. The pit will be filled with water; 4. The pit will be fenced with a ClearVu security fence restricting access; and 4. Security guards will monitor access to the pit until the rehabilitation plan is implemented. Thereafter, security cameras and alarms will be installed to notify the Mine of any trespassers in future.
Nico Palm	Can the aggregate be used to make bricks?	*Response by PJ Jordaan (on behalf of the Mine):* The Mine has previously explored the option of making bricks from the aggregate. It was found to be an unsuccessful endeavour, since the bricks deteriorate over time. The untreated aggregate is thus not suitable for brickmaking.
Nico Palm	How economically viable is the option of constructing a solar farm on the disturbed mining area as an alternative end land use?	*Response by PJ Jordaan (on behalf of the Mine) and Theunis Meyer, the EAP:* The construction of a solar farm is not currently considered as an economically viable alternative end land use for this site. This option is however still being explored and if it is found to be viable, the correct process will be followed in terms of this application to amend the documentation and inform interested and affected parties accordingly.
Pakiso Mofokeng	Is there a possibility, post closure, to create an educational tourism facility, i.e. a museum and pit view point, similar to the one in Kimberley?	*Response by PJ Jordaan (on behalf of the Mine):* This is not possible, since the geology around the pit is too unstable to allow for the construction of a ramp for a view point. In addition, access to the pit will be restricted by means of a security fence. Therefore, it will not be possible to see the open pit after decommissioning. Creating an educational tourism opportunity

Interested and affected parties	Issues raised	EAP's response to issues as mandated by the applicant
		during the decommissioning and closure process, based on responsible mine closure is a more viable option, thus teaching students about mine rehabilitation.
Pakiso Mofokeng	Pakiso Tech and Gadgets submitted a tender for the rehabilitation of the Mine. Has the tender been awarded to anyone yet?	*Response by PJ Jordaan (on behalf of the Mine):* The 2019 tender for rehabilitation has not been awarded yet.
Pakiso Mofokeng	Will the public participation slide deck displayed today be made available to the public?	*Response by Theunis Meyer, the EAP* Yes, all documents relating to this application for decommission will be made available in both hard copy ad electronic format. Interested and affected parties will be notified of the when and where the copies are available.

Appendix 30: Minutes of the public meeting held in Parys in the Mosepedi Site Hall, Tumahole, on 20 August 2019, including copies of representations and comments received from registered interested and affected parties

NWU®
NORTH-WEST UNIVERSITY
NOORDWES-UNIVERSITEIT
YUNIBESITI YA BOKONE-BOPHIRIMA

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

Centre for Environmental Management

Internal box 150, Private Bag X6001, Potchefstroom,
South Africa, 2520

Tel: 018 299 1467
Fax: 018 299 4266
Email: theunis.meyer@nwu.ac.za

Web: https://cem-nwu.co.za/

Minutes of the Public Meeting for the Application for Environmental Authorisation for the Proposed Decommissioning of the Voorspoed Diamond Mine, in the Ngwathe Local Municipality, Free State held on 20 August 2019 in the Mosepedi Site Hall, Tumahole, Parys

1. **Welcome**

   Mr Tshepiso Seobi welcomed all attendees to the meeting and briefly explained the purpose of the meeting.

2. **Attendance**

   The meeting was attended by the North-West University project team, four representatives from Voorspoed Mine and 34 members of the public. See attendance register, attached as Appendix A.

3. **Safety moment**

   Mr Andrew Moremi from Voorspoed Diamond Mine shared a safety moment with the public meeting attendees. The topic of the moment was on the hazards associated with the use of many extension cords in the venue were the meeting was being held. Meeting attendees were cautioned to take care when moving around in the venue.

4. **Public meeting presentation**

   The meeting was held, using a PowerPoint presentation, which is attached as Appendix B.

5. **Introduction to the facilitator, Environmental Assessment Practitioner and project team**

   The meeting was facilitated by Prof Johan Nel from the North-West University's (NWU) Centre for Environmental Management (CEM). The Environmental Assessment Practitioner (EAP) for the Environmental Impact Assessment is Mr Theunis Meyer, also from the NWU, CEM. Mr Tshepiso Seobi, who assists with the Public Participation (PP) component of the project, and Mrs Simoné van Rooyen (who recorded the minutes of the meeting) also forms part of the NWU CEM project team.

   Voorspoed Diamond Mine was represented by Mr Petrus Jordaan (Closure Manager), Mr Andrew Moremi (Public Relations Manager) and Mr Hans Kgasago (Rehabilitation Manager). Mr DP van der Merwe, a mine rehabilitation specialist from Redco, one of the specialists that assisted with the development of the mine closure plan, also attended the meeting.

6. Meeting format

Prof Johan Nel explained the format of the meeting, i.e. a presentation will be presented by the project team, after which all attendees will be invited to participate in a question and answer session. After this session, the road ahead will be explained.

7. Introduction

7.1 Understanding the legal requirements for decommissioning and mine closure

The legal requirements for decommissioning and mine closure was explained by the Mr Theunis Meyer (see slides 8 to 17 of Appendix B). Reference was made to some requirements of the Mineral and Petroleum Resources Development Act 28 of 2002 and the National Environmental Management Act 107 of 1998 (NEMA).

7.2 Understanding the Environmental Impact Assessment process

The Environmental Impact Assessment (EIA) process that is required by the NEMA was also explained by Mr Theunis Meyer (see slides 18 to 26). A process flow displayed the generic EIA process.

7.3 Understanding the Public Participation process

The PP process that is required as part of the EIA process was also explained by Mr Theunis Meyer (see slides 27 to 36). The aim of the PP process was explained using a figure.

7.4 Introduction to the Voorspoed Diamond Mine decommissioning and closure process

The Voorspoed Diamond Mine decommissioning and closure process was explained by Mr Petrus Jordaan (see slides 37 to 47). The location, the current mine infrastructure and status of the mining pit were also displayed using maps.

7.5 Community benefits

The benefits to the community was explained by Mr Andrew Moremi (see slides 48 to 56). Contents from the Socio-economic Impact Assessment and Social Labour Plan were presented to explain the way in which the community benefitted during the operational phase of the mine, as well as those that will be continuing until mine closure.

8. Voorspoed Diamond Mine closure plan

8.1 Alternatives considered

The alternatives considered was explained by Mr Hans Kgasago (see slides 57 to 68). Various alternatives as well as the preferred option were described.

8.2 End land use

The end land use (ELU) was also explained by Mr Hans Kgasago (see slides 69 to 78). Content from the ELU Plan was presented. The ELU, farms or areas included in the ELU Plan, the current land use and soil and land capability were also displayed using maps.

8.3 Decommissioning and rehabilitation actions

The decommissioning and rehabilitation actions were also explained by Mr Hans Kgasago (see slides 79 to 94). Updates on rehabilitation for the periods 2014 to 2018 and 2019 were displayed using numerous photographs.

9. PP process followed to date

The PP process followed to date was explained by Mr Tshepiso Seobi (see slides 95 to 106). Reference was made to the publication of newspaper advertisements as well as the placement of site notices.

10. Identification of environmental issues and mitigation measures related to the decommissioning and mine closure process

10.1 Identification of environmental issues identified by the EAP and the specialists

The environmental issues identified was discussed by Mr Theunis Meyer (see slides 107 to 110). Soil compaction and pollution, surface water run-off, groundwater quality deteriorating etc., were identified as issues.

10.2 Facilitation of process to identify additional environmental issues by Interested and Affected Parties

The facilitator, Prof Johan Nel, facilitated a session in which the Interested and Affected Parties (I&APs) could raise additional environmental issues of concern (see slides 111 to 113 of the presentation). A number of comments and questions were raised by participants (attached as Appendix C) and responded to by the EAP and representatives of Voorspoed Mine (attached as Appendix D).

10.3 Identification of rehabilitation actions and mitigation measures identified by the EAP and the specialists

The rehabilitation actions identified to address the environmental impacts caused by the mining activities and to reinstate most of the rehabilitated footprint area back to agricultural land was discussed by Mr Theunis Meyer (see slides 114 to 116). These included decommissioning existing structures and infrastructure, ripping areas with compacted soil, bio-remediating hydrocarbon polluted soils, reshaping steep slopes of mine residue deposits and reinstating surface water drainage lines on-site, to mention a few.

10.4 Facilitation of process to identify additional rehabilitation actions and mitigation measures by Interested and Affected Parties

The facilitator facilitated a session in which the I&APs were invited to raise additional rehabilitation actions and mitigation measures (see slides 117 to 118). No comments or questions were received from the participants.

11. General question and answer session

The facilitator invited the participants to raise any other issues related to the decommissioning and closure of the mine not yet discussed during the meeting (see slide 119). No additional issues were raised by any participant.

12. The road ahead

The EAP, Mr Meyer, explained the road ahead for the EIA process (see slides 120 to 121). It includes, amongst others, the finalisation of the draft Basic Assessment Report (BAR), Environmental Management Programme (EMPr) and Closure Plan (CP) and the reviewing of and commenting on the BAR, EMPr and CP by I&APs.

13. Closure

The facilitator closed the public meeting by thanking all for their attendance and providing the contact details of Messrs Theunis Meyer and Tshepiso Seobi for further engagement (see slides 122 to 123).

Appendix A: Attendance register

DE BEERS GROUP

NWU® | CEM Centre for Environmental Management

ATTENDANCE REGISTER

Project:	**EIA for Decommissioning of De Beer Voorspoed Mine**
Event:	**Public Meeting**
Locality:	**Mosepedi Site Hall, Rampa Street, Tumahole, Parys**
Date and Time:	**Tuesday 20 August 2019 at 16h00**

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Lidia Mosae	Ngwathe Municipal	078 43 21215		[signature]
Dafney Sochifa	Sedi La Ka Catering	073 1108 225	sochifadafney@gmail.com	[signature]
Yolani Sochiva	Sedi La Ka Catering	0604046176		[signature]

Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 1 of 5

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Mochele [illegible]	Sedi Lako Catering	073 9805 285		[signature]
Katleho Lelwere	Ngwathe	0788451403		[signature]
Roberts Freddy	Ngwathe	0787366696		[signature]
Jentau Gasiato	Ngwathe	073 758 5875		[signature]
Thembo	Jordan	084 859 1243		[signature]

Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 2 of 5

NWU® | CEM Centre for Environmental Management

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
THABO SELGOBEK		0824766874	thabomapane@gmail.com	[signature]
Moshack Mamu		0817710661	Moshack Mamu	[signature]
M. GEORGE KOBA	LEARN	083 946 9748	[illegible]@gmail.com	[signature]
Josinamenteshe		0837619566	nombulelo	mentesh.e
MS M.M MOLOKENG		073 602 7723	[illegible]@gmail.com	[signature]

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Seipati Miriam mafile		071 7875 819		[signature]
Molaung Mootetsi		0657017772		[signature]
Rampatau Mosala		060 432 5369		[signature]
Christo Letsaba		079 3017 016		[signature]
Daniels Bentley		0790573022	danielsbentley21@gmail.com	[signature]

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Papi Majoe		0719093510		[signature]
Nkhabeng Mpandla		0673621355		[signature]
Mngi Mendeshe		083 483 3964		[signature]
Mr Samuel Radebe		078 755 1437		[signature]
Majoe Jammy		067 102 2753		[signature]

DE BEERS GROUP NWU® CEM Centre for Environmental Management

ATTENDANCE REGISTER

Project: EIA for Decommissioning of De Beer Voorspoed Mine
Event: Public Meeting
Locality: Mosepedi Site Hall, Rampa Street, Tumahole, Parys
Date and Time: Tuesday 20 August 2019 at 16h00

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Mr Tisetso Nyangwa	Public	063 8367631	[illegible]	[signature]
Mr Sylvester Motolemetsi	Public	085 52 200 23	Mr.Telemetsisa@gmail...	[signature]
Mr Sonnyboy Galeboe	Public	0789583103	None	[signature]

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Mofokeng	Public	0630364328	none	[signature]
Mosoeta Rabebe	De Beers	073 5591421		[signature]
David Sefume	Hare Emalleng Basadi Trading Services	0630239422	bikersepume30@gmail.com	[signature]
Relebogile Mogoera	Public	066 351 1315	henepacasa@gmail.com	[signature]
Eunice Makhokolo	Public	073 208 4150	Emakhokolo@gmail.com	[signature]

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Lerato Mohapi	Public	0730087222	pluadokeas@gmail.com	[signature]
Siphosethu Thlapho	Public	060 507 2286	innonaxg@gmail	[signature]
Sabata Lehana	Sign Lang. Interpreter	0731918084	sapo.lehana@gmail.com	[signature]
Tshepiso Seobi	North-West Univ., Centre for Env. Management	0182994293 0788045726	Tshepiso.Seobi@nwu.ac.za	[signature]
PJ Jordan	De Beers	056 2168466	Petrus.jordaan@debeersgroup.com	[signature]

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Pastor Mphc Lebea	Tumahole Religious Ministers Forum	072 492 1617	mphelebea 61 @ gmail. com	[signature]
Agnet	cem/nwu	0836097486	jdan.nolf nwu. ac. za	[signature]
TC MEYER	NWU – CEM	018 299 1467	THEUNIS_MEYER@ NWU. AC. ZA	[signature]
Mrs Simoné de Kogen	NWU CEM Junior Subject Specialist	018 299 4068	simone, erragen@ nwu. ac. za	[signature]
Andrew Moremi	De Beers	056 216 8474	andrew.moremi@ debeersgroup. com	[signature]

Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 4 of 5

Title, Name and Surname	Affiliation (Organisation) and Designation or Nature of involvement	Cell and / or Telephone Number(s)	E-mail/Postal Address(es)	Signature
Brandi Thibile	De Beers Environmental Officer	056 216 8530	brandi.thibile@ debeersgroup. com	[signature]

Voorspoed Mine Attendance Register Public Meeting Rev 2019-00 Page 5 of 5

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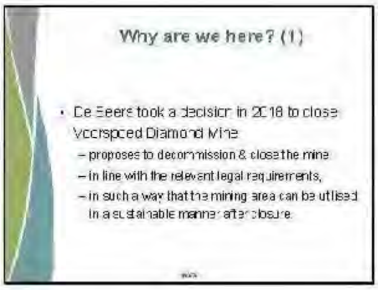
Appendix B: PowerPoint presentation that was used during the meeting

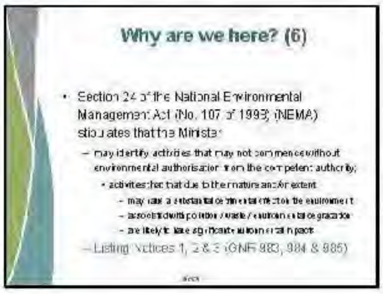

Why are we here? (1)
• De Beers took a decision in 2018 to close Voorspoed Diamond Mine
– proposes to decommission & close the mine
– in line with the relevant legal requirements,
– in such a way that the mining area can be utilised in a sustainable manner after closure.


Why are we here? (2)
• Section 43 of the Minerals & Petroleum Development Act stipulates that
– The holder of a prospecting right, mining right … must plan for, manage and implement
• such procedures and such requirements on mine closure as may be prescribed.
– Procedures and requirements on mine closure as it relates to the compliance of the conditions of an environmental authorisation,
• are prescribed in terms of the NEMA, 1998.


Why are we here? (3)
• It also stipulates that
– The holder of a mining right ….
• remains responsible for any environmental liability, pollution, ecological degradation, the pumping and treatment of extraneous water, compliance to the conditions of the environmental authorisation and the management and sustainable closure thereof
• until the Minister has issued a closure certificate in terms of this Act to the holder or owner concerned.


Why are we here? (4)
• In addition, section 43 stipulates that
– the holder of a prospecting right, mining right …. must apply for a closure certificate upon-
• the lapsing, abandonment or cancellation of the right or permit in question;
• cessation of the prospecting operation;
• the relinquishment of any portion of the land to which a right, permit or permission relate; or
• completion of the prescribed closing plan to which a right, permit or permission relate.


Why are we here? (5)
• Lastly, section 43 stipulates that
– An application for a closure certificate must be
• made to the DMRE Regional Manager in whose region the land is situated
– within 180 days of the occurrence of the lapsing, abandonment, cancellation, cessation, relinquishment or completion of the prescribed closing plan and
• accompanied by the required information, programmes, plans and reports
– prescribed in terms of the MPRDA & the NEMA.

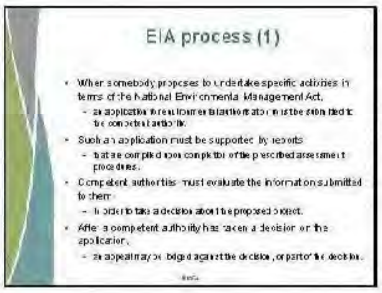

Why are we here? (6)
• Section 24 of the National Environmental Management Act (No. 107 of 1998) (NEMA) stipulates that the Minister
– may identify activities that may not commence without environmental authorisation from the competent authority;
• activities that that due to the nature and/or extent
– Listing Notices 1, 2 & 3 (GNR 983, 984 & 985)

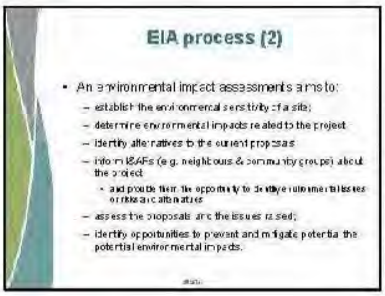

Why are we here? (7)
• The proposed decommissioning & mine closure include the following listed activity:
– The decommissioning of any activity requiring a closure certificate in terms of section 43 of the MPRDA
• Listing notice 1, Activity 22 (GN R.983 of 2014)
• Section 24 of the NEMA also stipulates that the Minister
– may make regulations
• laying down the procedure to be followed in applying for, the issuing of and monitoring compliance with environmental authorisations
– 2014 EIA regulations (GNR 982)

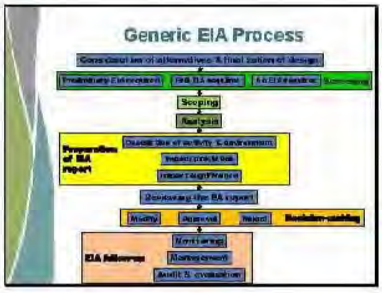

Why are we here? (8)
• Section 24 of the NEMA further stipulates that
– the potential consequences for the environment, or impacts on the environment
• must be considered, investigated, assessed & reported on
• to the competent authority or the Minister responsible for mineral resources, …
– for listed activities or specified activities

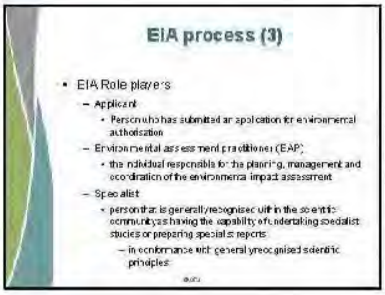

Why are we here? (3)
• Lastly section 24 of the NEMA stipulates that:
– Every applicant must comply with the requirements prescribed in terms of this Act in relation to—
• steps to be taken before submitting an application, where applicable;
• any prescribed report;
• any procedure relating to public consultation and information gathering;
• any environmental management programme;
• the submission of an application for an environmental authorisation and any other relevant information; and
• the undertaking of any specialist report, where applicable.

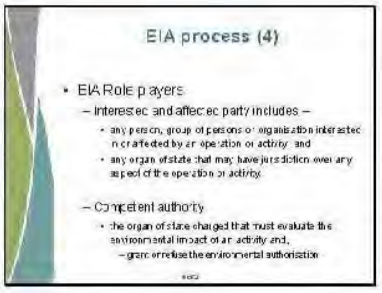

Why are we here?
Understanding the EIA process
Theuns Meyer

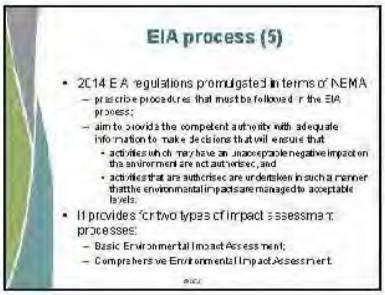

EIA process (1)
• When somebody proposes to undertake specific activities in terms of the National Environmental Management Act,
– an application in a prescribed manner must be submitted to the competent authority.
• Such an application must be supported by reports
– that are compiled upon completion of the prescribed assessment procedures.
• Competent authorities must evaluate the information submitted to them
– in order to take a decision about the proposed project.
• After a competent authority has taken a decision on the application,
– an appeal may be lodged against the decision, or portion of decision.


EIA process (2)
• An environmental impact assessments aims to:
– establish the environmental sensitivity of a site;
– determine environmental impacts related to the project
– identify alternatives to the current proposals
– inform I&APs (e.g. neighbours & community groups) about the project
• and provide them the opportunity to identify environmental issues or risks and alternatives
– assess the proposals and the issues raised;
– identify opportunities to prevent and mitigate potential the potential environmental impacts.


Generic EIA Process
Scoping
Impact prediction
Monitoring
Audit & evaluation


EIA process (3)
• EIA Role players
– Applicant
• Person who has submitted an application for environmental authorisation
– Environmental assessment practitioner (EAP);
• the individual responsible for the planning, management and coordination of the environmental impact assessment
– Specialist
• person that is generally recognised within the scientific community as having the capability of undertaking specialist studies or preparing specialist reports
– in conformance with general recognised scientific principles


EIA process (4)
• EIA Role players
– Interested and affected party includes –
• any person, group of persons or organisation interested in or affected by an operation or activity; and
• any organ of state that may have jurisdiction over any aspect of the operation or activity.
– Competent authority
• the organ of state charged that must evaluate the environmental impact of an activity and,
– grant or refuse the environmental authorisation


EIA process (5)
• 2014 EIA regulations promulgated in terms of NEMA
– prescribe procedures that must be followed in the EIA process;
– aim to provide the competent authority with adequate information to make decisions that will ensure that
• activities which may have an unacceptable negative impact on the environment are not authorised, and
• activities that are authorised are undertaken in such a manner that the environmental impacts are managed to acceptable levels.
• It provides for two types of impact assessment processes:
– Basic Environmental Impact Assessment;
– Comprehensive Environmental Impact Assessment

EIA process (6)

- The basic EIA process for this project involve the following steps:
  - Engaging with competent authorities
  - Undertaking of specialist studies;
  - Development of BIC, newspaper advertisements & site notices;
  - I&AP registration & circulation of EIDto registered I&APs;
  - Public meeting;

EIA process (7)

- Drafting of Basic Assessment Report (BAR), Environmental Management Programme (EMPr) & Closure Plan (CP);
- Circulation of BAR, EMPr & CP to registered I&APs for review;
- Revision of BAR, EMPr & CP based on I&AP comments;
- Submission of final BAR, EMPr & CP to competent authority for decision-making;
- Informing registered I&APs of the decision by the competent authority (letter).

Why are we here?

Understanding the Public Participation process

Theunis Meyer

Public participation process (1)

- The NEMA principles recognises that:
  - the environment is held in public trust for the people
    - the beneficial use of environmental resources must serve the public interest
    - the environment must be protected as the people's common heritage.
  - the participation of all interested and affected parties (I&APs) in environmental governance must be promoted
    - all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,
    - participation by vulnerable and disadvantaged persons must be ensured.

Public participation process (2)

- The NEMA requires a public participation process for all EA processes
  - 'public participation' means
    - a process by which potential interested and affected parties are given opportunity to comment on, or raise issues relevant to, the application

Public participation process (3)

- The public participation process must
  - facilitate participation by potential or registered I&APs in such a manner that all I&APs are provided with a reasonable opportunity to comment on the application/proposed application;
  - provide access to all information that reasonably has or may have the potential to influence any decision with regard to an application
    - unless access to that information is protected by law
  - give all I&APs at least 30 days to submit comments on the basic assessment report, EMP, and the closure plan
    - GNR982, Reg 40

Public participation process (4)

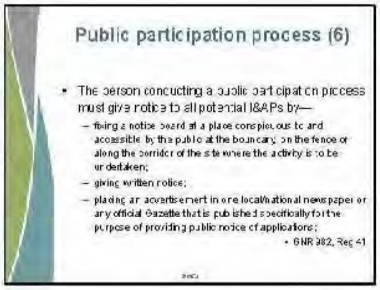
- Must include consultation with:
  - competent authority
  - every State department that administers a law relating to a matter affecting the environment relevant to the application
  - all organs of state which have jurisdiction in respect of the activity to which the application relates
    - relevant government departments, agencies and institutions responsible for the infrastructure which may be affected by the proposed project.

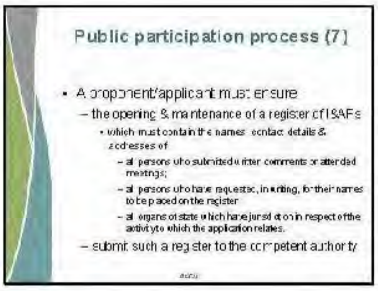
GNR 982, Reg 40

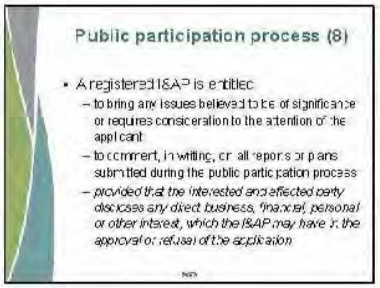
Public participation process (5)

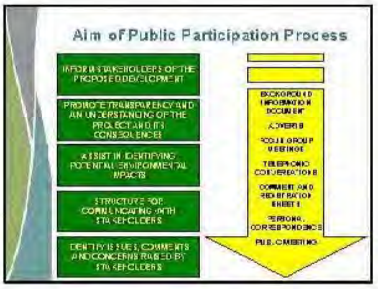
- Must include consultation with
  - all potential or registered interested and affected parties (I&APs)
    - Land owners
    - Lawful land occupiers
    - Person in control of the land
    - Neighbours (owners, occupiers & persons in control)
    - Local Municipality & Ward councilor
    - any organisation of ratepayers that represent the community in the area

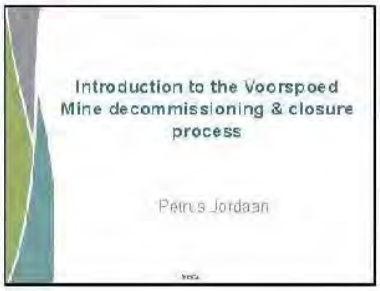
GNR 982, Reg 41


Public participation process (6)
• The person conducting a public participation process must give notice to all potential I&APs by—
– fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of the site where the activity is to be undertaken;
– giving written notice;
– placing an advertisement in one local/national newspaper or any official Gazette that is published specifically for the purpose of providing public notice of applications;
• GNR 982, Reg 41


Public participation process (7)
• A proponent/applicant must ensure
– the opening & maintenance of a register of I&APs
• which must contain the names, contact details & addresses of
– all persons who submitted written comments or attended meetings;
– all persons who have requested, in writing, for their names to be placed on the register
– all organs of state which have jurisdiction in respect of the activity to which the application relates.
– submit such a register to the competent authority


Public participation process (8)
• A registered I&AP is entitled:
– to bring any issues believed to be of significance or requires consideration to the attention of the applicant
– to comment, in writing, on all reports or plans submitted during the public participation process
– provided that the interested and affected party discloses any direct business, financial, personal or other interest, which the I&AP may have in the approval or refusal of the application


Aim of Public Participation Process
INFORM STAKEHOLDERS OF THE PROPOSED DEVELOPMENT
PROMOTE TRANSPARENCY AND AN UNDERSTANDING OF THE PROJECT AND ITS CONSEQUENCES
ASSIST IN IDENTIFYING POTENTIAL ENVIRONMENTAL IMPACTS
STRUCTURE FOR COMMUNICATING WITH STAKEHOLDERS
IDENTIFY ISSUES/COMMENTS AND CONCERNS RAISED BY STAKEHOLDERS
BACKGROUND INFORMATION DOCUMENT
ADVERTS
FOCUS GROUP MEETINGS
TELEPHONIC CONVERSATIONS
COMMENT AND RESPONSE SHEETS
PERSONAL CORRESPONDENCE
PUBLIC COMMENTS


Introduction to the Voorspoed Mine decommissioning & closure process
Petrus Jordaan

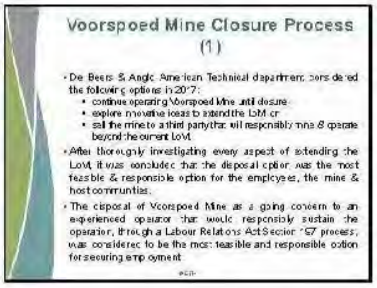

Locality map


Historical background (1)
• Voorspoed Mine's history dates back to 1906
• Operated from 1908 to 1912 by Voorspoed Diamond Mining Company ("VDMC")
• De Beers acquired the mine from VDMC in 1912, but never operated the mine.
• Mining license approved on 10 October 2006 and construction commenced the same month
• Total capital investment of ~R13 billion.
• Mine opened on 4 November 2008 as a marginal mine that exploits an inferred resource.
• Mine ceased production in November 2018 and proceeded with the responsible closure of the mine at the end of 2018.


Historical background (2)
• Key operational highlights (as at end 2018)
• Open pit operation
• 27 Mt tonnes treated to date
• 6 Mct ouns recovered to date
• Mined to an approximate depth of 214 m
• Known for exotic and occasional large diamonds
• Mine Closure Plan
• Mine Closure & Rehabilitation Plan drafted in 2014
• Revised in December 2017
• Updated in May 2019

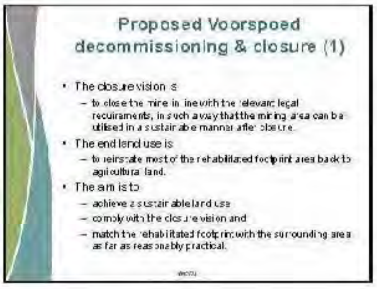

Current mine infrastructure

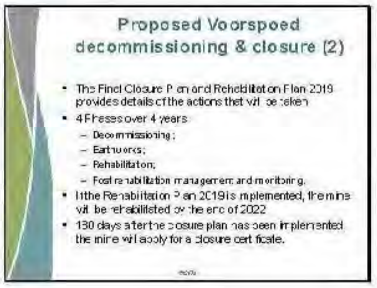

Status of mining pit

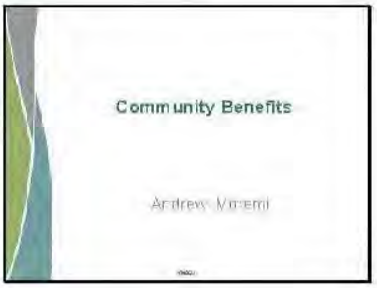

Voorspoed Mine Closure Process (1)
• De Beers & Anglo American Technical departments considered the following options in 2017:
• continue operating Voorspoed Mine until closure
• explore innovative ideas to extend the LoM or
• sell the mine to a third party that will responsibly mine & operate beyond the current LoM.
• After thoroughly investigating every aspect of extending the LoM, it was concluded that the disposal option was the most feasible & responsible option for the employees, the mine & host communities.
• The disposal of Voorspoed Mine as a going concern to an experienced operator that would responsibly sustain the operation, through a Labour Relations Act Section 197 process, was considered to be the most feasible and responsible option for securing employment


Voorspoed Mine Closure Process (2)
• De Beers & Standard Bank conducted a thorough review of potential purchasers' their empowerment credentials, technical capability, access to funding & commitment to regional socio-economic development.
– 42 parties indicated interest in Voorspoe Mine and were provided with the Request for Expressions of Interest document.
– 12 parties submitted Expressions of Interest documents that fully satisfied the documentation and cash deposit requirements.
• Following this extensive process De Beers could not find a suitable operator to acquire and operate Voorspoed Mine in a sustainable manner.
• In July 2018 the DBCM Board decided to cease mining activities by the end of 2018 and proceed with responsible closure of the mine.
• The DMR requested extension of the site process to Aug 2018, to allow other interested parties to be considered

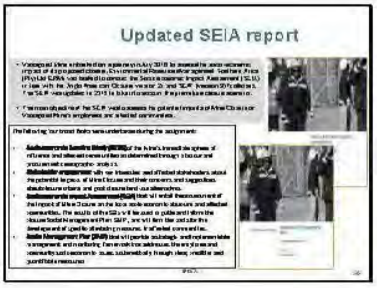

Voorspoed Mine Closure Process (3)
• A Section 52 process was followed and the Mining Sustainability and Employment Committee (MSEC), who advises the minister on mine closure issues, visited Voorspoed Mine on 30 November 2018.
• One remaining interested party participated up to end January 2019 & the process was concluded on 19 February 2019.
• The Minister officially responded to the CEO of De Beers Consolidated Mines in a letter dated 15 August 2019, where he stipulates the requirements should the mine close.

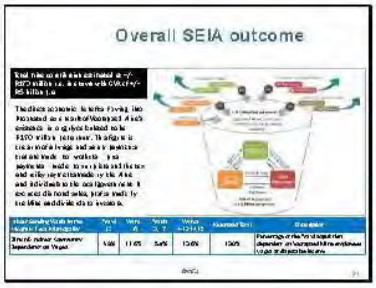

Proposed Voorspoed decommissioning & closure (1)
• The closure vision is
– to close the mine in line with the relevant legal requirements, in such a way that the mining area can be utilised in a sustainable manner after closure.
• The end land use is
– to reinstate most of the rehabilitated footprint area back to agricultural land.
• The aim is to
– achieve a sustainable land use
– comply with the closure vision and
– match the rehabilitated footprint with the surrounding area as far as reasonably practical.


Proposed Voorspoed decommissioning & closure (2)
• The Final Closure Plan and Rehabilitation Plan 2019 provides details of the actions that will be taken
• 4 Phases over 4 years
– Decommissioning;
– Earthworks;
– Rehabilitation;
– Post rehabilitation management and monitoring.
• If the Rehabilitation Plan 2019 is implemented, the mine will be rehabilitated by the end of 2022
• 180 days after the closure plan has been implemented the mine will apply for a closure certificate.

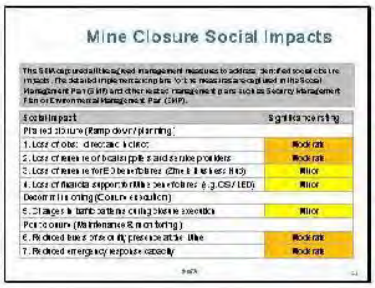

Community Benefits
Andrew Nyemi


Host & Labour-sending Area


Updated SEIA report


Overall SEIA outcome


Community viability outcome


Mine Closure Social Impacts


SLP 3: 2017 – 2021 Progress & Outcomes

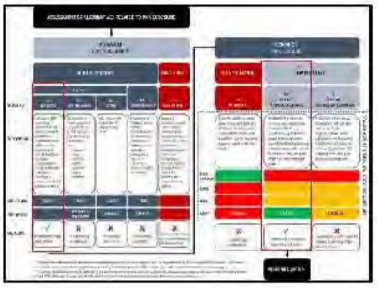

SLP 2: 2012 – 2016 Progress & Outcomes

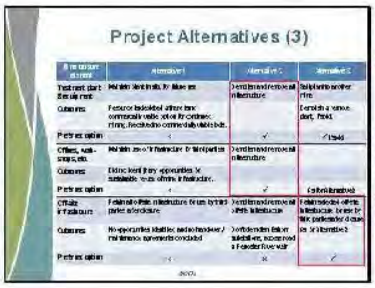

SLP 1: 2007 – 2011 Progress & Outcomes

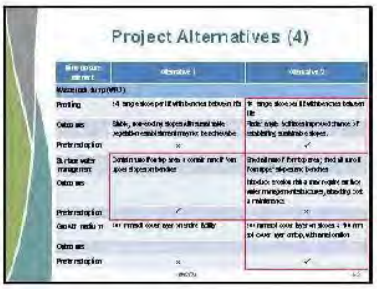

Voorspoed Mine Closure Plan –
alternatives considered

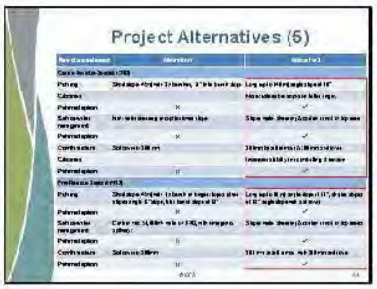

Project Alternatives (1)

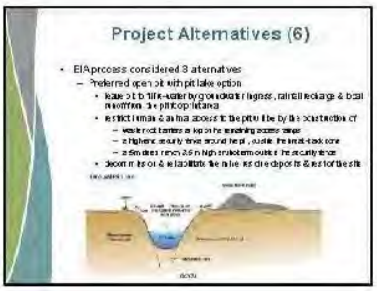

Project Alternatives (2)
No alternative sites were considered
No site lay-out alternatives, as the location of infrastructure and activities on the site were established during the construction and operational phases of the mine.
Alternatives involved the determination of how the existing infrastructure and facilities on and off the mining area must be decommissioned and rehabilitated, in such a way that the mining area can be utilised in a sustainable manner after closure.
Alternatives considered
Strategic land-use alternatives;
Pit closure alternatives;
Rehabilitation design alternatives; and
End land-use alternatives.

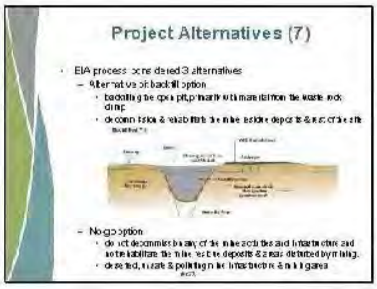



Project Alternatives (3)


Project Alternatives (4)


Project Alternatives (5)

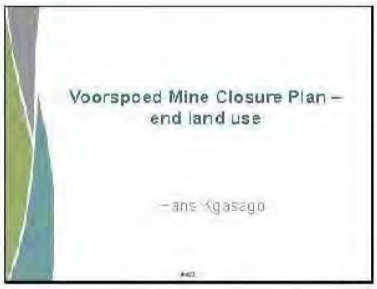

Project Alternatives (6)
EIA process considered 3 alternatives
Preferred open cast with pit lake option


Project Alternatives (7)
EIA process zone delineated 3 alternatives
Alternative pit backfill option
No-go option


Alternatives comparison
Preferred open pit with pit lake
Alternative pit backfilling


Preferred open pit decommissioning option
All accessible diamond-bearing ore was removed from the pit
Open pit will be left to fill re-water, resulting in pit lake
Human and animal access to the pit will be prevented by constructing

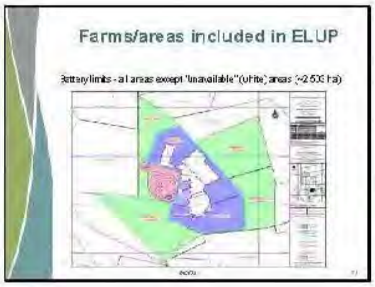

Picture of preferred option

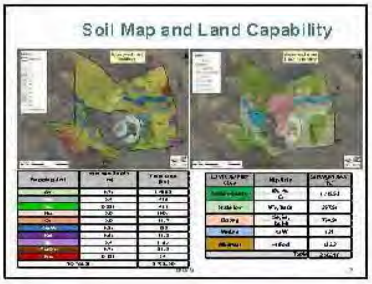

Voorspoed Mine Closure Plan – end land use


End land use plan (1)
Specialist study to develop an End Land Use Plan that is aligned with:
The mine's closure planning initiatives;
The mine's Preliminary Mine Closure Plan (2011 and 2014);
The mine's Rehabilitation Plan (2014);
Social Closure Plan; and
The Fezile Dabi Integrated Development Plan (IDP).
The study aimed to:
Develop a comprehensive list of potential end land uses for evaluation to determine which of the options had the highest likelihood of succeeding beyond closure; and
Evaluate the financial viability for selected options.

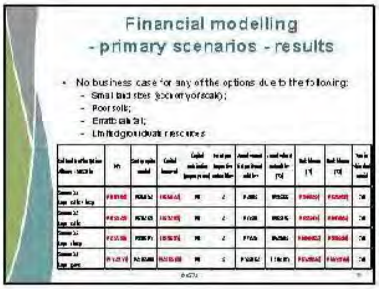

End land use map


Voorspoed End Land Use Plan - Scope
Current land use
Land available for ELUP
Potential ELU Options - Added to during Workshop
Results
Soil survey / land capability
Vegetation assessment / carrying capability
Potential ELU options (list & rank)
Financial evaluation of proposed ELU options (scenarios)


Farms/areas included in ELUP


Soil Map and Land Capability


Potential ELU Options – Added to during workshop
Original Voorspoed list
Extensive cattle farming
Extensive sheep farming
Intensive cattle farming (feedlot)
Intensive sheep farming
Commercial piggery
Chicken farming (broilers& layers)
Dryland maize & other crops (sunflower/soya)
Sunflower& soya – supply to bio-fuel plant
Maize under centre pivot irrigation
Vegetable production under centre pivot irrigation (pit lake)
Vegetable production in greenhouses
New
Cut flower production
Conservation - wetlands/biodiversity
Game farming - high value species
Game farming
Aggregate production - WRD
Brick making ORE
Brick making FRD
Solar farm
Mining tourism
Pecan nut plantation


Financial modelling
- primary scenarios - results
No business case for any of the options due to the following:
Small market (economy of scale);
Poor soils;
Erratic rainfall;
Limited groundwater resources


Voorspoed Mine Closure Plan – decommissioning & rehabilitation actions


Mine closure components


Decommissioning & mine closure
Overarching mine closure objective:
– to ensure sustainability beyond mine closure and leaving a positive legacy.
Specific mine closure objectives:
– Restore as much as possible of the mining area to a condition consistent with the pre-determined post closure land use objectives;
– Ensure that the area is left in a condition that poses an acceptable level of risk to public health and safety; and
– Reduce the need for post closure intervention, either in the form of monitoring or on-going remedial work, as far as is practically possible.


Proposed decommissioning & rehabilitation actions (1)
Closure objectives will be achieved by:
– A phased decommissioning of existing structures & infrastructure;
– Preparing areas to be rehabilitated to create suitable habitats and support their ecological stability (e.g. erosion resistance), i.e. implement earthworks:
Reshaping the steep slopes of the Mine Residue Deposits (WRDs) to minimise the effects of water erosion on the slopes;
Covering all mining related residues with cover material (soil), to ensure that potentially contaminated material is isolated from the environment;


Proposed decommissioning & rehabilitation actions (2)
• Covering the disturbed areas with suitable soil or material that can serve as growth medium;
• Ripping of rehabilitation areas to alleviate compaction and/or mix the cover layer with the underlying material;
• Reinstating affected surface drainage lines and catchment areas to pre-, as far as possible;
– Establishing vegetation that will be stable over the long term and have the desired ecological function, but also provide suitable species diversity for utilisation by animals
• Cultivating and ameliorating the rehabilitation areas with compost and fertilizer, based on soil analysis.


Proposed decommissioning & rehabilitation actions (3)
• Seeding the area with a mixture of local indigenous grass and tree seeds that are adapted to the area;
• Applying follow-up fertiliser where specified
• Controlling weeds and invader plant species;
• Stimulating the vegetation on rehabilitated areas by selective and controlled grazing that will also aid to spread seeds to increase bio-diversity over the area.
– Conducting on-going monitoring programmes, to provide key data regarding surface and groundwater, as well as biodiversity responses to the rehabilitation efforts.
• Rehabilitation actions will ensure that rehabilitated areas are self-sustainable over the long term, with limited on-going care & maintenance

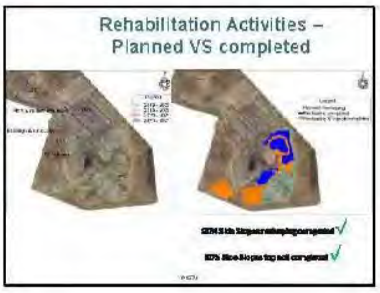

Rehabilitation Update: 2014 - 2018


Waste Rock Dump – Progress (Reshaped, Topsoiled & Vegetated)


Waste Rock Dump – Successful Rehabilitation (Reshaped, Topsoiled & Vegetated)


Rehabilitation Update - 2019


Waste Rock Dump – Progress (Reshaped, Topsoiled & Vegetated)


Rehabilitation Activities – Planned VS completed

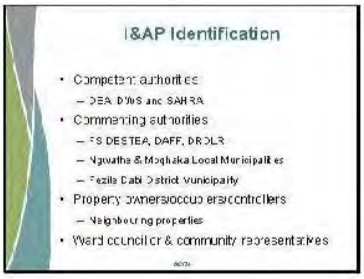

Waste Rock Dump – 2019 Rehab Progress


Waste Rock Dump – 2019 Rehab Progress


Southern Pan – Bluegum Trees Eradication


Northern Pan – Slangbos Eradication


Public Consultation Process followed to date
Tshepiso Seoki


I&AP Identification
• Competent authorities
– DEA, DWS and SAHRA
• Commenting authorities
– FS DESTEA, DAFF, DRDLR
– Ngwatha & Moqhaka Local Municipalities
– Fezile Dabi District Municipality
• Property owners/occupiers/controllers
– Neighbouring properties
• Ward councillor & community representatives


Public participation process followed (1)
• Invitations to register as interested and affected parties (I&APs) and attend meetings
– 1-6 August 2019:
• Newspaper advertisements (English & Sesotho)
• Business Times, Kroonnuus, Parys Gazette & Dumelang News
– 5 August 2019:
• Personal invitations – e-mail, fax & registered mail
– 31 July 2019
• On-site notice
• Other localities – Municipal offices & libraries (11)


Newspaper Advertisements (1)
• Business Times, 4 August 2019


Newspaper Advertisements (2)
• Kroonnuus, 6 Augus: 2019


Newspaper Advertisements (3)
• Parys Gazette, August 2019


Newspaper Advertisements (4)
• Dumelang News, 2 August 2019


Voorspoed Mine site notices

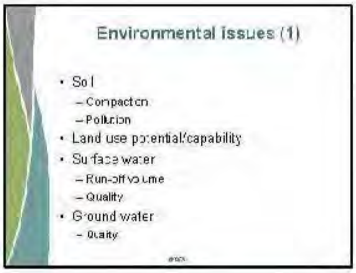

Kroonstad site notices

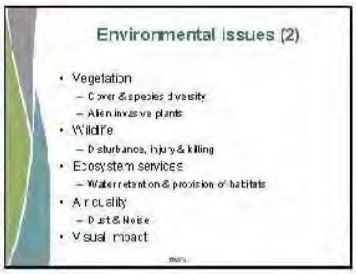

Parys site notices


Viljoenskroon site notices


Vredefort & Koppies site notices


Identification of
Environmental Issues

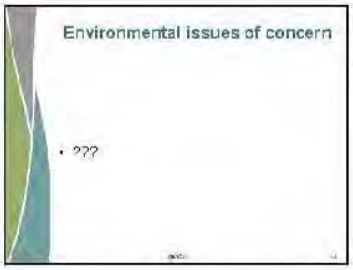

Environmental issues (1)
• Soil
– Compaction
– Pollution
• Land use potential/capability
• Surface water
– Run-off volume
– Quality
• Ground water
– Quality


Environmental issues (2)
• Vegetation
– Cover & species diversity
– Alien invasive plants
• Wildlife
– Disturbance, injury & killing
• Ecosystem services
– Water retention & provision of habitats
• Air quality
– Dust & Noise
• Visual impact


Environmental issues (3)
• Archaeological & historical
• Social & socio-economic
– Employment - losses & opportunities
– Economic activities – losses &opportunities
– Community support – losses
– Possible illegal mining


Facilitation of issues
raised by I&APs
Johan Nel


Rules for facilitation
• Please
– Address meeting through the facilitator;
– Complete form indicating your name, contact details and issue(s) to be raised;
– When speaking,
• clearly identify yourself (name and/or organisation)
• state your interest in the matter
• Ask your question or make your comment
– Everybody gets one opportunity to speak, so as to provide others an equal opportunity to participate;
– Where necessary, facilitator will rephrase questions & comments to ensure that these are clearly understood by everybody.


Environmental issues of concern
• ???


Identification of
rehabilitation actions


Rehabilitation actions identified (1)
Decommission existing structures & infrastructure;
Rip areas with compacted soils;
Bio-remediate hydrocarbon polluted soils;
Reshape steep slopes of mine residue deposits;
Retain surface water on site;
Reinstate surface drainage lines and catchment areas to pans;
Cover mine residue deposits & other disturbed areas with cover layer Soil;
Ameliorate the soil, based on analyses;
Rehabilitation actions identified (2)
Ameliorate the soil based on analyses;
Sow seeds of indigenous grass & trees;
Apply follow-up fertiliser where specified;
Control weeds and invader plant species;
Stimulate the vegetation by selective and controlled grazing;
Conducting on-going monitoring programmes, to evaluate rehabilitation success:
– Surface & groundwater, vegetation & biodiversity & dust.
Implement social impact management measures identified in SEIA
Facilitation of mitigation measures raised by I&APs
Johann Nel
Proposed mitigation measures
???
Other issues
???
The Road Ahead
Theuns Meyer
What next?
Finalisation of draft BAR, EMPr & CP
I&AP Review and commenting on draft BAR, EMPr & CP – 26 Aug to 25 Sept
Submission of final BAR, EMPr & CP to CA – 4 October
Evaluation of final EAR, EMPr & CP by CA
Decision-making by CA – January 2020
Informing all I&APs of decision
Appeal process
Closure
We thank you for your attendance!


Contact us:
NWU

Appendix C: Issues and comments raised by the participants

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: MALE Initials M.G Surname: KOBA

Organisation / Firm (if applicable): NON

Position / Nature of involvement. E.g. property owner: WANNEE BE

Street address: 5253 Zone 6 TLHAKHOLE

Postal address: 9585

Tel and area code: (Work) _____ (Home) _____

(Cell) 083 946 9748 (Fax) _____

E-mail: _____

Please state your issues / comments / concerns:

INVITATION TO SIDE

WHATS Comma HAPPEN TO THE HOLE

Is it Possible for the Whale to Seperate the water for us, as we don't have Clean water?

Does the water Clean for us like from/or the the water like rain?

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: Pastor Initials M Surname: Leboa

Organisation / Firm (if applicable): Tswaledi Religious Ministers Forum

Position / Nature of involvement. E.g. property owner:

Street address: 8824 Mandelaville, Parys 9585

Postal address: P.O. Box 1170, PARYS 9585

Tel and area code: (Work) (Home)

(Cell) 0724921617 (Fax)

E-mail: mpholeboa61@gmail.com

Please state your issues / comments / concerns:

In terms of the after effects of the Mine closure, as a layman, I may not be in a position to know and approve of what should or should not happen. This goes with the community as well.

Usually, should it go to a stop push, we witness reaction by way of protests etc. How best can we ensure to avoid that by acting "proffessionally"?

2. During the Mine operation, other than the recent Batang Magheku Dome, what other socio-economic contribution has the mine served.

Mpho Leboa 20-08-2019

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: Pastor Initials M Surname: Lebea

Organisation / Firm (if applicable): Tumahole Religious Ministers Forum

Position / Nature of involvement. E.g. property owner: Chairperson

Street address: 8824 Mandelaville, Tumahole, Parys 9585

Postal address: PO Box 1170, PARYS 9585.

Tel and area code: (Work) _____ (Home) _____

(Cell) 072 492 1617 (Fax) _____

E-mail: mphoslebea61@gmail.com

Please state your issues / comments / concerns:

Since the community of Tumahole and Parys are part of the closing process, would it be possible for interested individuals to go view the areas and make sure they also know atleast what they agree or disagree about.

Mpho Lebea

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: MR Initials S Surname: MOTLOLOMETSI

Organisation / Firm (if applicable): _____

Position / Nature of involvement. E.g. property owner: Community

Street address: 1037 MOOPELOA STR TUMAHOLE PARYS

Postal address: _____

Tel and area code: (Work) _____ (Home) _____

(Cell) 083 52 20023 (Fax) _____

E-mail: mothdomotsis4@gmail.com

Please state your issues / comments / concerns:

I wanted to understand in terms of DeBeers financial support in assisting in building schools and facilities that have to support the community, who is going to be responsible for the managing & sustaining of the facilities? and who is going to be responsible for the acquisition of personnel to be employed?

Voorspoed Mine Decommissioning Basic Environmental Impact Assessment: Public Participation Process

ISSUES / COMMENTS / CONCERNS

Title: MR Initials X.D Surname: Sookiva

Organisation / Firm (if applicable): affected

Position / Nature of involvement. E.g. property owner:

Street address: 108A Delivey Street

Postal address:

Tel and area code: (Work) (Home)

(Cell) 0603406176 (Fax)

E-mail:

Please state your issues / comments / concerns:

I am so concerned about the closey of the

Xolani. Sochiva

I am so concerned about the Closer of the Mine. While I am busy hustling for Job and the Sovevnment Must try to help alot of People are going to lose Job. If our government aint helping us to Keep the Mine Fay our Proving And the Free State Premier should Make Sure We keep our Mine for the Youth to Countinue Working Please.

DE BEERS GROUP

Appendix D: Issues and response table with a summary of the issues raised by the public and the responses provided by the EAP and mine representatives at the meeting

Interested and affected parties	Issues raised	EAP's response to issues as mandated by the applicant
Mpho Leboa	Mine closure is a very technical process. Not everyone from the community understands this process. Thus, if any unexpected impacts result from this process, the community may be angered and express this anger by way of protests. How best can the Mine involve the community in this process to avoid these unwanted protests?	*Response by PJ Jordaan (on behalf of the Mine):* The Mine will, outside the scope of this mine closure process, arrange another engagement to inform the community in layman's terms of the closure process and its implications.
Mpho Leboa and Sylvester Motlolometsi	The Mine has contributed significantly to the community in terms of education, employment, providing facilities etc. How will the, for example, Ratang Maqheku Centre for the Aged in Parys, be sustained post mine closure?	*Response by Andrew Moremi (on behalf of the Mine):* The Mine's current Social and Labour Plan is effective from 2017 – 2021. Thus the Mine is committed to supporting all of its social commitments until 2021. The Mine is also in communication with the Department of Social Development to revise the grants to, for example, Ratang Maqheku, to be more inclusive for the Centre to be sustained.
Xolani Sochiva	The mine should not close. It should remain open to create job opportunities for the youth in the Frees State Province that is poverty-stricken.	*Response by PJ Jordaan (on behalf of the Mine):* Unfortunately there is no other option, but to close the mine. There are no more diamonds to mine and as a result no more job opportunities. The Mine had to get approval from the Minister for closure. Thus, the decision to close was not taken lightly.
M George Koba	Who is going to be responsible for the risks in the mining area post mine closure? The government did not create the mining area and thus do not know all the risks. De Beers created it, they understand the risks and how to manage it and should remain liable.	*Response by PJ Jordaan (on behalf of the Mine):* The Mine will be responsible for rehabilitating the mining area until approximately 2028. Thus the Mine will manage and mitigate all risks. The mining area will be monitored post rehabilitation to ascertain that no risks remain before the government gives the mine the authority to walk close the mining area. The government will thus not issue a closure certificate, if any risks still remain.

Interested and affected parties	Issues raised	EAP's response to issues as mandated by the applicant
M George Koba	Will the community be informed of the progress made with rehabilitation?	*Response by Theunis Meyer, the EAP:* The environmental authorisation or permission that the government (DMR) will give to the Mine to decommission and rehabilitate will contain monitoring and auditing requirements. Monitoring and auditing will be done on an annual basis and the audit report will be made publically available. Thus the community can access the report for a progress update on the rehabilitation commitments made by the Mine.
Mpho Leboa	Can the community visit the Mine during the decommissioning, rehabilitation and closure phases to view progress made against the commitments communicated in the presentation tonight?	*Response by PJ Jordaan (on behalf of the Mine):* The Mine invites and will be happy to welcome all visitors. Andrew Moremi from the Mine will facilitate the visits.
M George Koba	Can the pit water be provided to the community as a sustainable water source?	*Response by PJ Jordaan (on behalf of the Mine):* Unfortunately it is not safe to access the water, the pit walls have already failed. Also, the quality of water in the pit is not good. Furthermore, the water level in the pit will never reach above a certain point, since the evaporation rate is much higher than the water inflow rate. It is thus not a sustainable water source.
M George Koba	The mine pit is unsafe for people and animals. How will access into the pit be prevented?	*Response by PJ Jordaan (on behalf of the Mine):* Several mitigation measures are in place to prevent access into the mine pit, i.e. there is no road leading into the pit, since the pit walls have already failed; a high quality fence will be put up around the pit; a berm and trench will be constructed outside the fence to prevent accidental driving to the pit; an outside perimeter fence will also be put up; and security guards are currently monitoring the pit area. In future, cameras and alarms will monitor the area for movement.

Appendix 31: Minutes of a pre-application meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Mineral Resources on 1 March 2019 at their offices in Welkom

NWU®
NORTH-WEST UNIVERSITY
NOORDWES-UNIVERSITEIT
YUNIBESITI YA BOKONE-BOPHIRIMA

Private Bag X6001, Potchefstroom
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2019/03/01

MINUTES OF PRE-APPLICATION MEETING FOR THE DE BEERS VOORSPOED MINE DECOMMISSIONING ENVIRONMENTAL AUTHORISATION

Date of meeting: **Friday, 1 March 2019**
Time of meeting: **09:00**
Venue: **DMR offices, Welkom**

1. Attendance:

Name	Title	Organisation	Contact details
Malcolm Hendrickse	General Manager	DBCM Voorspoed Mine	056 216 8567 Malcolm.hendrickse@debeersgroup.com
Hans Kgasago	Rehabilitation Manager	DBCM Voorspoed Mine	056 216 8605 Hans.kgasago@debeersgroup.com
Theunis Meyer	Environmental Assessment Practitioner	NWU-CEM	018 299 1467 Theunis.meyer@nwu.ac.za
Reece Alberts	Environmental Assessment Practitioner	NWU-CEM	018 299 6267 12991805@nwu.ac.za
MG (Mashudu) Mulaudzi	ASD: MEM	DMR	057 391 1386 Mashudu.mulaudzi@dmr.gov.za
NC (Cedric) Fhedzisani	DD: Environment	DMR	057 391 1308 Cedrck.fhedzisani@dmr.gov.za
KC Mphapuli	ASD: Mine economics	DMR	057 391 1306 Khangwelo.mphaluli@dmr.gov.za

Attendance register attached (Appendix A).

Powerpoint slide deck used during the meeting attached (Appendix B).

2. Opening & welcome

DMR welcomes the visitors to the meeting.

Voorspoed Mine indicates that the purpose of the meeting is formally inform the DMR that Voorspoed Mine will be closing and to discuss the application for decommissioning that will be submitted to DMR during the first quarter of 2019.

The Environmental Assessment Practitioner (EAP), Mr Meyer, also emphasized that the meeting is also considered as a pre-application meeting for the application for environmental authorisation for the decommissioning of Voorspoed Mine.

3. Historical background to Voorpoed Mine Decommissioning and closure process

The Voorspoed Mine General Manager provide an overview about the mine's history. The current mining right was granted in 2006 and the mine official opened on 4 November 2008 as a marginal mine that largely exploits an inferred resource. It consists of an open pit operation that mined to an approximate depth of 214m and recovered 6 Mct of diamonds.

The life of mine was envisaged until 2022, however, operational challenges due to a pit slope failure prompted the DBCM board to take a decision in July 2018 to proceed with the cessation of mining activities by the end of 2018 and proceed with responsible closure of the mine.

Following an extensive, disposal process, the company could not find a suitable operator to acquire and operate Voorspoed Mine in a sustainable manner and started the section 52 process. The DMR, however, requested extension of the sale process to Aug 2018 to allow other interested parties to be considered. One remaining interested party participated up to the end of January 2019 and the process was concluded on 19 February 2019. No viable option was identified to continue with the Voorspoed Mine. The DBCM informed board to close the mine and informed the Section 52 board accordingly.

Discussion:

DMR comment/response	Voorspoed EAP comment/response
DMR requests a copy of the formal communication regarding the mine closure to the Section 52 board.	A copy of the formal communication will be provided by Voorspoed Mine.
	Downscaling is being negotiated and the approved SLP is being implemented towards mine closure.

4. Legal framework for decommissioning and mine closure

The EAP indicated that one of the important objectives of this meeting is to discuss and reach agreement on the closure process, as well as identify specific process requirements.

4.1. Overview

The EAP provided a brief overview of the understanding of the legal framework for decommissioning and mine closure.

Prior to December 2018, Voorspoed Mine had an approved EMPr (in terms of the Minerals and Petroleum Resources Development (MPRDA) and National Environmental Management Acts (NEMA)), as well as a Water Use license and Integrated Water and Waste Managemenrt Plan (in terms of the National Water Act (NWA)). In terms of the Financial Provison regulations published under the NEMA, the mine also had a final Rehabilitation and Closure Plan, an annual Rehabilitation Plan and an Environmental Risk Assessment. In addition, it also had a number of other documents, including an approved Social and Labour Plan, as well as a number of environmental specialist studies.

The decision to proceed with decommissioning and mine closure requires the mine to apply for an environmental authorisation (EA) for decommissioning, as defined, and undertake a basic environmental impact assessment (BA) process in terms of the 2014 Environmental Impact Assessment (EIA) regulations. This will result in the drafting of an Environmental Management Programme (EMPr), and a Closure Plan (CP).

Once the EA has been issued, the EMPr & CP has to be implemented in preparation for mine closure. The mine closure application will be submitted somewhere in the future, after the completion of the approved closure plan.

Discussion:

DMR comment/response	Voorspoed EAP comment/response
DMR agrees that the application can be submitted on completion of the approved CP.	What is DMR's view on the submission of the section 43 mine closure application?
DMR indicated that decommissioning cannot proceed without the necessary EA. The partial/temporary removal of some of the valuable components of the processing plant is debated, with the caution to not take the plant out of active service permanently.	Voorspoed Mine indicated that they will selectively remove some of the valuable components of the processing plant for maintenance and security purposes. They will, however, not take the plant out of active service permanently.

4.2. NEMA BA process

The Basic Assesssment process will follow the legislated 197 day process and will be triggered by the submission of the application for the decommissioning EA application. The drafting of the BA report, EMPr and CP has to be completed 50 days after the submission of the EA application, followed by a 30-day public review and commenting period, with a final 10 day period for consideration and incorporation of the comments. The revised documents will be submitted to DMR 90 days after the submission of the EA application.

Discussion:

DMR comment/response	Voorspoed EAP comment/response
DMR indicated that the official BA application template on the SAMRAD platform needs to be used for the application. The undertook te enquire as to the possible existence of a dedicated application form for a decommissioning BA and to provide feedback	If there is another BA application form that could be used, information in this regard will be appreciated, as the official template is difficult to use. EAP to follow up with DMR.

DMR comment/response	Voorspoed EAP comment/response
DMR indicated that 3 hard copies of all documentation needs to be submitted in addition to the electronic SAMRAD submission.	This will be done.
This will assist in facilitating an effective decision-making process.	EAP undertakes to arrange a meeting with the case officer prior to the submission of the draft/final documents to brief him/her on the content of the documents.
DMR indicates that it will fast track the EIA decision-making process as they acknowledge the safety and security risks associated with a delayed EA application process.	How can the EAP assist the DMR to ensure an efficient EIA decision-making process?

5. BA process plan

5.1. Pre-application meetings

Pre-application meetings will be held, not only with the DMR, but also other key stakeholders to inform them of the decommissioning EA application process and discuss the application process and reach agreement in this regard, as well as to identify specific process requirements that they may have.

A meeting has already been scheduled with the Department of Water and Sanitation (DWS), while other key stakeholders include the provincial department of environmental affairs (DESTEA), as well as the departments of agriculture and rural development.

Discussion:

DMR comment/response	Voorspoed EAP comment/response
DMR reminded the applicant and EAP to also involve the Chief-Director mine safety in the decommissioning process.	This will be done, as the Chief-Director is an important stakeholder in the decommissioning and mine closure process. Contact details for the relevant person needs to be sourced
Engage with the provincial department of agriculture for their views on the involvement of the national department.	Should the engagement be with the provincial or national offices of the department of Agriculture?
Yes, engage with the provincial office.	Should the stakeholder engagement also include the Department of Rural Development?
DMR is comfortable with the engagement process with key stakeholders, provided that proof of such engagement is provided with the application.	Will be done.
DMR requests that the other key stakeholders should be informed of the details of the DMR case officer, to facilitate	Will be done.

DMR comment/response	Voorspoed EAP comment/response
effective public participation and authority inut.	

5.2. BA process

The BA process, as prescribed by the 2014 EIA regulations will be followed. This will include the following activities:

- Descriptions of
  - Existing mine processes and infrastructure
  - Post closure natural and socio-economic environments, as well as land use
  - Mine closure process – closure objective
  - Mine closure alternatives
  - Environmental impacts/risks
  - Residual and latent environmental impacts/risks
  - Environmental prevention and mitigation measures
- Drafting, review and approval of
  - BA report
  - EMPr & Closure Plan

A number of the existing documents will be used as specialist inputs into the process.

5.3. Public participation process

The prescribed public participation process will be followed. The existing Voorspoed Mine stakeholder register has already been sourced and will form the basis of the Interested and Affected Parties (I&APs), together with the legally mandated I&APs. Commenting authorities will be engaged as discussed above.

The process will include the drafting and circulation of a background information document with response sheet, while site notices will be displayed at the site, as well as other identified publicly accessible localities.

Newspaper advertisements will be published in a number of local newspapers, while local radiostations will also be requested to inform the community about the public participation process.

One public meeting will be held in the Kroonstad civic centre, while dedicated meetings will also be held with commenting authorities, prior to the document review process.

Draft documents will be made available electronically on a publicly accessible website, while hard copies will be made available at Voorspoed Mine, the Moqhaka and Ngwather local municipality offices, the Fezile Dabi disctrict municipality offices, as well as at public libraries in Kroonstad and Parys.

Discussion:

DMR comment/response	Voorspoed EAP comment/response
DMR indicated that the newspaper advertisement must also be published in one national newspaper.	This will be done.

5.4. Project timeframes

The proposed project timeline is as follows:

- Pre-application meetings – March 2019
- Start of the BA process – April 2019
- Submission of the EA application – 23 April 2019
- Drafting of the BAR, EMPr & CP – April & May 2019
- Authority meetings – last week of May 2019
- Public meeting – 4 June 2019
- Circulate BAR, EMPr & CP for public comment – 10 June 2019
- Submit final BAR, EMPr & CP for decision-making – 22 July 2019
- DMR decision on the application – 6 Noveber 2019
- Conclusion of the submission of appeals – before 15 December 2019

6. General

DMR notices that this will be the first decommissioning and mine closure process for a big mine that they will be involved in. Everybody agrees with this statement.

7. Way Forward and Closure

Everybody agrees to support each other in order to ensure a successful decommisoning EA application.

The meeting ends at 11:45.

Appendix A: Attendance register

ATTENDANCE REGISTER

MEETING BETWEEN DMR AND DE BEERS (VOORSPOED MINE)

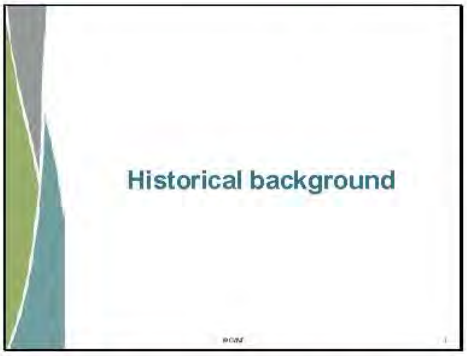
Date: 01 MARCH 2019

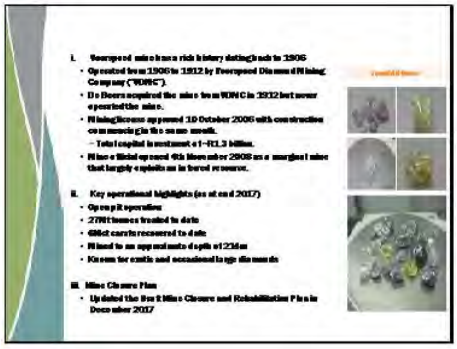
Time: 09:00

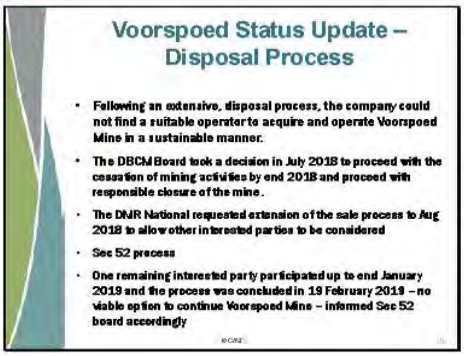
LOCATION: 2ND FLOOR BOARDROOM

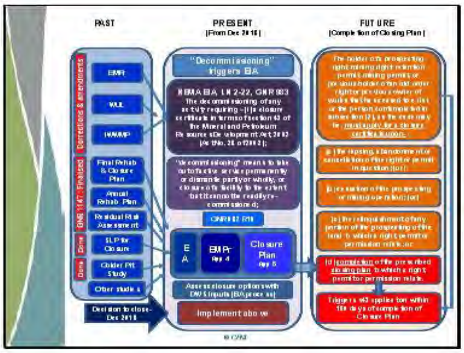
SEQ NO	NAME AND SURNAME	ORGANISATION	DESIGNATION	CONTACT NUMBERS	EMAIL	GENDER	SIGNATU
1	Malcom Hendricks	De Beers	G M	0562168567.	malcom.hendricks@debeersgroup.com	M	
2	HANS KGASAGO	DE BEERS	REHAB MANAGER	0562168605	hans.kgasago@debeersgroup.com	M	
3	PC Alberts	NWU	EAP	018 2992267	12297805@nwu.ac.za	M	
4	TC MEYER	NWU-CEM	EAP	018 2991467	THEUNIS.MEYER@NWU.AC.ZA	M	
5	NC FHEDZISANI	DMR	DD: Environment	057 3911308	cedrick.fhedzisani@dmr.gov.za	M	
6	KC Mphaphuli	DMR	ASD: Mine Economics	0573911306	khangwelo.mphaphuli@dmr.gov.za	M	
7	MG Mulaudzi	DMR	ASD: MEM	057 391 13 36	mashudu.mulaudzi@dmr.gov.za	M	
8							
9							
10							
11							

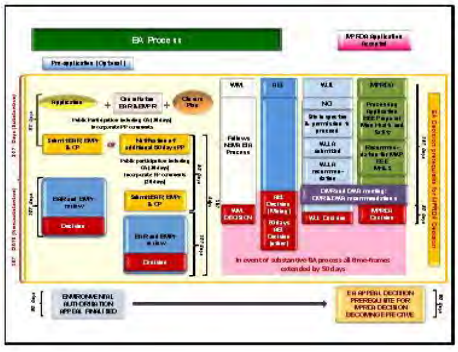
Appendix B: Powerpoint presentation that was used during the meeting

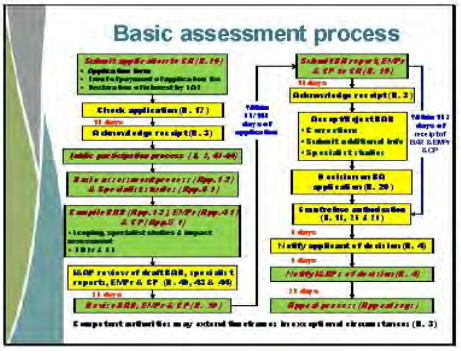




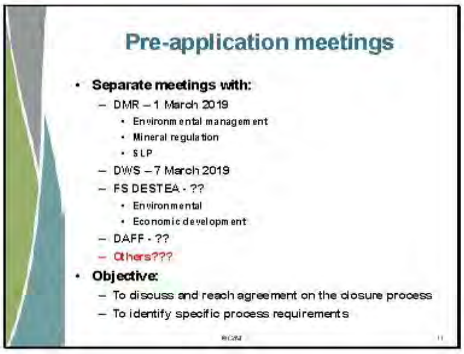




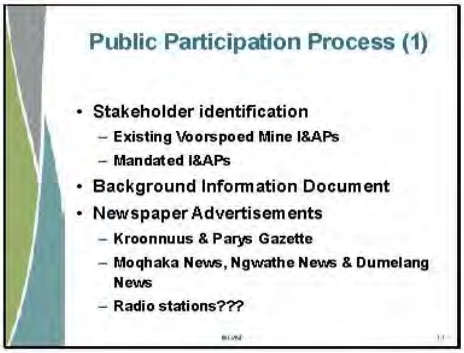



Basic assessment process

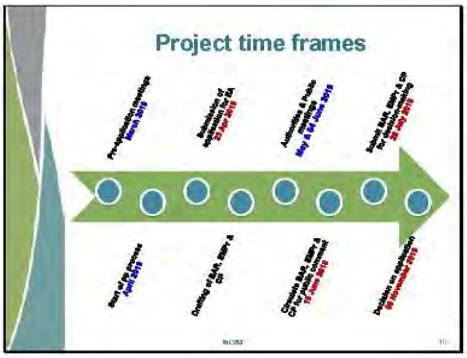

BA process plan


Pre-application meetings
Separate meetings with:
DMR – 1 March 2019
Environmental management
Mineral regulation
SLP
DWS – 7 March 2019
FS DESTEA - ??
Environmental
Economic development
DAFF - ??
Others???
Objective:
To discuss and reach agreement on the closure process
To identify specific process requirements


Basic Environmental Impact Assessment
Undertaking of Basic EIA
Descriptions of
Existing mine processes and infrastructure
Post closure natural and socio-economic environments, as well as land use
Mine closure process – closure objective
Mine closure alternatives
Environmental impacts/risks
Residual and latent environmental impacts/risks
Environmental prevention and mitigation measures
Drafting, review and approval of
BA report
EMPr & Closure Plan


Public Participation Process (1)
Stakeholder identification
Existing Voorspoed Mine I&APs
Mandated I&APs
Background Information Document
Newspaper Advertisements
Kroonnuus & Parys Gazette
Moqhaka News, Ngwathe News & Dumelang News
Radio stations???


Public Participation Process (2)
Meetings
1 Public meeting in Kroonstad (Moqhaka LM)
At Kroonstad Town Hall
All stakeholders will be invited
Meetings with other key government stakeholders
DWS, FS DESTEA, DAFF
DRDLR, LMs & DM?
Availability of draft documents
Voorspoed Mine
Moqhaka & Nhwathe LM Muncipal offices
Kroonstad & Parys public libraries


Project time frames


Thank you
Thank you


Contact us:
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CEM

Appendix 32: Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Water and Sanitation Regional Office on 3 March 2019 at their offices in Bloemfontein

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2019/03/07

MINUTES OF PRE-APPLICATION MEETING FOR THE DE BEERS VOORSPOED MINE DECOMMISSIONING ENVIRONMENTAL AUTHORISATION

Date of meeting: **Thursday, 7 March 2019**
Time of meeting: **10:00**
Venue: **DWS offices, Bloemfontein**

1. Attendance:

Name	Title	Organisation	Contact details
Hans Kgasago	Rehabilitation Manager	DBCM Voorspoed Mine	056 216 8605 Hans.kgasago@debeersgroup.com
Theunis Meyer	Environmental Assessment Practitioner	NWU-CEM	018 299 1467 Theunis.meyer@nwu.ac.za
Reece Alberts	Environmental Assessment Practitioner	NWU-CEM	018 299 6267 12991805@nwu.ac.za
Melato Boitumelo (Mrs)		DWS: FS	051 405 9000 082 556 3497 melatobe@dws.gov.za
G (George) Nel	DD: WU	DWS: FS	051 405 9000 082 878 5707 Nelg@dws.gov.za
W (Willem) Grobler	DD: CME	DWS: FS	Apology
		DWS: HQ	Apology

Attendance register attached (Appendix A).

Powerpoint slide deck used during the meeting attached (Appendix B).

2. Opening & welcome

DWS welcomes the visitors to the meeting. Apologies were made for Mr Willem Grobler that is not available, as well as DWS Head Office staff that could not attend.

Voorspoed Mine indicates that the purpose of the meeting is to formally inform the DWS that Voorspoed Mine will be closing and to discuss the application for decommissioning that will be submitted to DMR during the first quarter of 2019.

3. Historical background to Voorpoed Mine Decommissioning and closure process

The Voorspoed Mine Rehabilitation Manager, Mr Kasago, provides an overview about the mine's recent history. The current mining right was granted in 2006 and the mine official opened on 4 November 2008 as a marginal mine that largely exploits an inferred resource. It consists of an open pit operation that mined to an approximate depth of 214m and recovered 6 Mct of diamonds.

The life of mine was envisaged until 2022, however, operational challenges due to a pit slope failure prompted the DBCM board to take a decision in July 2018 to proceed with the cessation of mining activities by the end of 2018 and proceed with responsible closure of the mine.

Following an extensive, disposal process, the company could not find a suitable operator to acquire and operate Voorspoed Mine in a sustainable manner and started the section 52 process. The DMR, however, requested extension of the sale process to Aug 2018 to allow other interested parties to be considered. One remaining interested party participated up to the end of January 2019 and the process was concluded on 19 February 2019. No viable option was identified to continue with the Voorspoed Mine. The DBCM informed board to close the mine and informed the Section 52 board accordingly.

At present, the remaining interested party is still considering options for remining the historical residue stockpiles. Voorspoed Mine is awaiting a proposal in this regard. Such activity will, however, have significant implications for the decommissioning and mine closure process.

4. Legal framework for decommissioning and mine closure

The EAP, Mr Meyer, indicates that one of the important objectives of this meeting is to discuss and reach agreement on the closure process, as well as to identify specific process requirements that DWS may have in this regard.

4.1. Overview

The EAP provided a brief overview of the understanding of the legal framework for decommissioning and mine closure.

Prior to December 2018, Voorspoed Mine had an approved EMPr (in terms of the Minerals and Petroleum Resources Development (MPRDA) and National Environmental Management Acts (NEMA)), as well as a Water Use license and Integrated Water and Waste Managemenrt Plan (in terms of the National Water Act (NWA)). In terms of the Financial Provison regulations published under the NEMA, the mine also had a final Rehabilitation and Closure Plan, an annual Rehabilitation Plan and an Environmental Risk Assessment. In addition, it also had a number of other documents, including an approved Social and Labour Plan, as well as a number of environmental specialist studies.

The decision to proceed with decommissioning and mine closure requires the mine to apply for an environmental authorisation (EA) for decommissioning, as defined, and undertake a basic environmental impact assessment (BA) process in terms of the 2014 Environmental Impact Assessment (EIA) regulations. This will result in the drafting of an Environmental Management Programme (EMPr), and a Closure Plan (CP).

Once the EA has been issued, the EMPr & CP has to be implemented in preparation for mine closure. The mine closure application will be submitted somewhere in the future, after the completion of the approved closure plan.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
The current water license will remain in place until DWS is notified that a water use have changed. If any water use is transferred to another party, DWS must be informed immediately, so that the license can be revised accordingly. Some water uses will remain until the closure certificate is issued.	How will the current water use license be affected?
This can be done, as the rehabilitation is still related to the mining activity, although it is during the decommissioning and closure phase.	Enquired as to whether some water abstracted for mining may be used to support rehabilitation processes during dry periods.

4.2. NEMA BA process

The Basic Assesssment process will follow the legislated 197 day process and will be triggered by the submission of the application for the decommissioning EA application. The drafting of the BA report, EMPr and CP has to be completed 50 days after the submission of the EA application, followed by a 30-day public review and commenting period, with a final 10 day period for consideration and incorporation of the comments. The revised documents will be submitted to DMR 90 days after the submission of the EA application.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
DWS indicated that apart from the FS provincial office, separate units at DWS HQ will also be involved in the decommissioning application and review of the decommissioning documentation, including dam safety, resource protection and waste, as well as mining.	This is noted.
DWS requested that a hard copy of all documents be submitted to the DWS: FS office, with an electronic copy. The FS office will circulate the documents to the other units and submit a consolidated response.	This will be done.

DWS comment/response	Voorspoed EAP comment/response
This will assist in facilitating an effective decision-making process. DWS requests that notification about any proposed meeting should be circulated well in advance in order to secure the dates and approval to attend.	EAP undertakes to arrange a meeting with the relevant officer prior to the submission of the draft/final documents to brief him/her on the content of the documents. If required, this could also be done for the people at DWS:HQ in Pretoria. A combined meeting for all DWS officials could also be arranged in Potchefstroom or Kroonstad.

5. Water management issues in the mine decommissioning and closure process

5.1. Water management related studies

The EAP mentions that various water related studies have been done in the past that will be considered into the decommissioning application where relevant. These include the following:

- Geohydrological specialist investigation at the De Beers Voorspoed Diamond Mine – Metago Environmental Engineers, 2004
- Voorspoed Mine water balance investigation report – Jones & Wagener, 2012
- Predicted groundwater conditions at Voorspoed Mine - Itasca Denver, Inc., Colorado, 2014
- An assessment of the pollution potential from mine waste residues for Voorspoed Diamond Mine - Metago Environmental Engineers, 2005
- Inorganic geochemical environmental evaluation of Kimberlite Tailings – NWU Geology Department, 2014
- Hydrological & geochemistry studies, Golder & Associates, 2017
  - Review and assessment of the existing hydrogeological and hydrogeochemical data (previous studies and update).
  - Geochemical characterisation (waste assessment and waste classification of tailing deposits and waste rock dump;
  - Development of a numerical groundwater flow model and contaminated transport model.
  - Addressing data/information gaps related to optimise the mine site hydrological and geochemical monitoring aspects
  - Preparing a post mining monitoring programme mine closure requirements (Water and Sanitation (DWS) and Mineral resources).
  - Flood line assessment as per the WUL requirements
  - Long term dynamic water balance
  - Salt balance
- Dam Safety Inspection Report for the Renoster Weir – SRK Consulting, 2006
- Review of storm water entering the Voorspoed Mine open cast pit, storm water management and recommended storm water control measures – KLM Consulting Services, 2004
- Wetland delineation, management and rehabilitation plan for the De Beers Voorspoed Mine, Free State Province, Excigo Sustainability, 2017.

5.2. Current status and DWS expectations with regard to the BPG documents

The current status of the following two existing Best Practice Guidelines, published by DWS, is discussed:

- BPG G5: G5: Water Management Aspects for Mine Closure
- BPG G5: G4: Impact Prediction

While BPG G5 specifies a number of water related requirements for mine closure, it also specifies that the BPG G4 requirements must be complied with.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
DWS undertakes to seek clarity on the matter and provide feedback to the EAP.	What is the current status of these two guidelines. Does DWS expects compliance with all the requirements specified?
DWS undertakes to seek clarity on the matter and provide feedback to the EAP.	BPG G4 emphasises the role of an independent reviewer in any impactprediction process, which ideally should occur over an extended period. Will this requirement be enforced or is DWS in a position to consider the documentation without the independent review report?

6. BA process plan

6.1. Pre-application meetings

Pre-application meetings will be held with key stakeholders such as DWS to inform them of the decommissioning EA application process and discuss the application process and reach agreement in this regard, as well as to identify specific process requirements that they may have.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
Requests a copy of the presentation that was used at the meeting.	The EAP undertakes to circulate a copy of the presentation, together with minutes of the meeting.

6.2. BA process

The BA process, as prescribed by the 2014 EIA regulations will be followed. This will include the following activities:

- Descriptions of
  - Existing mine processes and infrastructure
  - Post closure natural and socio-economic environments, as well as land use
  - Mine closure process – closure objective
  - Mine closure alternatives

- Environmental impacts/risks
- Residual and latent environmental impacts/risks
- Environmental prevention and mitigation measures

- Drafting, review and approval of
  - BA report
  - EMPr & Closure Plan

A number of the existing documents will be used as specialist inputs into the process, especially all the water related specialist studies.

6.3. Public participation process

The prescribed public participation process will be followed. The existing Voorspoed Mine stakeholder register has already been sourced and will form the basis of the Interested and Affected Parties (I&APs), together with the legally mandated I&APs. Commenting authorities will be engaged as discussed above.

The process will include the drafting and circulation of a background information document with response sheet, while site notices will be displayed at the site, as well as other identified publicly accessible localities.

Newspaper advertisements will be published in a number of local newspapers, as well as a national newspaper. Local radiostations will also be requested to inform the community about the public participation process.

One public meeting will be held in the Kroonstad civic centre, while dedicated meetings will also be held with commenting authorities, prior to the document review process.

Draft documents will be made available electronically on a publicly accessible website, while hard copies will be made available at Voorspoed Mine, the Moqhaka and Ngwather local municipality offices, the Fezile Dabi disctrict municipality offices, as well as at public libraries in Kroonstad and Parys.

Copies of the documents will be hand delivered to DWS: FS office, as well as DWS: HO, if required.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
DWS will confirm the requirement for the delivery of documents.	

6.4. Project timeframes

The proposed project timeline is as follows:

- Pre-application meetings – March 2019
- Start of the BA process – April 2019
- Submission of the EA application – 23 April 2019
- Drafting of the BAR, EMPr & CP – April & May 2019
- Authority meetings – last week of May 2019

- Public meeting – 4 June 2019
- Circulate BAR, EMPr & CP for public comment – 10 June 2019
- Submit final BAR, EMPr & CP for decision-making – 22 July 2019
- DMR decision on the application – 6 Noveber 2019
- Conclusion of the submission of appeals – before 15 December 2019

7. **General**

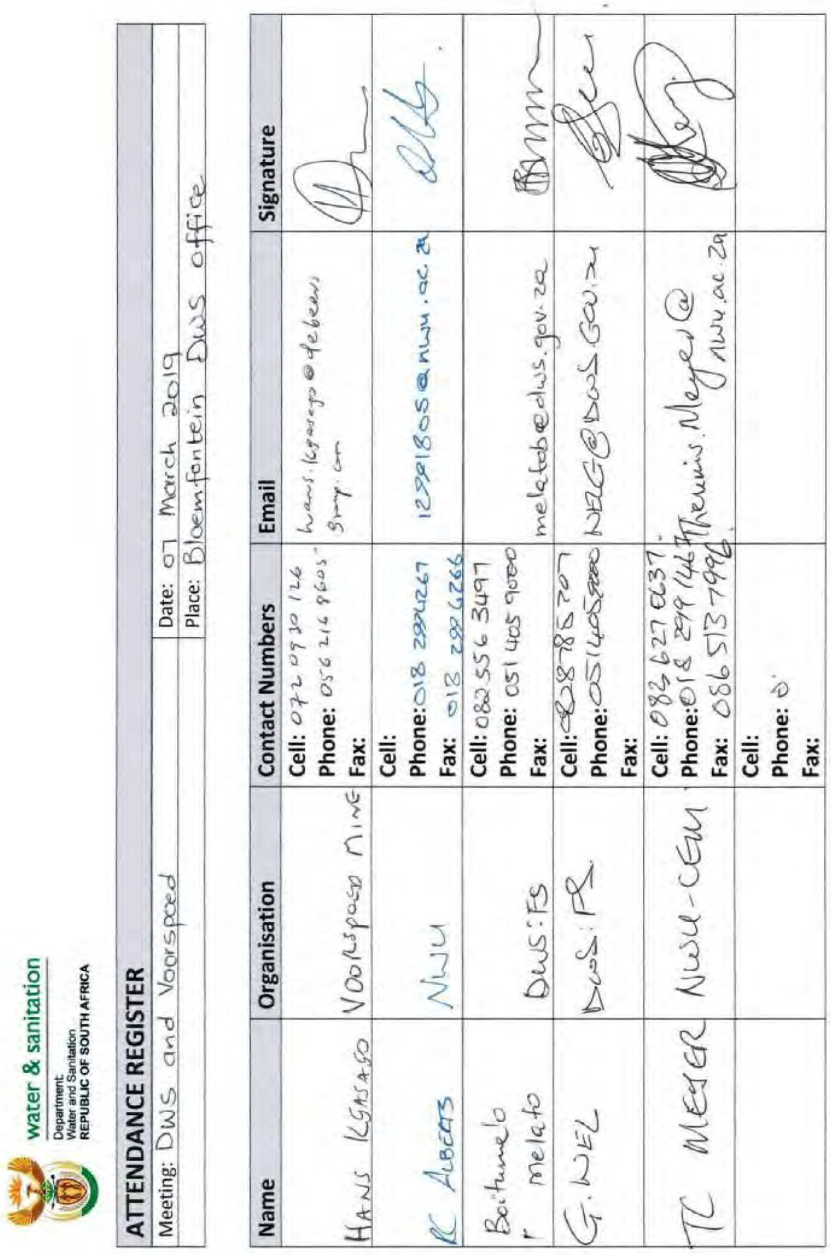
   DWS notices that this will be the first decommissioning and mine closure process for a big mine that they will be involved in. Everybody agrees with this statement.

8. **Way Forward and Closure**

   Everybody agrees to support each other in order to ensure a successful decommisoning EA application.

   The meeting ends at 11:45.

Appendix A: Attendance register



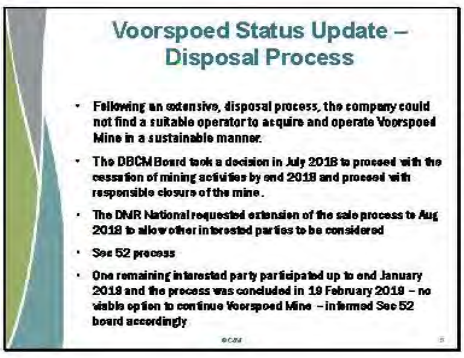
water & sanitation
Department: Water and Sanitation
REPUBLIC OF SOUTH AFRICA

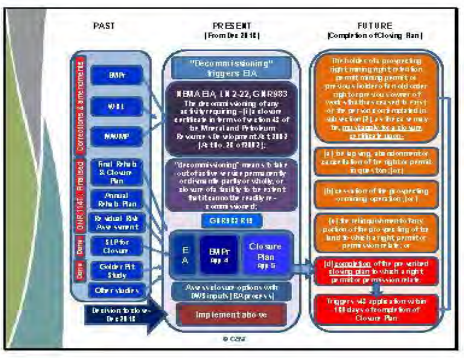
ATTENDANCE REGISTER

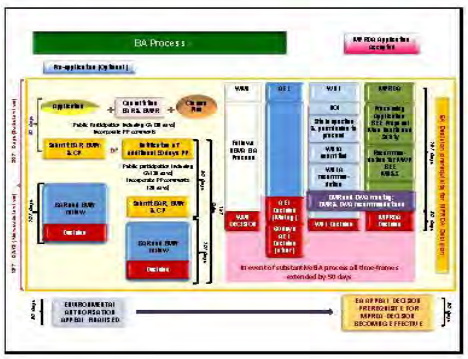
Meeting: DWS and Voorspoed	Date: 07 March 2019
	Place: Bloemfontein DWS office

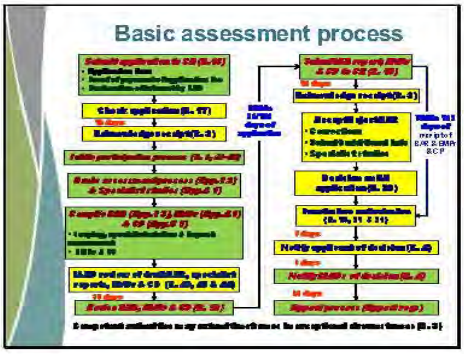
Name	Organisation	Contact Numbers	Email	Signature
HANS IGNASIO	VOORSPOED MINE	Cell: 072 093 0126 Phone: 056 214 9603 Fax:	hans.ignasio@debeers.com	
K ALBERTS	NWU	Cell: Phone: 018 2994267 Fax: 018 2994766	12591805@nwu.ac.za	
Boitumelo r melato	DWS: FS	Cell: 082 556 3497 Phone: 051 405 9000 Fax:	melatob@dws.gov.za	
G. NEL	DWS: PS	Cell: 082 878 5207 Phone: 051 4053000 Fax:	NELG@DWS.GOV.ZA	
TC MEYER	NWU-CEM	Cell: 082 627 0637 Phone: 018 299 1467 Fax: 086 513 7996	TKemis.Meyer@nwu.ac.za	
		Cell: Phone: 0 Fax:		

Appendix B: Powerpoint presentation that was used during the meeting









Water management issues

Water management related studies (1)

- Geohydrological specialist investigation at the De Beers Voorspoed Diamond Mine – Metago Environmental Engineers, 2004
- Voorspoed Mine water balance investigation report – Jones & Wagener, 2012
- Predicted Groundwater Conditions at Voorspoed Mine - Itasca Denver, Inc., Colorado, 2014
- An assessment of the pollution potential from mine waste residues for Voorspoed Diamond Mine - Metago Environmental Engineers, 2005
- The inorganic geochemical environmental evaluation of Kimberlite Tailings – NWU Geology Department, 2014

Water management related studies (2)

- Hydrological & geochemistry studies, Golder & Associates, 2017
  - Review and assessment of the existing hydrogeological and hydrogeochemical data (previous studies and update)
  - Geochemical characterisation (waste assessment and waste classification of tailing deposits and waste rock dump;
  - Development of a numerical groundwater flow model and contaminated transport model.
    - Addressing data/information gaps related to optimise the mine site hydrological and geochemical monitoring aspects
  - Preparing a post mining monitoring programme mine closure requirements (Water and Sanitation (DWS) and Mineral resources).
  - Flood line assessments as per the WUL requirements
  - Long term dynamic water balance
  - Salt balance.

Water management related studies (3)

- **Dam Safety Inspection Report for the Renoster Weir – SRK Consulting, 2006**
- **Review of storm water entering the Voorspoed Mine open cast pit, storm water management and recommended storm water control measures – KLM Consulting Services, 2004**
- **Wetland delineation, management and rehabilitation plan for the De Beers Voorspoed Mine, Free State Province, Excigo Sustainability, 2017**

Water related mine closure requirements

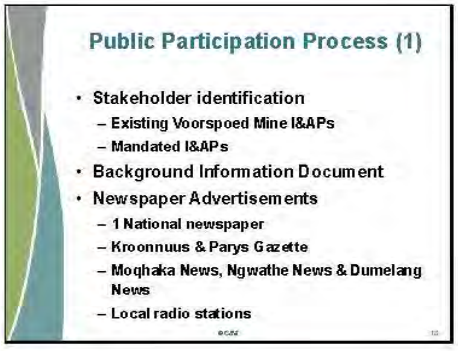
- **Status of BPGs**
  - Best Practice Guideline G5: Water Management Aspects for Mine Closure
  - Best Practice Guideline G4: Impact Prediction
    - Independent reviewer?
      - Person who will provide an independent specialist review and opinion that can be used by DWS as input to the decision-making process.
      - The role of the reviewer is to ensure that:
        - » the impact prediction has been undertaken in a scientifically valid manner,
        - » all assumptions that were made are reasonable and defensible and
        - » all pertinent information (negative or positive) that could influence DWAF's decision is contained in the project documentation.

BA process plan

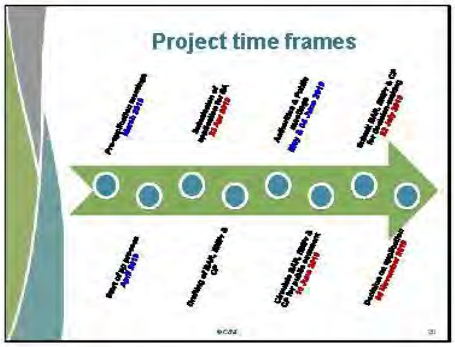
Pre-application meetings

- **Separate meetings with:**
  - DMR – 1 March 2019
    - Environmental management
    - Mineral regulation
    - SLP
    - Mine Safety
  - DWS – 7 March 2019
  - FS DESTEA
    - Environmental
    - Economic development
  - DAFF – Province & National
  - DRDLR
- **Objective:**
  - To discuss and reach agreement on the closure process
  - To identify specific process requirements


Basic Environmental Impact Assessment
• Undertaking of Basic EIA
– Descriptions of
• Existing mine processes and infrastructure
• Post closure natural and socio-economic environments, as well as land use
• Mine closure process – closure objective
• Mine closure alternatives
• Environmental impacts/risks
• Residual and latent environmental impacts/risks
• Environmental prevention and mitigation measures
– Drafting, review and approval of
• BA report
• EMPr & Closure Plan


Public Participation Process (1)
• Stakeholder identification
– Existing Voorspoed Mine I&APs
– Mandated I&APs
• Background Information Document
• Newspaper Advertisements
– 1 National newspaper
– Kroonnuus & Parys Gazette
– Moqhaka News, Ngwathe News & Dumelang News
– Local radio stations


Public Participation Process (2)
• Meetings
– 1 Public meeting in Kroonstad (Moqhaka LM)
• At Kroonstad Town Hall
• All stakeholders will be invited
– Meetings with other key government stakeholders
• DWS, FS DESTEA, DAFF
• DRDLR, LMs & DM
• Availability of draft documents
– Voorspoed Mine
– Moqhaka & Ngwathe LM Muncipal offices
– Kroonstad & Parys public libraries


Project time frames


Thank you
Thank you


Contact us:
Theunis Meyer
Centre for Environmental Management
Cell no: 083 627 0637
E-mail: theunis.meyer@nwu.ac.za
www.cem-nwu.co.za
NWU
CEM

Appendix 33: Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Free State Department of Economic, Small Business, Tourism and Environmental Affairs on 10 April 2019 at their offices in Bloemfontein

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ceminfo@nwu.ac.za

Web: http:www.nwu.ac.za/cem

2019/04/17

De Beers Voorspoed Diamond Mine Decommisioning Environmental Impact Assessment and Mine Closure Process Public Participation Process: Meeting with the Free State Department of Economic, Small Business Development, Tourism & Environmental Affairs, held on 10 April 2019 at their offices in Bloemfontein

Minutes of meeting

1. Attendance

Name	Position	Organisation
Grace Mkhosana	Director: Environment	FS DESTEA
Daniel Mofokeng	Deputy-director: Air quality	FS DESTEA
Hans Kgasago	Rehabilitation Manager	De Beers Voorspoed Mine
Theunis Meyer	Environmental Assesment Practitioner	North-West University, Centre for Environmental Management

2. Purpose of the meeting

Mr Kgasago explained that De Beers Voorspoed Diamond Mine has reached the end of the life of the mine and is in the process of closing. Mr Meyer further explained that an application will be lodged for an environmental authorisation (EA) for the decommissioning of the mining activities. FS DESTEA has been identified as one of the organs of state that may have jurisdiction over any aspect of the operation or activity and has to be included in the public participation process.

The purpose of the meeting is twofold:

- to inform FS DESTEA about the decommissioning and mine closure process; and
- to engage with them to understand their expectations about the process to be followed and environmental issues or concerns to be addressed in the EIA process.

3. Notes on the discussions

3.1 The role of DESTEA

Ms Mkhosana indicated that the DMR is the competent authority responsible for considering the EA application and taking the decision on whether to authorise the decommissioning of the mining activities or not. FS DESTEA is only a commenting authority in the EIA process and need not be involved in the EIA process. It only needs to be provided with the draft reports for their consideration and inputs during the public participation process.

3.2 EIA process

Mr Meyer indicated that a hard copy of the draft report will be delivered by hand to DESTEA, while the DMR will be informed of this.

After a discussion, it was agreed that the EAP may arrange a meeting with the DESTEA case officer to coincide with the submission of the Draft Basic Assessment report and associated documents, to provide an overview of the report, or submit a presentation with the overview with the draft documents.

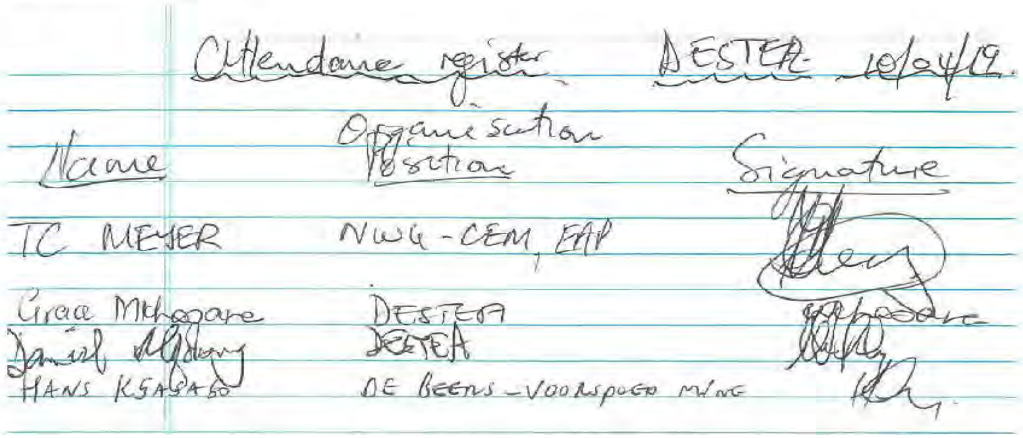
3.3 Notification in terms of the National Environmental Management: Air Quality Act

After a discussion of the need to submit a notification to the Minister of Environmental Affairs in terms of section 33 of the NEM:AQA, Mr Mofokeng indicated that such notification has to be submitted to the Air Quality officer at the Fezile Dabi District Municipality.

4. Closing

The meeting was adjourned at 10:45.

Attendance register



Appendix 34: Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Rural Development and Land Affairs on 10 April 2019 at their offices in Bloemfontein

Private Bag X6001, Potchefstroom
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Web: http:www.nwu.ac.za/cem

2019/04/17

De Beers Voorspoed Diamond Mine Decommisioning Environmental Impact Assessment and Mine Closure Process Public Participation Process: Meeting with the Free State Department of Economic, Small Business Development, Tourism & Environmental Affairs, held on 10 April 2019 at their offices in Bloemfontein

Minutes of meeting

1. **Attendance**

Name	Position	Organisation
Grace Mkhosana	Director: Environment	FS DESTEA
Daniel Mofokeng	Deputy-director: Air quality	FS DESTEA
Hans Kgasago	Rehabilitation Manager	De Beers Voorspoed Mine
Theunis Meyer	Environmental Assesment Practitioner	North-West University, Centre for Environmental Management

2. **Purpose of the meeting**

Mr Kgasago explained that De Beers Voorspoed Diamond Mine has reached the end of the life of the mine and is in the process of closing. Mr Meyer further explained that an application will be lodged for an environmental authorisation (EA) for the decommissioning of the mining activities. FS DESTEA has been identified as one of the organs of state that may have jurisdiction over any aspect of the operation or activity and has to be included in the public participation process.

The purpose of the meeting is twofold:

- to inform FS DESTEA about the decommissioning and mine closure process; and
- to engage with them to understand their expectations about the process to be followed and environmental issues or concerns to be addressed in the EIA process.

3. Notes on the discussions

3.1 The role of DESTEA

Ms Mkhosana indicated that the DMR is the competent authority responsible for considering the EA application and taking the decision on whether to authorise the decommissioning of the mining activities or not. FS DESTEA is only a commenting authority in the EIA process and need not be involved in the EIA process. It only needs to be provided with the draft reports for their consideration and inputs during the public participation process.

3.2 EIA process

Mr Meyer indicated that a hard copy of the draft report will be delivered by hand to DESTEA, while the DMR will be informed of this.

After a discussion, it was agreed that the EAP may arrange a meeting with the DESTEA case officer to coincide with the submission of the Draft Basic Assessment report and associated documents, to provide an overview of the report, or submit a presentation with the overview with the draft documents.

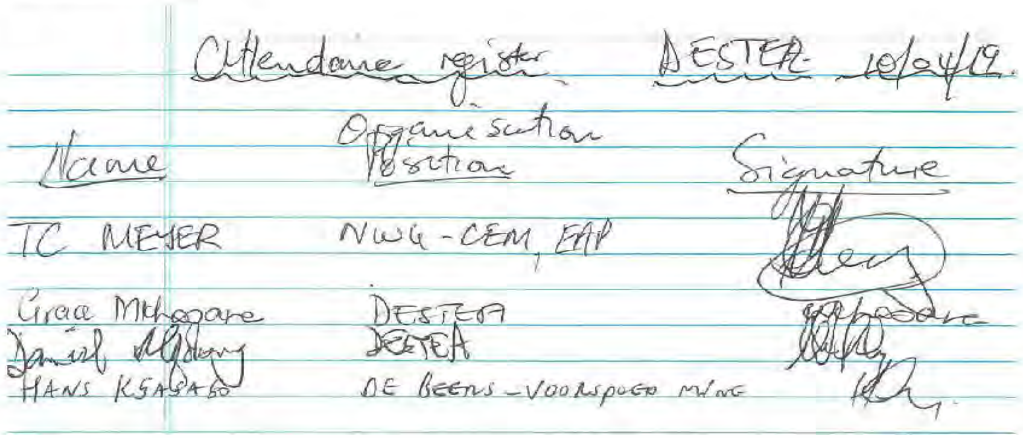
3.3 Notification in terms of the National Environmental Management: Air Quality Act

After a discussion of the need to submit a notification to the Minister of Environmental Affairs in terms of section 33 of the NEM:AQA, Mr Mofokeng indicated that such notification has to be submitted to the Air Quality officer at the Fezile Dabi District Municipality.

4. Closing

The meeting was adjourned at 10:45.

Attendance register



Appendix 35: Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Agriculture, Forestry and Fisheries on 12 April 2019 at Voorspoed Mine

Private Bag X6001, Potchefstroom
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2019/04/17

De Beers Voorspoed Diamond Mine Decommisioning Environmental Impact Assessment and Mine Closure Process Public Participation Process: Meeting with the Free State Department of Agriculture, held at 12:00 on 12 April 2019 at Voorspoed Diamond Mine, Kroonstad District

Minutes of meeting

1. **Attendance**

Name	Position	Organisation
Lekgau Mahlatji	Regional Manager	DAFF
Hans Kgasago	Rehabilitation Manager	De Beers Voorspoed Mine
Theunis Meyer	Environmental Assesment Practitioner	North-West University, Centre for Environmental Management

2. **Purpose of the meeting**

Mr Kgasago explained that De Beers Voorspoed Diamond Mine has reached the end of the life of the mine and is in the process of closing. Mr Meyer further explained that an application will be lodged for an environmental authorisation (EA) for the decommissioning of the mining activities. DAFF has been identified as one of the organs of state that may have jurisdiction over any aspect of the operation or activity and has to be included in the public participation process.

The purpose of the meeting is twofold:

- to inform DAFF about the decommissioning and mine closure process; and
- to engage with them to understand their expectations about the process to be followed and environmental issues or concerns to be addressed in the EIA process.

3. Notes on the discussions

3.1 The role of DAFF

Mr Mahlatji indicated that the DAFF is a commenting authority in the EIA process will review and comment on the draft reports during the public participation process.

They are primarily concerned about the post rehabilitation and closure land use of the mining area.

3.2 EIA process

Mr Meyer indicated that a hard copy of the draft report will be delivered by hand to DAFF, while the DMR will be informed of this.

After a discussion, the EAP offered to arrange a meeting with the relevant DAFF official to coincide with the submission of the Draft Basic Assessment report and associated documents, to provide an overview of the report, in order to facilitate the review and commenting process.

3.3 DAFF inputs into the EIA process

Mr Mahlatji indicated that the DAFF is concerned about the following matters:

- Before the mining activities commenced, the land had been farming land and therefore needs to go back to farming land that could be used for agricultural production.
- The slope of the remaining rehabilitated residue deposits should facilitate farming activities. A question was asked as to whether it would be possible to cut and bale the grass on the rehabilitated areas mechanically?
- The depth of the soil cover on the rehabilitated residue deposits. If the soil cover is only 200 mm deep, it must not compromise the ability of the land to be used for agricultural production and compromise the ability of the vegetation to reach a stable state.
- During and after the mine rehabilitation and closure process, the area may be susceptible to invasion by alien invader plants. Measures need to be implemented to control such plants during the rehabilitation and closure process until a stable vegetation cover has been achieved.
- Some parts of the mining land is currently covered by the indigenous encroacher plant, commonly known as Bankrupt Bush or Slangbos. Measures must be implemented to control these plants during the rehabilitation and closure process.

4. Closing

The meeting was adjourned at 14:30.

De Beers Voorspoed Mine Decommissioning application

Date: 12 April 2019

Time: 12:00

Venue: Voorspoed Mine

Attendance register

Name	Organisation and designation	Contact number	Email	Signature
Mr Theunis Meyer	NWU-CEM: EAP	018 299 1467	THEUNIS.MEYER@NWU.AC.ZA	
Mr Hans Kgasago	Voorspoed Mine Rehabilitation Manager	056 216 8605	hans.kgasago@debeersgroup.com	
LEKGAU MAHLATJI	DMR REGIONAL MANAGER	051-409 2617 / 060 973 7317	Lekgau.Mahlatji@dmr.gov.za	

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Appendix 36: Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Department of Water and Sanitation Head Office on 4 June 2019 at their offices in Pretoria

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2019/06/04

MINUTES OF PRE-APPLICATION MEETING FOR THE DE BEERS VOORSPOED MINE DECOMMISSIONING ENVIRONMENTAL AUTHORISATION

Date of meeting: **Tuesday, 4 June 2019**
Time of meeting: **08:30**
Venue: **DWS Head Office, Pretoria**

---

1. Attendance:

Name	Title	Organisation	Contact details
Hans Kgasago	Rehabilitation Manager	DBCM Voorspoed Mine	056 216 8605 Hans.kgasago@debeersgroup.com
Theunis Meyer	Environmental Assessment Practitioner	NWU-CEM	018 299 1467 Theunis.meyer@nwu.ac.za
Reece Alberts	Environmental Assessment Practitioner	NWU-CEM	018 299 6267 12991805@nwu.ac.za
Dikeledi Baloyi	??	DWS RPW (Resource Protection & Waste)	012 336 8863 baloyidz@dws.gov.za
Makhura Maite	??	DWS: RPW	012 336 8920 makhuram@dws.gov.za
Meso Kama	??	DWS: RPW	012 336 6806 mesok@dws.gov.za
Candace Enoch	??	DWS MWM (Mine Water Management)	083 409 4539 enochc@dws.gov.za
Kgotso Mahlahlane	??	DWS: RPW	012 336 7777 mahlahlanek@dws.gov.za
Thivha Nemataleni	??	DWS: RPW	082 895 0570 nematalenit@dws.gov.za

Name	Title	Organisation	Contact details
Zimbini Mazula	??	DMS: MWM	072 317 4522 mazulaz@dws.gov.za
Desmond Mutshaive	??	DMS: MWM	012 336 7193 mutshaivel@dws.gov.za
Bashan Govender	??	DMS: MWM	082 895 0327 govenderb@dws.gov.za

Attendance register attached (Appendix A).

Powerpoint slide deck used during the meeting attached (Appendix B).

2. Opening & welcome

DWS welcomes the visitors to the meeting. All attendees are given the opportunity to introfuce themselves.

Voorspoed Mine indicates that the purpose of the meeting is to formally inform the DWS that Voorspoed Mine will be closing and to discuss the application for decommissioning that will be submitted to DMR during the second quarter of 2019.

3. Historical background to Voorpoed Mine Decommissioning and closure process

The Voorspoed Mine Rehabilitation Manager, Mr Kasago, provides an overview about the mine's recent history. The current mining right was granted in 2006 and the mine official opened on 4 November 2008 as a marginal mine that largely exploits an inferred resource. It consists of an open pit operation that mined to an approximate depth of 214m and recovered 6 Mct of diamonds.

The life of mine was envisaged until 2022, however, operational challenges due to a pit slope failure prompted the DBCM board to take a decision in July 2018 to proceed with the cessation of mining activities by the end of 2018 and proceed with responsible closure of the mine.

Following an extensive, disposal process, the company could not find a suitable operator to acquire and operate Voorspoed Mine in a sustainable manner and started the section 52 process. The DMR, however, requested extension of the sale process to Aug 2018 to allow other interested parties to be considered. One remaining interested party participated up to the end of January 2019 and the process was concluded on 19 February 2019. No viable option was identified to continue with the Voorspoed Mine. The DBCM informed board to close the mine and informed the Section 52 board accordingly.

At present, the remaining interested party is still considering options for remining the historical residue stockpiles. Voorspoed Mine is awaiting a proposal in this regard. Such activity will, however, have significant implications for the decommissioning and mine closure process.

4. Legal framework for decommissioning and mine closure

The EAP, Mr Meyer, indicates that one of the important objectives of this meeting is to discuss and reach agreement on the closure process, as well as to identify specific process requirements that DWS may have in this regard.

Similar meegtings were also held with the Department of Minetal Resources - Free State Regional Office, DWS Free State Regional Office, Free State Departments of Economic and Small Business development, Tourism and Environmental Affairs, Agriculture and Rural Development and Land Reform.

4.1. Overview

The EAP provided a brief overview of the understanding of the legal framework for decommissioning and mine closure.

Prior to December 2018, Voorspoed Mine had an approved EMPr (in terms of the Minerals and Petroleum Resources Development (MPRDA) and National Environmental Management Acts (NEMA)), as well as a Water Use license and Integrated Water and Waste Managemenrt Plan (in terms of the National Water Act (NWA)). In terms of the Financial Provison regulations published under the NEMA, the mine also had a final Rehabilitation and Closure Plan, an annual Rehabilitation Plan and an Environmental Risk Assessment. In addition, it also had a number of other documents, including an approved Social and Labour Plan, as well as a number of environmental specialist studies.

The decision to proceed with decommissioning and mine closure requires the mine to apply for an environmental authorisation (EA) for decommissioning, as defined, and undertake a basic environmental impact assessment (BA) process in terms of the 2014 Environmental Impact Assessment (EIA) regulations. This will result in the drafting of an Environmental Management Programme (EMPr), and a Closure Plan (CP).

Once the EA has been issued, the EMPr & CP has to be implemented in preparation for mine closure. The mine closure application will be submitted somewhere in the future, after the completion of the approved closure plan.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
What water uses are taking place at Voorspoed Mine?	Voorspoed mine engages in abstraction (21(a)), storage (21(b)), disposal of waste (21(g)) and dewatering (21(j)). All of these are authorised in Water Use License No. 9/C70H/ABGJ/1031 that was issued to De Beers Consolidated Mines Limited on 20 June 2011 and amended on 04 February 2013, except for abstraction of water from a borehole on-site, which has already been reduced and will end upon mine closure. In addition, the mining activities have modified a small water course that originates on the site, without a modification (21(c) & (i)) water use.

Why are some of the water uses not authorised?	All the illegal water uses had been identified and communicated in the IWWMP that was submitted to DWS in 2014. Voorspoed Mine was in the process to apply for the amendment of the WUL to include these water uses, when the mine was forced into pre-mature closure.

4.2. NEMA BA process

The Basic Assesssment process will follow the legislated 197 day process and will be triggered by the submission of the application for the decommissioning EA application. The drafting of the BA report, EMPr and CP has to be completed 50 days after the submission of the EA application, followed by a 30-day public review and commenting period, with a final 10 day period for consideration and incorporation of the comments. The revised documents will be submitted to DMR 90 days after the submission of the EA application.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
DWS indicated that staff from the mine water management and resource protection and waste sections at DWS HQ will also be involved in the decommissioning application and review of the decommissioning documentation, in addition to the staff from the FS provincial office. Staff from the dam safety section may also be involved.	This is noted.
DWS indicated that all documents must be submitted to the DWS: FS office, who will circulate the documents to the other units and submit a consolidated response.	This will be discussed with the DWS:FS Office. If submitting copies to DWS HQ directly will facilitate the review process, the EAP offers to submit copies of the reports directly to DWS HQ.
This will assist in facilitating an effective decision-making process.	EAP offers to arrange a meeting with the relevant officers prior to the submission of the draft/final documents to brief him/her on the content of the documents.

5. Water management issues in the mine decommissioning and closure process

5.1. Water related issues at Voorspoed Mine

The EAP indicates that the following water related infrastructure and facilities exist currently at Voorspoed Mine:

- Open pit
- Kimberlite Processing Plant.
- Waste Rock Dump, Coarse Residue Deposit & Fine Residue Deposit
- Return Water Dam and the Storm Water Control Dam
- Storm water control infrastructure such as channels and berms

- Water pipeline from weir on the Renoster River to Voorspoed Mine
- Various abstraction and monitoring boreholes
- Two Sewage Treatment Plants
- Waste storage area
- Other infrastructure
  - Offices, stores, training centres and change houses
  - Workshops, vehicle wash bays, vehicle refuelling bays and fuel and lube storage tanks
  - Power line & Eskom Sub-station.
  - Explosives Magazine

Since the mine planning started, numerous specialist studies were done. Ground and surface water monitoring was also undertaken regularly.

During the decommissioning and mine closure process, the open pit will not be backfilled, but will remain, with a pit lake.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
DWS enquired as to what options were considered in deciding on the pit lake option.	Mr Kgasago indicated that a range of specialist studies were undertaken and 8 pit closure options were investigated. The final option was selected on the basis of BPEO, as well as BATNEEC, which are both referenced in a number of DWS BPGs.
What will the impact be of the preferred pit closure option and the formation of the pit lake?	Specialist studies have shown that the pit lake will form very slowly and the surface will always remain way (approximately 40-75 m) below the ground level and never decant into the receiving environment. The quality of the pit water has elevated TDS levels, which is expected to increase over time. No acid drainage will be generated. Specialist studies have also indicated that if the pit is back-filled, it could create a matrix of soil and rock that could facilitate the upward mobility of the polluted water and result in the decanting thereof into the receiving environment.

5.2. Water management related studies

The water related specialist studies include the following:

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- Voorspoed Mine water balance investigation report – Jones & Wagener, 2012
- Predicted groundwater conditions at Voorspoed Mine - Itasca Denver, Inc., Colorado, 2014

- An assessment of the pollution potential from mine waste residues for Voorspoed Diamond Mine - Metago Environmental Engineers, 2005
- Inorganic geochemical environmental evaluation of Kimberlite Tailings – NWU Geology Department, 2014
- Voorspoed Mine – Pit Closure Study, E-Tek Consulting & Redco, 2017
- Voorspoed Diamond Mine Water and Salt Balance Report, Golder & Associates, 2017
- Geochemical Assessment Report, Golder & Associates, 2017
- Summary of Surface and Groundwater Study for Mine Closure, Golder & Associates, 2017
- Voorspoed Mine Hydrological Monitoring Program (2018+), Golder & Associates, 2019
- Dam Safety Inspection Report for the Renoster Weir – SRK Consulting, 2006
- Review of storm water entering the Voorspoed Mine open cast pit, storm water management and recommended storm water control measures – KLM Consulting Services, 2004
- Wetland delineation, management and rehabilitation plan for the De Beers Voorspoed Mine, Free State Province, Excigo Sustainability, 2017.

5.3. Current status and DWS expectations with regard to the BPG documents

After the previous engagement with the DWS: Free State office, confirmation has been received that consideration of the following two existing Best Practice Guidelines, published by DWS, is stll required in the mine decommissioning and closure process:

- BPG G5: G5: Water Management Aspects for Mine Closure
- BPG G5: G4: Impact Prediction

Consequently, an independent water specialist consultant team has been appointed to independently review the key water specialist studies undertaken to date.

6. BA process plan

6.1. Pre-application meetings

Pre-application meetings have been held with key stakeholders to inform them of the decommissioning EA application process and discuss the application process and reach agreement in this regard, as well as to identify specific process requirements that they may have.

6.2. BA process

The BA process, as prescribed by the 2014 EIA regulations will be followed. This will include the following activities:

- Descriptions of
  - Existing mine processes and infrastructure
  - Post closure natural and socio-economic environments, as well as land use
  - Mine closure process – closure objective
  - Mine closure alternatives
  - Environmental impacts/risks
  - Residual and latent environmental impacts/risks

- Environmental prevention and mitigation measures

- Drafting, review and approval of
  - BA report
  - EMPr & Closure Plan

A number of the existing documents will be used as specialist inputs into the process, especially all the water related specialist studies.

6.3. Public participation process

The prescribed public participation process will be followed. The existing Voorspoed Mine stakeholder register has already been sourced and will form the basis of the Interested and Affected Parties (I&APs), together with the legally mandated I&APs. Commenting authorities will be engaged as discussed above.

The process will include the drafting and circulation of a background information document with response sheet, while site notices will be displayed at the site, as well as other identified publicly accessible localities.

Newspaper advertisements will be published in a number of local newspapers, as well as a national newspaper. Local radiostations will also be requested to inform the community about the public participation process.

Two public meetings will be held in the Kroonstad and Parys civic centres, while dedicated meetings will also be held with commenting authorities, prior to the document review process.

Draft documents will be made available electronically on a publicly accessible website, while hard copies will be made available at Voorspoed Mine, the Moqhaka and Ngwather local municipality offices, the Fezile Dabi disctrict municipality offices, as well as at public libraries in Kroonstad and Parys.

Copies of the documents will be hand delivered to DWS: FS office, as well as DWS: HO, if required.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
See 4.2	

6.4. Project timeframes

The proposed project timeline is as follows:

- Pre-application meetings – March to June 2019
- Start of the BA process – June 2019
- Submission of the EA application – 24 June 2019
- Drafting of the BAR, EMPr & CP –May & June 2019
- Authority meetings – last week of May 2019
- Public meeting – 20 & 21 August 2019
- Circulate BAR, EMPr & CP for public comment – 22 July 2019
- Submit final BAR, EMPr & CP for decision-making – 30 August 2019

- DMR decision on the application – 18 December 2019
- Conclusion of the submission of appeals – 27 January 2020

7. Way Forward and Closure

DWS requests that a site visit be arranged so that the officials could familiarise themselves with the mine site. Voorspoed Mine will arrange the site visit with the assistance of the EAP.

Everybody agrees to support each other in order to ensure a successful decommisoning EA application.

The meeting ends at 10:00.

Appendix A: Attendance register

CEM

ATTENDANCE REGISTER

Project:	Voorspoed Diamond Mine Decommissioning and Closure
Event:	Department of Water and Sanitation Meeting
Locality:	DWS Head Office, Pretoria
Date and Time:	Tuesday, 04 June, 2019, 08h30

Name and Surname:	Organisation:	Contact Number(s):	E-mail Address(es):	Signature:
Dikeledi Bagui	DWS : RPW	012 336 8863 060559 7631	BaguiD@dws.gov.za	
Machwa Maite	DWS: RPW	012 336 8920	MakwaM@dws.gov.za	
Meso Kama	DWS: RPW	012 336 6806	mesok@dws.gov.za	
Candace Enoch	DWS: MWM	083 409 4539	EnochC@dws.gov.za	
Kgotso Mahlahlane	DWS: RPW	012 336 7777 073 537 9952	Mahlahlanek@dws.gov.za	
Theunis Meyer	NWU - CEM	018 299 1467 083 627 0637	THEUNIS.MEYER@NWU.AC.ZA	
R Alberts	NWU - CEM	018 299 4267	12791865@nwu.ac.za	

Attendance Register Project Close-Out Meeting Rev 2019-00 Page 1 of 2

Name and Surname:	Organisation:	Contact Number(s):	E-mail Address(es):	Signature:
Hans Kgasago	De Beers	056 216 8605	hans.kgasago@debeersgroup.com	
Tshilidzi Nematcheni	DWS : RPW	082 895 0570	NematcheniT@dws.gov.za	
Zimbini Mazula	DWS : MWQM	072 3174 522	mazulaz@dws.gov.za	
Desmond Muthraine	DWS: MWQM	012 336 7193	muthraineD@dws.gov.za	
Nathan Govender	DWS : [illegible] [illegible] [illegible]	082 895 0327	[illegible]@dws.gov.za	

Attendance Register Project Close-Out Meeting Rev 2019-00 Page 2 of 2

Appendix B: Powerpoint presentation that was used during the meeting

Appendix 37: Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Ngwathe Municipality on 20 August 2019 at their offices in Parys

NWU®
NORTH-WEST UNIVERSITY
NOORDWES-UNIVERSITEIT
YUNIBESITI YA BOKONE-BOPHIRIMA

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

Centre for Environmental Management

Internal box 150, Private Bag X6001, Potchefstroom,
South Africa, 2520

Tel: 018 299 1590 / 2724
Fax: 018 299 4266 / 2726
Email: cemprojects@nwu.ac.za /
ceminfo@nwu.ac.za

Web: http:www.nwu.ac.za/cem

2019/06/04

MINUTES OF PRE-APPLICATION MEETING FOR THE DE BEERS VOORSPOED MINE DECOMMISSIONING ENVIRONMENTAL AUTHORISATION

Date of meeting: **Tuesday, 4 June 2019**
Time of meeting: **08:30**
Venue: **DWS Head Office, Pretoria**

---

1. Attendance:

Name	Title	Organisation	Contact details
Hans Kgasago	Rehabilitation Manager	DBCM Voorspoed Mine	056 216 8605 Hans.kgasago@debeersgroup.com
Theunis Meyer	Environmental Assessment Practitioner	NWU-CEM	018 299 1467 Theunis.meyer@nwu.ac.za
Reece Alberts	Environmental Assessment Practitioner	NWU-CEM	018 299 6267 12991805@nwu.ac.za
Dikeledi Baloyi	??	DWS RPW (Resource Protection & Waste)	012 336 8863 baloyidz@dws.gov.za
Makhura Maite	??	DWS: RPW	012 336 8920 makhuram@dws.gov.za
Meso Kama	??	DWS: RPW	012 336 6806 mesok@dws.gov.za
Candace Enoch	??	DWS MWM (Mine Water Management)	083 409 4539 enochc@dws.gov.za
Kgotso Mahlahlane	??	DWS: RPW	012 336 7777 mahlahlanek@dws.gov.za
Thivha Nemataleni	??	DWS: RPW	082 895 0570 nematalenit@dws.gov.za

Name	Title	Organisation	Contact details
Zimbini Mazula	??	DMS: MWM	072 317 4522 mazulaz@dws.gov.za
Desmond Mutshaive	??	DMS: MWM	012 336 7193 mutshaivel@dws.gov.za
Bashan Govender	??	DMS: MWM	082 895 0327 govenderb@dws.gov.za

Attendance register attached (Appendix A).

Powerpoint slide deck used during the meeting attached (Appendix B).

2. Opening & welcome

DWS welcomes the visitors to the meeting. All attendees are given the opportunity to introfuce themselves.

Voorspoed Mine indicates that the purpose of the meeting is to formally inform the DWS that Voorspoed Mine will be closing and to discuss the application for decommissioning that will be submitted to DMR during the second quarter of 2019.

3. Historical background to Voorpoed Mine Decommissioning and closure process

The Voorspoed Mine Rehabilitation Manager, Mr Kasago, provides an overview about the mine's recent history. The current mining right was granted in 2006 and the mine official opened on 4 November 2008 as a marginal mine that largely exploits an inferred resource. It consists of an open pit operation that mined to an approximate depth of 214m and recovered 6 Mct of diamonds.

The life of mine was envisaged until 2022, however, operational challenges due to a pit slope failure prompted the DBCM board to take a decision in July 2018 to proceed with the cessation of mining activities by the end of 2018 and proceed with responsible closure of the mine.

Following an extensive, disposal process, the company could not find a suitable operator to acquire and operate Voorspoed Mine in a sustainable manner and started the section 52 process. The DMR, however, requested extension of the sale process to Aug 2018 to allow other interested parties to be considered. One remaining interested party participated up to the end of January 2019 and the process was concluded on 19 February 2019. No viable option was identified to continue with the Voorspoed Mine. The DBCM informed board to close the mine and informed the Section 52 board accordingly.

At present, the remaining interested party is still considering options for remining the historical residue stockpiles. Voorspoed Mine is awaiting a proposal in this regard. Such activity will, however, have significant implications for the decommissioning and mine closure process.

4. Legal framework for decommissioning and mine closure

The EAP, Mr Meyer, indicates that one of the important objectives of this meeting is to discuss and reach agreement on the closure process, as well as to identify specific process requirements that DWS may have in this regard.

Similar meegtings were also held with the Department of Minetal Resources - Free State Regional Office, DWS Free State Regional Office, Free State Departments of Economic and Small Business development, Tourism and Environmental Affairs, Agriculture and Rural Development and Land Reform.

4.1. Overview

The EAP provided a brief overview of the understanding of the legal framework for decommissioning and mine closure.

Prior to December 2018, Voorspoed Mine had an approved EMPr (in terms of the Minerals and Petroleum Resources Development (MPRDA) and National Environmental Management Acts (NEMA)), as well as a Water Use license and Integrated Water and Waste Managemenrt Plan (in terms of the National Water Act (NWA)). In terms of the Financial Provison regulations published under the NEMA, the mine also had a final Rehabilitation and Closure Plan, an annual Rehabilitation Plan and an Environmental Risk Assessment. In addition, it also had a number of other documents, including an approved Social and Labour Plan, as well as a number of environmental specialist studies.

The decision to proceed with decommissioning and mine closure requires the mine to apply for an environmental authorisation (EA) for decommissioning, as defined, and undertake a basic environmental impact assessment (BA) process in terms of the 2014 Environmental Impact Assessment (EIA) regulations. This will result in the drafting of an Environmental Management Programme (EMPr), and a Closure Plan (CP).

Once the EA has been issued, the EMPr & CP has to be implemented in preparation for mine closure. The mine closure application will be submitted somewhere in the future, after the completion of the approved closure plan.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
What water uses are taking place at Voorspoed Mine?	Voorspoed mine engages in abstraction (21(a)), storage (21(b)), disposal of waste (21(g)) and dewatering (21(j)). All of these are authorised in Water Use License No. 9/C70H/ABGJ/1031 that was issued to De Beers Consolidated Mines Limited on 20 June 2011 and amended on 04 February 2013, except for abstraction of water from a borehole on-site, which has already been reduced and will end upon mine closure. In addition, the mining activities have modified a small water course that originates on the site, without a modification (21(c) & (i)) water use.

Why are some of the water uses not authorised?	All the illegal water uses had been identified and communicated in the IWWMP that was submitted to DWS in 2014. Voorspoed Mine was in the process to apply for the amendment of the WUL to include these water uses, when the mine was forced into pre-mature closure.

4.2. NEMA BA process

The Basic Assesssment process will follow the legislated 197 day process and will be triggered by the submission of the application for the decommissioning EA application. The drafting of the BA report, EMPr and CP has to be completed 50 days after the submission of the EA application, followed by a 30-day public review and commenting period, with a final 10 day period for consideration and incorporation of the comments. The revised documents will be submitted to DMR 90 days after the submission of the EA application.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
DWS indicated that staff from the mine water management and resource protection and waste sections at DWS HQ will also be involved in the decommissioning application and review of the decommissioning documentation, in addition to the staff from the FS provincial office. Staff from the dam safety section may also be involved.	This is noted.
DWS indicated that all documents must be submitted to the DWS: FS office, who will circulate the documents to the other units and submit a consolidated response.	This will be discussed with the DWS:FS Office. If submitting copies to DWS HQ directly will facilitate the review process, the EAP offers to submit copies of the reports directly to DWS HQ.
This will assist in facilitating an effective decision-making process.	EAP offers to arrange a meeting with the relevant officers prior to the submission of the draft/final documents to brief him/her on the content of the documents.

5. Water management issues in the mine decommissioning and closure process

5.1. Water related issues at Voorspoed Mine

The EAP indicates that the following water related infrastructure and facilities exist currently at Voorspoed Mine:

- Open pit
- Kimberlite Processing Plant.
- Waste Rock Dump, Coarse Residue Deposit & Fine Residue Deposit
- Return Water Dam and the Storm Water Control Dam
- Storm water control infrastructure such as channels and berms

- Water pipeline from weir on the Renoster River to Voorspoed Mine
- Various abstraction and monitoring boreholes
- Two Sewage Treatment Plants
- Waste storage area
- Other infrastructure
  - Offices, stores, training centres and change houses
  - Workshops, vehicle wash bays, vehicle refuelling bays and fuel and lube storage tanks
  - Power line & Eskom Sub-station.
  - Explosives Magazine

Since the mine planning started, numerous specialist studies were done. Ground and surface water monitoring was also undertaken regularly.

During the decommissioning and mine closure process, the open pit will not be backfilled, but will remain, with a pit lake.

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DWS enquired as to what options were considered in deciding on the pit lake option.	Mr Kgasago indicated that a range of specialist studies were undertaken and 8 pit closure options were investigated. The final option was selected on the basis of BPEO, as well as BATNEEC, which are both referenced in a number of DWS BPGs.
What will the impact be of the preferred pit closure option and the formation of the pit lake?	Specialist studies have shown that the pit lake will form very slowly and the surface will always remain way (approximately 40-75 m) below the ground level and never decant into the receiving environment. The quality of the pit water has elevated TDS levels, which is expected to increase over time. No acid drainage will be generated. Specialist studies have also indicated that if the pit is back-filled, it could create a matrix of soil and rock that could facilitate the upward mobility of the polluted water and result in the decanting thereof into the receiving environment.

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  - Environmental impacts/risks
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- Environmental prevention and mitigation measures

- Drafting, review and approval of
  - BA report
  - EMPr & Closure Plan

A number of the existing documents will be used as specialist inputs into the process, especially all the water related specialist studies.

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Copies of the documents will be hand delivered to DWS: FS office, as well as DWS: HO, if required.

Discussion:

DWS comment/response	Voorspoed EAP comment/response
See 4.2	

6.4. Project timeframes

The proposed project timeline is as follows:

- Pre-application meetings – March to June 2019
- Start of the BA process – June 2019
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7. Way Forward and Closure

DWS requests that a site visit be arranged so that the officials could familiarise themselves with the mine site. Voorspoed Mine will arrange the site visit with the assistance of the EAP.

Everybody agrees to support each other in order to ensure a successful decommisoning EA application.

The meeting ends at 10:00.

Appendix A: Attendance register

CEM

ATTENDANCE REGISTER

Project: Voorspoed Diamond Mine Decommissioning and Closure
Event: Department of Water and Sanitation Meeting
Locality: DWS Head Office, Pretoria
Date and Time: Tuesday, 04 June, 2019, 08h30

Name and Surname:	Organisation:	Contact Number(s):	E-mail Address(es):	Signature:
Dikeledi Baloyi	DWS : RPW	012 336 8863 060559 7631	BaloyiD2@dws.gov.za	
Makwara Moite	DWS: RPW	012 336 8920	Makwaram@dws.gov.za	
Meso Kama	DWS: RPW	012 336 6806	mesok@dws.gov.za	
Candace Enoch	DWS: MWM	083 409 4539	EnochC@dws.gov.za	
Kgotso Mahlahlane	DWS: RPW	012 336 7777 073 537 9952	Mahlahlanek@dws.gov.za	
Theunis Meyer	NWU-CEM.	018 299 1467 083 627 0637	theunis.meyer@nwu.ac.za	
R Alberts	NWU-CEM	018 2[illegible]4267	12791Bos@nwu.ac.za	

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Name and Surname:	Organisation:	Contact Number(s):	E-mail Address(es):	Signature:
Hans Kgasago	De Beers	056 216 8605	hans.kgasago@debeersgroup.com	
Tiimka Nematcheni	DWS: RPW	082 895 0570	NematcheniT@dws.gov.za	
Zimbini Mazule	DWS: MWQM	072 3174 522	mazulez@dws.gov.za	
Desmond Muthraine	DWS: MWQM	012 336 7193	muthraineL@dws.gov.za	
Brian Govender	DWS: Mine Water Management	082 895 0327	GovenderB@dws.gov.za	

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Appendix B: Powerpoint presentation that was used during the meeting

Appendix 38: Minutes of a meeting for the De Beers Voorspoed Mine decommissioning Environmental Authorisation, held with the Moqhaka Municipality on 19 August 2019 at their offices in Kroonstad

Although the meeting was arranged with the municipality for 14:00 on Monday, 19 August 2019, the meeting was not held due to the unavailability of the relevant officials and councillors.

Appendix 39: Final comment received from the South African Heritage Resources Agency in terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) on the Voorspoed Mine decommissioning Environmental Authorisation application

Voorspoed Mine decommissioning

Our Ref:

an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Ragna Redelstorff
Tel: +27 (0)21 202 8651
Email: rredelstorff@sahra.org.za
CaseID: 14265

Date: Wednesday September 25, 2019
Page No: 1

Final Comment

In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999)

Attention: De Beers Group Voorspoed Mine

Proposed decommissioning and mine closure, Voorspoed Mine, Ngwathe Municipality, Free State

The proposed project entails the decommissioning and mine closure of the Voorspoed Mine, an open pit diamond mine for which operations ceased in December 2018. The mine is located on the farms Voorspoed 2480 (consolidation of subdivision 1 of the Farm Voorspoed 401, Subdivision 1 of the Farm Geldenhuys 1477, Subdivision 2 of the Farm Morgenster 772), Voorspoed 2480, Geldenhuys 1477, Morgenster 772, within Fezile Dabi Magisterial District, Ngwathe Municipality, Free State Province. The BAR and EMPr and 2005 HIA were submitted with the application.

Final comment

As this is a decommissioning application of an existing mine the SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objection against the activities subject to the following conditions that must be adhered to:

1. Should any objects of archaeological or palaeontological remains be found during construction activities, work must immediately stop in that area and the Environmental Control Officer (ECO) must be informed.

2. The ECO must inform the South African Heritage Recourse Agency (SAHRA) and contact an archaeologist and/or palaeontologist, depending on the nature of the find, to assess the importance and rescue them if necessary (with the relevant SAHRA permit). No work may be resumed in this area without the permission from the ECO and SAHRA.

3. If the newly discovered heritage resource is considered significant a Phase 2 assessment may be required. A permit from the responsible heritage authority will be needed.

Should you have any further queries, please contact the designated official using the case number quoted

Voorspoed Mine decommissioning

Our Ref:

an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Ragna Redelstorff
Tel: +27 (0)21 202 8651
Email: rredelstorff@sahra.org.za
CaseID: 14265

Date: Wednesday September 25, 2019
Page No: 2

above in the case header.

Yours faithfully

Ragna Redelstorff
Heritage Officer
South African Heritage Resources Agency

ADMIN:
Direct URL to case: http://www.sahra.org.za/node/527873
(, Ref: FS 30/5/1/2/3/2/1(12) EM)

Terms & Conditions:

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to SAHRA immediately.
3. SAHRA reserves the right to request additional information as required.

Appendix 40: Comments received from the DWS Chief Director: Water Quality Regulation, Department of Water and Sanitation on the Voorspoed Mine decommissioning Environmental Authorisation application

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria, 0001, 185 Francis Baard Street Tel: (012) 336 7898
Enq: Ms C. Enoch
Tel: 012 336 7898

By email: MelatoB@dws.gov.za
Department of Water and Sanitation
Free State Region

Dear Ms Melato Boitumelo

COMMENTS ON THE BASIC ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE DECOMMISSIONING OF VOORSPOED MINE, KROONSTAD AREA, FREE STATE PROVINCE

Voorspoed Mine (owned by the De Beers Group) is an open cast diamond mine with a depth of 214 m, located approximately 30km from Kroonstad in the Free State province. The mine began operating in November 2008. The life of mine was until 2021. Due to the instability of the pit, the mine is currently in the process of closure and decommissioning. The operations ceased in December 2018.

Mine residue facilities include a Waste Rock Dump (WRD), a Coarse Residue Deposit (CRD), a Fine Residue Deposit (FRD) and topsoil stockpiles. The mining area also includes two pans, namely the northern pan and the southern pan, and a wetland situated adjacent to the mining area. Rehabilitation of the mine residue deposits will involve reshaping of steep slopes and the covering of the slopes with 200m soil to form a growth material together with underlying material.

The pit will be left to fill by direct rainfall recharge and local runoff from the pit footprint area. Human and animal access to the pit will be restricted by the construction of waste rock barriers/berms at the top of the remaining access ramps since access ramps lower down in the pit have already failed naturally.

The intention of the mine is to allow the pit to recharge with direct rainfall and become a lake - like structure. A security fence will be erected around the open pit. The most appropriate end land use of the decommissioned site is agricultural land use including the production of selected crops (maize and sunflower), domestic livestock farming (cattle and sheep) and game farming.

FINDINGS

- The current Pit water is characterised as neutral mine drainage which is alkaline and brackish (high TDS) and exceeds several parameters in the South African Water Quality Guidelines for domestic, livestock and irrigation water use.
- The water was characterised by alkaline pH (8.2-9.5) and elevated concentrations of TDS (769-1318 mg/l), sodium (213-375mg/l), sulphate (173-370 mg/l), nitrate (30-120mg/l) and fluoride (1.28-1.95 mg/l) that exceeds the Guidelines for domestic, irrigation and livestock use.

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- The groundwater from boreholes close to the WRD was characterised by a pH of 6.8-8.7 pH units. The concentrations of TDS (236-666 mg/l), calcium (12-73 mg/l) and sodium (51-237 mg/l) has exceeded the Guidelines for domestic use.
- Classifications of acid rock drainage potential show that all the coarse residue, fine residue and waste rock samples are not potentially acid generating.
- The conducted short term leaching tests measured readily soluble components of geological materials and does not predict the long term water quality impacts.
- Based on Acid Base Accounting (ABA), the total sulphur (0.04 - 0.11%), sulphide (0.01 - 0.03%) and sulphate (0.001 – 0.16%) content of all mine residue materials was very low. This is an indication that the mine residue material is unlikely to produce acid mine water.

RECOMMENDATIONS

- Use of the pit water for irrigation is not supported since the pit water exceeds the South African Water Quality Guidelines for domestic, irrigation and livestock use.
- A model that describes the current and post closure pit water quality must be developed.
- A geotechnical study must be conducted to determine the stability of the pit wall. This is necessary in order to identify the potential impacts on the land adjacent to the pit. It is also important in determining how the eroded side-wall material may contribute to further deterioration of the pit water quality. Further collapse of the pit side-walls may lead to the collapse of the fencing surrounding the pit, which poses a risk to public safety and animals.
- According to the EMPr, backfilling was a requirement for the mine. However, it has been indicated that the mine is not in a position to backfill the pit due to unforeseen circumstances. An impact prediction model must therefore be developed in terms of the Department of Water Affairs and Forestry (DWAF) Best Practice Guidelines (BPG) G4 (Impact Prediction) to indicate the potential groundwater pollution impacts should the pit be backfilled.
- Groundwater monitoring must be conducted on a quarterly basis and reported on an annual basis. Baseline groundwater quality data must be provided and groundwater monitoring must be undertaken for five years after cessation of mining operations.
- All comments received from the public participation process must be taken into consideration.

Taking into consideration the gaps in information identified, the Chief Directorate: Water Quality Regulation does not support closure of the mine, as proposed.

Yours faithfully

CHIEF DIRECTOR: WATER QUALITY REGULATION

DATE: 02/10/2019

PS: PLEASE NOTE THAT THIS LETTER IS DIRECTED AT THE RELEVANT REGIONAL OFFICE OR CMA AND SHOULD NOT BE DISTRIBUTED TO THE APPLICANT AS THIS WILL BE IN VIOLATION OF THE WUA REGULATIONS.

MINE WATER MANAGEMENT CANNOT TAKE RESPONSIBILITY FOR INCOMPLETE APPLICATIONS OR GAPS IN INFORMATION AS ALL THE REQUIREMENTS ARE CONTAINED IN THE WUA REGULATIONS AND APPENDIXES.

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Appendix 41: Comments received from the geohydrological specialist, Department of Water and Sanitation on the Voorspoed Mine decommissioning Environmental Authorisation application

water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Enquiries: Mofokeng S
Reference: 27/2/1/DBCM-VoorspoedMine
Telephone: 051 405 9173

Attention: Ms. Melato B

REQUEST FOR GEOHYDROLOGICAL EVALUATION AND RECOMMENDATION FOR: De BEERS CONSOLIDATED MINES (Pty) LIMITED- VOORSPOED MINES.

Your request for comment/recommendation regarding the following reports submitted to the Department:

a. **Summary of Surface and Groundwater Study for Mine Closure. Dated October 2017, prepared by Golder Associates (Pty) Ltd (Golder, 2017).**
b. **Voorspoed Mine's Hydrological Monitoring Program (2018+), Monitoring Sites Program and Network Upgrade. Dated August 2018, prepared by Golder Associate (Pty) Ltd (Golder, 2018).**

1. Background

1.1 De Beers Consolidated Mines (Pty) Ltd's Voorspoed Diamond mine is situated in the north-eastern part of Free State Province of South Africa and the mine is approaching its mining operations closure phase, in approximately 4 years.

1.2 According to Golder (2017), the mine is located on property farm Voorspoed 401, portion 0, however, a GIS search shows that the mine is on four properties, portion 0 of farm Voorspoed 401, portion 0 of farm Voorspoed 2480, portion 0 of farm Geldenhuys 1477 as well as a portion of portion 0 of farm Morgenstern 772.

1.2 A surface and groundwater study of the mine had to be done covering the following aspects: (a) Geohydrological assessment, including a conceptual, numerical flow and transport model, (b) Geochemistry study assessment, (c) Dynamic water balance model and, (d) Hydrological assessment of potential flood line risks.

1.3 The mine area is situated within quaternary catchment C70H in the Middle Vaal water Management Area, located in the central part of South Africa in the Free State Province. The site is drained by tributaries of the Heuningspruit running in a north-westerly direction where it joins the Renoster River about 15 km to the north of the site.

2. Geology

2.1 The reports submitted didn't give information regarding the geology of the area, however GIS and the information from The Geology of South Africa (Johnson *et al.*, 2006) was used to obtained as much information as possible of the geology of the area.

2.2 Based on information obtained from GIS, the mine area is characterized by the rocks belonging to the Volksrust Formation of the Ecca group of the Karoo Supergroup. The Volksrust Fm is predominantly argillaceous unit which interfingers with the overlying Beaufort Group and underlying Vryheid Fm.

2.3 The Voorspoed mine area comprises of shales and mudstones of Volksrust Fm.

2.4 The strata is has been intruded by dolerite dykes and sills with three major sills identified to intersect the pit.

2.5 Johnson *et al* (2006), states that the formation consists of grey to black silty shale with thin, usually bioturbated, siltstone or sandstone lenses and beds, particularly towards its upper and lower boundaries

3. Geohydrology

3.1 The rocks/aquifers in the Ecca Group are anisotropic meaning their properties differ in direction.

3.2 According to Vivier (1996), the geometry of Ecca group is not only anisotropic but the aquifers are also complicated by the migration of the braided and meandering streams, this will imply that the sandstone and mudstones of Ecca group have significantly low to virtually absent primary porosity and permeability.

3.3 Woodford and Chevallier (2002) has stated that the main reason for the low permiabilities could be due to sandstone being generally poorly sorted and that their primary porosities have lowered by diagenesis.

3.4 The hydrogeological map of Kroonstad (DWAF, 2000) indicates that the project area falls within the intergranular and fractured aquifer type with an expected borehole yields of 0.1-0.5 l/s, however higher yields can occasionally be obtained by targeting folds, faults and joints structures where favourable recharge conditions exist.

3.5 According to the Aquifer Classification Map of South Africa (CSIR, 1999 and DWA, 2012) the area of application is situated in a minor aquifer system with an average yield estimated at 2 l/s.

3.6 The aquifer vulnerability in the study area is classified as moderately vulnerable region which is vulnerable to some pollutants, but only when continuously discharged or leached (CSIR, 1999 and DWA, 2013).

4. GEOHYDROLOGICAL ASSESSMENT OF THE WATER USE ACTIVITY/IMPACT

4.1 Geohydrological assessment and surface water assessment was conducted in order to determine the extent of groundwater usage in the study area, the geological structures that could potentially act as preferential pathways for groundwater movement and contamination transport as well as surface water resources that could have been impacted by the mining processes.

4.2 A hydrocensus was conducted in April 2017 for about 3 to 5 km radius of the mine. A total of at least twelve (12) boreholes and four (4) surface water bodies were located. A total of sixteen (16) water samples were collected during hydrocensus

survey and the samples were sent to a laboratory in South Africa and the other one in United Kingdom for analysis (Golder, 2017).

4.3 Additional seven (7) boreholes were drilled in 2018; this was in order upgrade the groundwater monitoring coverage. Six (6) of the boreholes were to monitor the shallow aquifer, while the remaining borehole was located in order to be able to monitor the deeper aquifer (Golder, 2018). Majority of the existing boreholes from Golder (2017) are deep hence these additional boreholes were drilled to provide information pertaining to shallow aquifer.

4.4 In order to be able to site the additional boreholes, a geophysical survey had to be conducted to investigate the geological features that could assist with the position of these boreholes. Four (4) magnetic traverses were surveyed and brought about drilling of seven additional boreholes stated on point 4.3 above.

4.5 The numerical model for the assessment of the contaminant transport as performed from data collected in 2017 indicates that contamination from WRD is rainfall driven as the behaviour of the plume varies seasonally.

4.6 200 year simulation of the plume from the waste rock facility is unlikely to exceed the sulphate limits on the farms neighbouring the mine.

4.7 The CRD with its highest source concentrations does not appear to impact on the nearby boreholes; either the seepage from this site is not entering groundwater system or the boreholes installed do not suitably representing the upper fractured aquifer.

5. GROUNDWATER MONITORING PROGRAM

5.1 From Golder (2017), there were a total of sixteen water samples collected, the sample were a representative of both surface and groundwater from the Open Pit, Waste Rock Dump (WRD), Coarse Residue Dump (CRD), Fine Residue Dump (FRD) and ROM Stockpile.

5.2 Pit Water sample indicates a Na-SO_4 water quality, water samples from CRD and FRD indicates Na-Cl water type this could be due to natural source of sodium chloride from the Kimberlite pipe.

5.3 In general the Piper Diagrams shown in the reports illustrate the natural groundwater quality evaluation from the recently recharged waters characterised by Ca/Mg-HCO3 as a representative of dynamic flow. Gradually towards a typical deep Karoo water quality.

5.4 Some groundwater samples had elevated levels of chloride and sulphate; this could be due to the impact by industrial or mining activities.

5.5 The shallow monitoring boreholes samples (Golder, 2018) shows three different water types, recharge/fresh water (Ca/Mg-HCO_3), natural aquifer water (Na-Cl) and typical polluted industrial/mine/waste water with elevated levels of SO_4.

5.6 Borehole VDBH06S, VDBH06D and VDBH04 indicates fresh water quality based on their representation on the piper diagram, with VDBH06D&S this classification makes sense because they're located on the north-western side of the mine area where there are no facilities that could impact negatively on the groundwater

resource, but borehole VDBH04 is located at the edge of the WRD therefore it is expected that the water quality from this borehole will show the impact by the WRD.

5.7 The other boreholes and their water quality results are understandable based on their location and what they are expected to be monitoring.

6. COMMENTS

6.1 SECTIONS

6.1.2. **In terms of the Geohydrological Study**

The studies are acceptable as they have gone into details regarding the geohydrological status of the mine and also looked at possible impacts on the resource as well as providing the mitigation measures to all the anticipated impacts.

The impact to the groundwater resource is mostly from the dump sites as indicated on the geochemical analyses diagrams; however the contaminant transport model indicates that contamination will not exceed the sulphate limits on the farms neighbouring the mine post mine closure.

6.1.3. **In terms of the Monitoring Plan**

in 2017 the mine had sixteen (16) monitoring sites and this was increased by a further eight boreholes in 2018 to monitor shallow aquifer as the previous boreholes were mainly for monitoring of deep aquifer. The groundwater monitoring program is adequate and acceptable. The Department also supports the recommendation of the report to develop three (3) surface water monitoring sites.

7. RECOMMENDATIONS

Based on the contents of both reports, Golder, 2017 and Golder 2018 the following is recommended:

- Groundwater levels should be monitored on a monthly basis during the Life of Mine and Decommissioning-Closure Phase and biannually in the post-closure phase.
- Groundwater quality should be sampled and analysed by an accredited laboratory quarterly during Life of Mine and Decommissioning-closure phases and therefore be sampled and analysed by an accredited laboratory biannually during Post-closure phase.
- Groundwater sampling and analyses mentioned above should include major cations (i.e.: Ca, Mg, Na and K), major anion (i.e. Cl, F, and SO_4), Physic-chemical determinants (i.e. pH, conductivity, TDS, and Total Alkalinity), and metals and Trace metals (i.e. Fe, Cr, Se, Pb, Mn, Al and Zn).
- The mine should adhere to the correct scientific methods during groundwater sampling to avoid alien contamination and cross contamination from one borehole to another, such work should be executed by a qualified scientist. The samples should be sent to the accredited laboratory for analysis
- A program should also be initiated by the mine to generate hydrological data that will be used as a baseline dataset for future planning and to confirm the numerical

modelling and predictions modelled during the mine closure study (Golder, 2017) and Monitoring Sites Program (Golder, 2018).

- With the new data compilation, a transport contamination model should be upgraded at least every 5 years.
- Should the mine see the need to drill more monitoring boreholes beyond the already existing boreholes, then care should be taken that these boreholes are not drilled into the determine geological structures that may act as preferential flow path for groundwater.

Please do not hesitate to contact us should any other query arise concerning the above-mentioned development.

Yours sincerely

CANDIDATE SCIENTIST:
Mofokeng Setjhaba (Pr.Nat.Sci)
DATE: 26/09/2019

De Beers Consolidated Mines- Voorspoed Mine, Kroonstad, Free State, South Africa.