ENVIRONMENTAL AUDIT REPORT IN TERMS OF REGULATION 34 OF THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS 2014 PUBLISHED IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998

and

ANNUAL ENVIRONMENTAL MANAGEMENT PROGRAMME PERFORMANCE ASSESSMENT IN TERMS OF REGULATION 55 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT REGULATIONS 2004 PUBLISHED IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 28 OF 2002

EMPR reference number: LP/30/5/1/2/3/2/1/58EM

PREPARED FOR:

DE BEERS CONSOLIDATED MINES: VENETIA MINE, MUSINA

ENVIRONMENTAL AUDIT IN TERMS OF REGULATION 34 OF THE EIA REGULATIONS 2014 / PERFORMANCE ASSESSMENT IN TERMS OF REGULATION 55 OF THE MPRDA REGULATIONS 2004		
Audit Team:	Project Coordinator and Legal Reviewer: Liezl Sterne **Mervyn Taback Incorporated**	
	Auditor: Erika van der Linde **Aquatox Consulting (Pty) Ltd**	
Audit date:	29 – 31 October 2019	
Report finalised:	4 December 2019	
Reference number:	DEBE7.LAS1	

1. INTRODUCTION

1.1 Mervyn Taback Incorporated ("**Tabacks**"), in conjunction with Aquatox Consulting Pty Ltd (referred to as the "**Audit Team**"), was appointed by De Beers Venetia Mine ("**DVM**") to undertake an Environmental Audit in terms of regulation 34 of the Environmental Impact Assessment ("**EIA**") Regulations 2014[1] published in terms of the National Environmental Management Act 107 of 1998 ("**NEMA**") as well as a Performance Assessment as required in terms of regulation 55 of the Mineral and Petroleum Resources Development Regulations[2] ("**MPRDA Regulations**"), published in terms of the Mineral and Petroleum Resources Development Act 28 of 2002 ("**MPRDA**") in respect of DVM's Environmental Management Programme (**"EMPR"**). The Environmental Audit and Performance Assessment were undertaken in accordance with the approved Scope of Work dated 29 August 2019.

2. PURPOSE OF THE ENVIRONMENTAL AUDIT AND AUDIT METHODOLOGY

2.1 The purpose of the Environmental Audit as contemplated in regulation 34 read with Appendix 7 of the EIA Regulations 2014 is to determine:

2.1.1 the level of compliance with the conditions of the environmental authorisation and the EMPR, and where applicable, the closure plan; and

2.1.2 the extent to which the avoidance, management and mitigation measures provided for in the EMPR, and where applicable, the closure plan achieves the objectives and outcomes of the EMPR, and closure plan, where applicable.

2.2 In order to achieve the afore-mentioned purpose, the Audit Team followed the following methodology:

2.2.1 Audit preparations documentation and requests forms were distributed to DVM on 18 October 2019;

2.2.2 Site visit and interviews were conducted with key staff members from 29 to 31 October 2019;

2.2.3 Consideration of documentation provided prior and during the site visit;

2.2.4 Assess the level of compliance based on observations made by the independent Audit Team during the site visit and review of the documentation provided. This activity entailed the following:

2.2.4.1 An assessment of the status of formal compliance at a site level. That is,

[1] Published in GNR 982 of 4 December 2014 (as amended by GN 326 of 7 April 2017)
[2] Published in GNR 527 on 23 April 2004

determine whether required commitments and management objectives have been met by the site following submission of relevant documented proof;

2.2.4.2 An assessment of the level of actual compliance at the site in respect of specific commitments and management objectives as provided for in the approved EMPR as well as the extent to which the avoidance, management and mitigation measures provided for in the EMPR achieve the objectives and outcomes of the EMPR;

2.2.4.3 Preparation of the Environmental Audit Report and distribution thereof to DVM for consideration and comments.

2.2.5 Once the above process has been completed the following actions were undertaken:

2.2.5.1 A period of two (2) weeks was granted for review of the factual correctness of the Environmental Audit Report. Once all the information was received and considered the draft Environmental Audit Report was amended, where necessary.

2.2.5.2 The documented final Environmental Audit Report was provided to DVM for submission to the competent authority in accordance with the requirements of regulation 34 of the EIA Regulations 2014 and regulation 55 of the MPRDA Regulations.

2.3 The abovementioned purpose of the Environmental Audit is also in line with the requirements of regulation 55 of the MPRDA Regulations. This Environmental Audit Report accordingly serves to comply with the audit requirements provided for in the EIA Regulations 2014 as well as the MPRDA Regulations.

3. ASSUMPTION AND LIMITATIONS

3.1 The findings recorded in this Environmental Audit Report are limited to the documents received and verified as well as the site observations made at the areas visited during the assessment undertaken during 29 to 31 October 2019.

3.2 The Audit Team's findings as set out in this Report have been prepared with a view of submitting same the Competent Authority in compliance with regulation 34 of the EIA Regulations 2014 as well as regulation 55 of the MPRDA Regulations.

4. AUDIT TEAM AND DECLARATION OF INDEPENDENCE

4.1 Audit Team

4.1.1 Tabacks is a firm of attorneys specialising in, amongst others, environmental law. Tabacks has been appointed by DVM as the project coordinator and for purposes of the environmental-legal component of the Environmental Audit.

2.1.1 The project was coordinated and the legal component of the Environmental Audit was undertaken by Ms**.** Liezl Sterne, a Director at Tabacks. Liezl completed her LLB degree with the university of South Africa and was admitted as an attorney in 2011. Liezl specialises exclusively in Safety, Health and Environmental (**"SHE"**) law and has extensive experience in legal interpretation of statutes pertaining to SHE and administrative law and have conducted numerous SHE-legal requirements and compliance audits.

4.1.2 The technical component of the Environmental Audit was undertaken by Ms. Erika van der Linde who graduated with B.Sc, PHED, B.Ed and M.EM (Environmental Management) from the University of the Free State. After 12 years of teaching natural and applied sciences at various secondary and tertiary institutions accredited with the Department of Education, she joined Ferret Mining and Environmental Services (Pty) Ltd from April 2003 to December 2017 as an environmental scientist. In January 2018 Ms van der Linde founded Aquatox Consulting (Pty) Ltd ("Aquatox"). Ms van der Linde is also a registered ISO Systems auditor with TüV SüD, Germany and has extensive experience in the following:

4.1.2.1 Specialist contributions to environmental projects, including ecology and biology;

4.1.2.2 Compilation of Environmental Management Programme Reports, Environmental Management Plans, Environmental Impact Assessments and Environmental impact reports, Environmental Management Programme performance assessments and audits;

4.1.2.3 Compiling feasibility studies;

4.1.2.4 Environmental due diligence assessments;

4.1.2.5 Water use license applications and water use registration;

4.1.2.6 Liaison with authorities on the acquisition of mining rights and permits and prospecting rights;

4.1.2.7 Prospecting right, mining permit and mining right applications;

4.1.2.8 Compliance evaluations and audits;

4.1.2.9 Development and Implementation of ISO 14001 certified Environmental Management Systems;

4.1.2.10 Auditing of ISO 14001 based Environmental Management Systems (audit log available on request).

4.2 Declaration of independence

4.2.1 Tabacks hereby declares that it is an independent legal advisor and has no business, financial, personal or other interest, except fair remuneration for the undertaking of the Environmental Audit in terms of regulation 34 of the EIA Regulations 2014 published in terms of the NEMA. Tabacks further declares that there are no known circumstances that compromised the objectivity of Tabacks in the undertaking of the Environmental Audit.

4.2.2 In addition to the above, Aquatox hereby declares that it is an independent environmental consultant and has no business, financial, personal or other interest, except fair remuneration for the undertaking of the Environmental Audit in terms of regulation 34 of the EIA Regulations 2014 published in terms of the NEMA. Aquatox further declares that there are no known circumstances that compromised the objectivity of Tabacks in the undertaking of the Environmental Audit.

5. ACKNOWLEDGEMENTS

5.1 The Audit Team extends its appreciation to DVM, Mrs. Ramlal, Mrs. C du Plessis, Mr. Gavin Anderson and Miss. B. Piek that provided verbal, visual or documentary assistance during the assessment.

6. AUDIT FINDINGS

6.1 In this section of the Report the Audit Team sets out the commitments and/or management objectives as provided for in the approved EMPR and the findings following the assessment of compliance in respect of the aforesaid commitments and/or management objectives. In the Table below reference is made to general observations made during the documentation review/assessment as well as site specific observations made during the site visit.

6.2 The EMPR conditions and our findings in respect of its status of compliance with the EMPR conditions are set out in Table A below.

The following terminology is utilised throughout the Report, of which the following meanings have been assigned thereto:

- **"Compliant"** - means that satisfactory evidence was provided during the assessment to illustrate the fulfilment of a specific condition/commitment.
- **"Non-compliance"** - means the failure to comply with or satisfy the requirements

a condition/commitment;

- **"Partial Compliant"** - means that although steps were taken toward fulfilling of a specific condition, at the time of the assessment full compliance had not yet been achieved, and therefore the client is required to instigate further action in order to obtain full compliance with the provision(s) of the condition/commitment.

- **"Noted"** - means the condition was not audited, if a condition does not require client to take any specific action and as such were only included for information purposes.

7. CONCLUSION

7.1 It was found that guarantees provided are sufficient to address the financial provision for the rehabilitation of pre-mature as well as the life of mine closure liability as determined and submitted to the Department of Mineral Resources ("DMR") on 9 March /2019 and 9 September 2019 respectively.

7.2 In general, the Audit Team noted a high level of compliance to the commitments assessed. There were, however, some instances of partial and non-compliance that requires DVM's attention.

7.3 It is further confirmed that in the Audit Team's professional opinion all activities undertaken by DVM, and the environmental impacts associated with such activities, are adequately addressed in the EMPR and that none of the partial and non-compliances noted warrants the amendment of the EMPR.

7.4 Following our review of the EMPR, the systems utilised by DVM, as well as the outcome of findings made in respect of this assessment, the Audit Team concludes that the approved EMPR appears to be adequate, suitable and is effectively implemented to prevent or minimise the impacts of the DVM activities on the receiving environment and its neighbouring communities.

TABLE A

Table 9.5 Environmental Management Measures: Venetia Mine Construction (new underground mining and expansion project)

1. Soils, Land Use and Land Capability: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
1.	*Soils, Land Use and Land Capability: Construction Phase*		
1.1	*Construction and expansion footprints* Specific EMP Commitments: • Clearing of vegetation will be kept to a minimum. • Topsoil to be stripped and stockpiled. Pre-Construction: • Development of a Topsoil management plan and procedures to ensure all management measures are adequately addressed. During Construction: • Development and implementation of a monitoring programme regarding topsoil management. • Incorporation of management plan and procedures into the EMS system.		**Compliant:** Most of the infrastructure and groundwork have been completed at VUP. However, when clearing is required for the expansion of existing areas the Topsoil Management Plan, Site Disturbance and Change Management procedures are enforced. All Murray and Robert Cementation's employees whose duties are related to the above are trained on the necessary procedures. No clearing may commence without first obtaining the required permission from DVM. No bush clearing is done prior to soil stripping. Thus, all existing vegetation is stockpiled with the soil. This method has proven successful in assisting with the propagating of plant species ensuring the correct mix of natural vegetation when the soil is appropriated for concurrent rehabilitation. Stockpile placement is determined by DVM's current operations. It was confirmed that smaller stockpiles are generated for the use of concurrent rehabilitation, whilst larger reserve piles, located in specifically demarcated areas, are covered with natural vegetation to preserve stockpiles for later use and prevent erosion. Monitoring of topsoil stockpiles is conducted by way of an annual internal survey that records, *inter alia:*

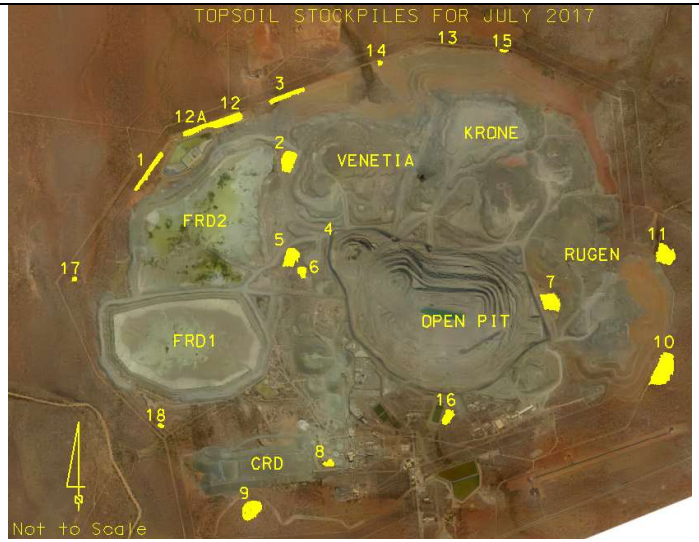

Figure 1. A surface plan indicating existing Topsoil stockpiles (extract from Topsoil management procedure)

- the quantities of topsoil stripped;
- quantities of topsoil in each stockpile;
- quantities of topsoil removed from stockpiles;
- storage locations of new stockpiles are recorded.

Monitoring records were last updated in July 2017. This indicated that sufficient soil is available for rehabilitation.

Moreover, during 2017, E-Tek Consulting was requested by DVM to undertake a topsoil assessment to quantify the remaining available topsoil that can be stripped ahead of the development of the CRD and WRW. The scope of work included measurement of the PH and EC of samples taken, determining the depth of usable topsoil as well as the potential amount of topsoil available for stripping. Following the assessment conducted, the potential topsoil was measured at 241 000 m^3 and 243 000m^3 at CRD North and CRD South Respectively.

Although stockpiles were relocated in the North of the FRD 2 return water dam. An updated survey is planned to occur after the dam is built in the area.

Finding:

Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP:

- A topsoil management plan and relevant procedures have been developed and are implemented when clearing is required to ensure all management measures are adequately addressed.
- A topsoil monitoring programme is implemented on-site.
- The monitoring programme provides for annual evaluation.
- The protection of soils and loss of nutrients is addressed in MRC's Aspect Register as part of DVM's EMS. The EMS is ISO 14001:2015 certificated.

Document Ref:

			• Change Management Assessment Form (DBG 01447); • Surface Disturbance Management Plan for open pit Operations (DBG 01448); • Surface Disturbance Management Plan for Underground Operations (DBG 01450); • Topsoil Management Procedure, rev 1 (DBG 03968); • IsoMetrix Murray & Roberts (MRC) Aspects Register current; • Excel spreadsheet _Topsoil Stockpiles Inventory 2017-07; • Venetia mine Topsoil Assessment, July 2017 (E-TEK).
	Surface water run-off Specific EMP Commitments: • Minimise surface water run-off. • Stormwater management should be undertaken in accordance to the site storm water management plan. Pre-Construction: • Development of a Topsoil management plan and procedures to ensure all management measures are adequately addressed. During Construction: • Incorporation of management plan and procedures into the EMS system.		**Compliant:** <u>Overall stormwater management:</u> DVM, with the assistance of J&W developed an extensive stormwater management plan to address any current non-compliance with the provisions of GNR 704 published under the NWA. The project kicked off in 2014 and aimed to address both current and future challenges. Notwithstanding the above, the SWMP was taken on review and additional studies conducted to gain a better understanding of the characteristics of its pollution sources and anticipated impacts that these sources may have on a watercourse. This information was used to inform DVM regarding the further implementation of its SWMP relating to, *inter alia*, liners required for the upgrade/construction of PCD's, etc. A complete hydrogeological study was performed by J&W. The purpose of the study was to develop a conceptual model of the geohydrological regime and to provide a regional assessment of the current and potential future impacts associated with the existing Venetia Opencast Project (VOP) and planned Venetia Underground Project (VUP). The results from a detailed field investigation and numerical groundwater flow and transport model have been used to conclude the current and predicted level and extent of contamination at Venetia Mine and were used to advise on the need for mitigation measures.

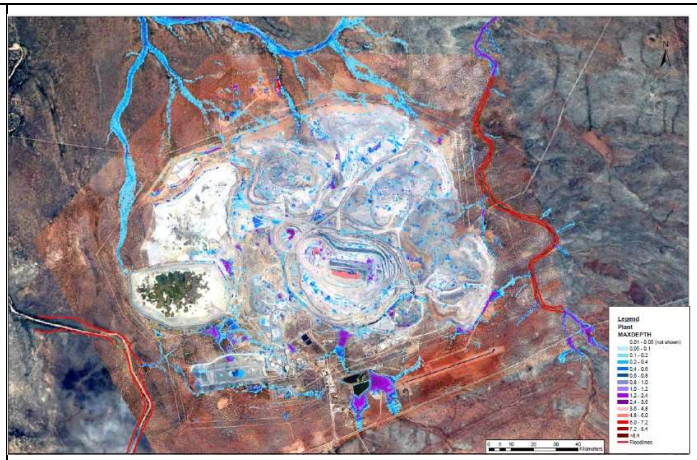

Figure 2. extract from SWMP Update presentation 2018 – 1:50 Year Flood Event without any SWMP infrastructure

Following the geohydrological and other studies conducted, it was found that the initial SWMP proposed, was not developed in relation to the actual risk identified in relation to mining activities. This meant that the execution of the currently approved SWMP would have resulted in unnecessary exorbitant costs than that required to illustrate compliance with GNR 704 and DVM's duty of care. As such, the SWMP is being revised and will be presented to DWS for consideration and comment.

Specific stormwater management controls:

All the required infrastructure to manage run-off water from VUP has been completed. V-drains were installed along terraces that collect in a trench that is located around the VUP. As a minimum, all designs/facilities constructed at VUP cater to 1:50 storm events. Where run-off cannot be avoided/contained, for instance where temporary infrastructure such as the shaft banks and parking areas exists, controls such as the application of Dust-a-side and profiling of topography are used to minimize impact to the receiving environment.

** Although a priority, this will only become critical, once the underground mining operations commence.*

Finding:

- A comprehensive Mine-wide Stormwater management plan has been developed and approved for the entire mine, however, following investigation and further study the SWMP has undergone major review and implementation thereof will be dependent on the outcome of discussions with DWS.
- The Stormwater management plan will prevent any run-off water from leaving the mining area. Although the project has not yet been executed this will only become critical, insofar as VUP is concerned, once the underground mining operations commence.
- All the required infrastructure to manage surface water run-off from VUP has been completed.
- Awareness topics on water management are conducted as part of training

			and the Water Quality and Quantity Monitoring Programme include VUP water-storage facilities. • <u>Site Observations:</u> • During our site inspection, the auditor noted some minor erosion on the bank at the Contractor's Stores. We were informed that VUP is busy considering a change/upgrade in stormwater design for this particular area as the current drainage system is not ideal. <u>Document Ref:</u> • J&W Stormwater Management Plan 14 September 2017; • Geohydrological Assessment Draft Report, compiled by J&W dated May 2018; • Presentation (2018) on Stormwater Plan Update; • ENS Training Needs Analysis Form & Proof of Training, Briefings and Talk Forum (DBG 01440); • EMS Monitoring and Measurement Procedure (DBG 0967); • Topsoil Management Procedure (DBG 03968); • Water monitoring samples – Quarterly water quality report, 2nd Quarter Apr-Jun 2018 performed by Aquatiqo Scientific; • IsoMetrix Report Murray & Roberts Aspects Register, current.
1.2	*Soil Compaction* Specific EMP Commitments: • Minimisation of the construction footprint. • Remain within approved demarcated area and road areas. Construction Phase: • Implement the approved construction infrastructure plan.		**Compliant:** Most of the groundwork and infrastructure have been completed at VUP. Any expansion is implemented in accordance with a site layout plan. Dumping takes place in an approved area with the necessary permits in place as per the site management and site disturbance procedures. A survey team conducts regular validation of dumping areas. Any deviation from the dumping plan will be reported, investigated and rectified.

			Finding: Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • There has been no deviation from the approved project description and location as approved; • The approved construction infrastructure plan is implemented and adhered to. Document Ref: • Change Management Assessment Form (DBG 01447); • Surface Disturbance Management Plan for open pit Operations (DBG 01448); • Surface Disturbance Management Plan for Underground Operations (DBG 01450); • Topsoil Management Procedure (DBG 03968); • Excel spreadsheet _Topsoil Stockpiles Inventory 2017-0**7;** • Venetia mine Topsoil Assessment, July 2017 (E-TEK). • EMS Incident Investigation Form (DBG 0962); • Environmental Authorisation: Proposed activities for the establishment of underground mining operations at an existing open cast Venetia Mine. Number: 12/1/9/2-V9
1.3	*Use, handling, transport and storage of hazardous materials (hydrocarbons & chemicals)* Specific EMP Commitments: • Prevention of soil contamination through hazardous material spills and leaks. • Effective, timeous spills management and clean-up. • Effective mechanical maintenance on all critical equipment to prevent leaks, abnormalities and risk of failure.		**Compliant:** In addition to formal site assessments, weekly inspections are conducted by the MRC to ensure good housekeeping practices remain in place. A monthly environmental performance report is compiled by DVM on all major contractors that, amongst other things, take EMS reporting; investigation and non-conformances into account. All vehicles on site are serviced in accordance with a planned maintenance schedule.

	• Adequate secondary containment measures associated with pollution point sources. Construction Phase: • Implementation for vehicle maintenance plant for underground vehicles including contractor vehicles; • Extend current Emergency Response Plan to include construction activities; • Extend current Waste Management Plan to include construction activities; • Extend Stormwater Management Plan to include the underground operations area; • Implement a staff and contractor awareness training programme to cater for additional underground construction staff; • Extend existing incident and non-conformity reporting to the underground construction activities.		Fully equipped spill kits and MSDS' are available at working areas (Shovel, dedicated broom, plastic liner/ drip trays, spill sorb). Procedures are in place for the containment of spills, clean up and disposal due to mechanical failure outside of the workshop. Workshops are fitted with Drizits for the collection and separation of oily water. Awareness campaigns on spill management are in place. Requirements for bund walls are applicable to all bunded areas, and a checklist is completed monthly. Any deviations must be logged, tracked and closed out as non-conformance as part of the EMS. <u>Conclusion:</u> Information provided during the assessment along with our site observations suggest that DVM complies with the commitment and action plans indicated in the EMP: • Checks are in place to ensure compliance with the relevant EMP requirements and procedures; • All required procedures have been updated to include VUP; • We reiterate statements regarding the proposed expansion of the Stormwater Management Plan alluded to above; • Awareness training: Topic Spill management procedure; • Emergency Drill Schedule Form (BDG 01484); • Spill kit inspection form. <u>Document Ref.:</u> • Requirements for lay down area procedure (DBG 0517); • Spill Management procedure (DBG 01138); ○ Spill kit inspection checklist 21-01-2019

			• Hazardous materials application and management procedure (DBG 01132); • Emergency preparedness and response procedure (DBG 0939); • Compatibility Chart (CBG 1165); • Environmental Competence, Training and Awareness procedure (DBG 0933); • Green and Blue Area Waste Management procedure (DBG 0509); • Non-conformity and Incident Reporting Procedure (DBG 0979); • Requirements for Bund Walls procedure (DBG 01136); • EMS Bund wall inspection form (DBG 01466); ○ Bund wall inspection checklist – 21-01-2019.
1.4	*Disturbance of soil structures* Specific EMP action: • Wet and dry soils will be stockpiled separately where these may occur. Pre-Construction: • Development of a Topsoil management plan and procedures to ensure all management measures are adequately addressed. During Construction: • Incorporation of management plan and procedures into the EMS system.		**Compliant:** <u>Site observation:</u> Wet and Dry soils are stockpiled separately. <u>Finding:</u> Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • A topsoil management plan and relevant procedures have been developed and implemented. • A topsoil monitoring programme is implemented on-site. • The protection of soils and loss of nutrients is addressed in MRC's Aspect Register as part of DVM's EMS. <u>Document Ref:</u> • Topsoil Management Procedure (DBG 03968); • Excel spreadsheet _Topsoil Stockpiles Inventory 2017-07; • IsoMetrix Report Murray & Robert Aspects Register current.
1.5	*Disturbance of soil structures* Specific EMP Commitments:		**Compliant:** Most of the groundwork and infrastructure have been completed. Disturbance of

	• Soil amelioration will be implemented to enhance the fertility of the soils. • Seeding of rehabilitated areas with an indigenous seed mixture. • The area of disturbance will be kept to the minimum. • Side slopes should be allowed to naturally vegetate as to protect stockpiles from erosion. Pre-Construction: • Development of a Topsoil management plan and procedures to ensure all management measures are adequately addressed. During Construction: • Incorporation of management plan and procedures into the EMS system. • Implementation and update rehabilitation plan in line with Strategic Preliminary Closure Plan. • Implement Surface Water Management Plan in line with surface.		soil structures during the next phase of construction is limited to shaft-sinking at the production and services shafts, decline progression and dumping of waste rock from these three ends. The footprint of the VUP waste-rock dump and roads are within approved demarcated areas. Site disturbance and Change management procedures are in place for any excavations, expansion of existing areas or for approval of new dumping area. All MRC employees whose duties are related to the above are trained on relevant procedures. DVM has developed and implemented a Topsoil Management and Rehabilitation Procedure (Amelioration Plan) together with other relevant procedures to ensure that the most effective rehabilitation is implemented. Rehabilitation incorporates the VUP as part of the Strategic Preliminary Closure Plan. <u>Conclusion:</u> Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • Rehabilitation incorporates the VUP in line with Strategic Preliminary Closure Plan; • A topsoil monitoring programme is implemented on-site. • The protection of soils and loss of nutrients is addressed in MRC's Aspect Register as part of DVM's EMS. • The Mine-wide Stormwater Management Plan (revised) includes VUP construction activities and infrastructure. <u>Document Ref:</u> • Change Management Assessment Form (DBG 01447); • Surface Disturbance Management Plan for open pit Operations (DBG 01448); • Surface Disturbance Management Plan for Underground Operations (DBG

			01450); • Topsoil Management Procedure (DBG 03968); • Rehabilitation Amelioration (Topsoil and Fertiliser) Procedure (DBG 0410); • Rehabilitation Reshaping (C-VE-MRM-PR-018); • Rehabilitation Ripping (C-VE-MRM-PR-019); • Mandatory Code of Practice for Coarse Residue Deposits at Venetia Mine (C-VE-OP-COP-001); • Vegetation and Rehabilitation Monitoring Survey dated 5 May 2016 conducted by Mr. Albie Gotze and Dr. Faan van Wyk; • Vegetation and rehabilitation assessment report for Venetia Mine, Vhembe District Municipality, Limpopo Province, Gudani report, Report No GC/VS/001/19/VM, 8 July 2019 • IsoMetrix Aspects Register current.
1.6	*Topsoil stockpiling and the use of herbicides and pesticides* Specific EMP Commitments: • Limit the use of herbicides and pesticides. • Maximise topsoil capability. Pre-Construction: • Development of a Topsoil management plan and procedures to ensure all management measures are adequately addressed. During Construction: • Incorporation of management plan and procedures into the EMS system. • Implementation of an alien vegetation eradication programme and schedule.		**Compliant:** DVM has an herbicide and pesticide management procedure in place that is effectively implemented on site. The pest control contractors are registered, and certificates are in place. Batlosuwa Marketing CC. was appointed during July 2019 for the removal of alien and invasive vegetation. This is planned for this summer as per the recommendation of the Vegetation Assessment Report. ** This was not specifically verified.* <u>Conclusion:</u> Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • Relevant procedures have been developed for the management of topsoil, land and rehabilitation areas; • An alien vegetation eradication programme and schedule are in place and studies are conducted annually to monitor weed and alien species control is in place;

			• Vegetation management is addressed in MRC's Aspect Register as part of DVM's EMS. <u>Document Ref:</u> • EMS Weeds, Pests, Alien and Invasive Plant Species Management procedure (DBG 0507); • Vegetation and Rehabilitation Monitoring Survey dated 5 May 2016 conducted by Mr. Albie Gotze and Dr. Faan van Wyk; • Vegetation and Rehabilitation Monitoring Survey dated July 2017 conducted by Gudani Consulting; • Vegetation Assessment Report: Venetia Mine, Limpopo Province; July 2019 by Gudani Consulting; • Landscape Function Assessment by Agreenco Environmental Projects, dated January 2018; • Schedule for Alien Species Eradication on monitoring 2016 – 2017; • IsoMetrix Report Murray & Roberts Aspects Register current.
1.7	*Construction and expansion footprints* Specific EMP Commitments: • Clearing of vegetation will be kept to a minimum. • Topsoil to be stripped and stockpiled. Pre-Construction: • Development of a Topsoil management plan and procedures to ensure all management measures are adequately addressed. During Construction: • Development and implementation of a monitoring programme with regards to topsoil management. • Incorporation of management plan and procedures into the EMS system.		**Compliant:** We reiterate findings made under section 1.1 above. <u>Conclusion:</u> • Proof that necessary permits are obtained prior to the removal of any protected/champion trees is available. <u>Additional Document Ref:</u> • EMS Natural and Protected Tree Management Procedure (DBG 01134)

2. Surface Water: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
2.	*Surface Water: Construction Phase*		
2.1	*Construction of vertical shaft and associated infrastructure* Specific EMP Commitments: • Minimise disturbance footprint area. During Construction: • Maintenance of current surface water management infrastructure; • Implementation of surface water maintenance programme in line with the surface water specialist study.		**Compliant:** We reiterate statements made under section 1.1 and 1.2 above: • A predefined footprint has been established and construction is conducted in line with the proposed design. There has been scope change to the design during the project.
2.2	*Spillages of dirty water from FRD return water dam* Specific EMP Action: • Prevention of pollution associated with spillages. • Additional PCDs as indicated in Surface Water Management Plan. During Construction: • Upgrade of the dirty water containment system as per surface water specialist study including the development of additional PCD's.		**Partial Compliance:** We reiterate our statement raised under Stormwater management in condition 1.1 above: • It is understood that VUP's stormwater control infrastructure will be linked/integrated with the DVM's Site-wide Stormwater Management Plan*. DBV, with the assistance of Jones and Wagener ("J&W") developed an extensive stormwater management plan (SWMP) during 2012 to address shortcomings identified in terms of the provisions of GNR 704 published under the NWA. Further to this, a report was compiled by E-Tek Consulting during 2014 containing details of the proposed improvements to the stormwater management system/ infrastructure required to ensure, *inter alia:* o compliance with GN 704 regulations;

			○ that water resources in the area are optimally utilised; ○ that measures are put in place to protect the degradation of natural resources. • Following the above Phase I of the SWMP that encompass, upgrading of the existing stormwater canal/ cut-off trench commenced in 2015 and was completed during 2016. • During this time, J&W was requested by DBV to undertake further hydro-geological study in order to gain a better understanding of its pollution and flood risks. The outcome of the study together with instructions from received from Anglo to consider and apply a more risk-based approached in respect of the project, DBV set out to revise the SWMP based on the information presented and conclusions reached in the hydrogeological study. • It is our understanding, following a discussion held with relevant stakeholders, that there are primarily, still three issues that need to be resolved before the revised SWMP can be finalised and submitted to DWS for approval, namely: ○ Finalising and approval of the IWWMP that will inform the SWMP project schedule going forward; ○ Finalising a decision on the location of PCD 3, which is subject to approval and change of the Mapungubwe National Park and World heritage site' buffer zone. ○ Completion of specialist studies in respect of risk approach and flood protection. ▪ *Completion of stochastic water balance;* ▪ *Finalising of geotechnical study.* Action plans with specific timeframes have been put in place to ensure the speedy execution of these actions. Notwithstanding the above, in 2019 DBV commenced with the execution of Phase II of the SWMP, that includes amongst other things, the rebuild of the North Seepage PCD and installation of related infrastructure, as well as the construction

			of a canal along the edge of the FRD to allow for the drainage of water to FRD 2 RWD. Tabacks was informed that further implementation of the SWMP will be subject to the outcome of discussions with DWS relating to this matter, however, relevant information has been shared with DWS since the inception of the project. Tabacks was further advised that DWS will undertake their annual audit at the mine on/or about 26 November 2019, where the matter will be presented for further discussion. Recycling of water takes place wherever possible. On the surface, water is sent to the settler and clear-water dams which have been constructed. Water from clear-water dams with a pH 10 is sent to the FRD where water is recaptured for use at the main treatment plant. At the Batch plant, dirty water is recaptured and pumped to the settler dams where the water is circulated for re-use via the above process. Upgrade of the VUP dirty-water infrastructure (tanks, pumps, pipelines) that will optimise management of the dam slurry and water and facilitate recycling through the use of the Mine's water reticulation system is still underway in line with the Project On-site. Personnel are trained on environmental awareness topics related to water management/recycling. Despite various improvements made around the mine to reduce, minimise and/or contain potential sources of pollution, full compliance in respect of Section 19 of the NWA and GNR 704 will only be achieved once the SWMP has been completed. Despite the completion of Phase I of the SWMP (approved by DWS), the SWMP has since been scrutinized by various parties, including the DWS, resulting in various project amendments and delays. DBV had to undertake more studies to gain a better understanding of the

			characteristics of its pollution sources and anticipated impacts that these sources may have on existing watercourses. This information was used to inform DBV regarding the further implementation of its SWMP relating to, *inter alia*, liners required for the upgrade/construction of PCD's as well as the use of interface layer material at the FRD, etc. Following the geohydrological and other studies conducted, it was found that the initial SWMP proposed, was not developed in relation to the actual risk identified in relation to mining activities. This meant that execution of the currently approved SWMP would have resulted in unnecessary exorbitant costs than that required to illustrate compliance with GNR 704 and DBV's duty of care. As such, the SWMP was revised and would be presented to DWS for consideration and comment. It is understood that once the proposed revised Stormwater Management Plan ("RSWMP") is complete that this should ensure future compliance. <u>Conclusion:</u> • Although the Mine-wide Stormwater Management Plan has not yet been fully integrated, all the required infrastructure to contain and manage dirty water during the construction phase at VUP is in place. • It is recorded that full compliance with EMP, at this phase of the project, is premature/not yet required. <u>Document Ref:</u> • Stormwater Management Plan (SWMP) developed by J&W during 2012; • Geohydrological Study Completed by Jones and Wagner, dated May 2018 Ref. JW093/18/F630; • Venetia Stormwater Management Plan E-Tek Consulting, dated June 2014; • Presentation on proposed revised SWMP, 2018; • Presentation on the proposed continuation of SWMP, 2019 • Project details: FRD Project and FRD EPIC. • IsoMetrix Report Murray & Roberts Aspects Register current.

2.3	*Use, handling transport and storage of hazardous materials (hydrocarbons & chemicals)* Specific EMP Action: • Prevent spillages of any hazardous materials during the use, handling, transportation and storage thereof during all activities. • Ensure proper design and functioning of the wash bay area, lay-down areas, chemical storage area and oil separating systems in order to prevent leakage of hazardous materials which will contaminate surface water. • Ensure that effective pollution prevention measures are maintained for the salvage yard. Construction Phase: • Extend the current storm water management and dirty water containment systems to include the construction activities. • Extend the existing vehicle maintenance plan to include underground vehicles as well as contractor vehicles. • Extend current Emergency Response Plant to include construction activities; • Extend current Waste Management Plan to include construction activities; • Extend Stormwater Management Plant to include the underground operations area; • Implement a staff and contractor awareness training programme to cater for additional underground construction staff; • Extend existing incident and non-conformity reporting to the underground construction activities.		**Compliant:** We reiterate our statement raised in section 1.3 above. <u>Conclusion:</u> Information provided during the assessment along with our site observations suggest that DVM complies with the commitment and action plans indicated in the EMP: • Checks are in place to ensure compliance with the relevant EMP requirements and procedures; • Use of the Drizits at the VUP workshop; • All required procedures have been updated to include VUP; • We reiterate statements regarding the proposed expansion of the Stormwater Management Plan alluded to above. <u>Document Ref.:</u> We rely on the same list of evidence included under section 1.3 above. As well as: • Requirements for lay-down areas procedure (DBG 0517); • Spill Management procedure (DBG 01138); • Venetia Mine Hazardous materials, application and management procedure, Rev 1. DOC NO DBG01132 • Venetia mine EMS Bund wall inspection form. DOV NO DBG01466 • Venetia Mine EMS Requirements for bund walls procedure.

3. Groundwater: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
3.	*Groundwater: Construction Phase*		
3.1	*Sinking of shaft* • Specific EMP Commitments: • Minimise impacts on groundwater during the construction phase of the new underground mine and associated infrastructure. • Timeous cleaned up of spills. • Focus on spill prevention. During Construction: • Extend the groundwater monitoring programme to include underground operations; • Extend existing Surface Water Management Plant to include underground construction activities.		**Compliant:** Sinking of the shafts is ongoing. VUP holds a Water Use Licence and the pumping of excess/seepage water to continue with sinking of the shafts and decline construction. To date no seepage has occurred, however two concrete settler dams have been constructed for the capture of any dirty water from the drilling activities. The dams are designed to overflow to the clean water dam that is reused in the process. Concrete mixture used to line the shafts is quick-setting due to the incorporated admixtures and can set within an hour. This means that the likelihood of seepage of alkaline water run-off from concrete within the shaft is very low. When water is encountered at the shafts during drilling, the following measures are in place: "Perform Cover Drilling for Shaft Sinking" applies when water is encountered at the shafts. "Perform UG Development Cover Drilling" applies when water is encountered at the decline during drilling. In both areas, the action taken is dependent on the flow rate of water inflow (i.e. monitoring the quantity of water ingress.

			If the flow rate is less than 10 000 litres per hour, drilling will continue, and water ingress will be managed once holes are completed. Where inflow is greater than 10 000 litres per hour, the drilling will be stopped, and water will be managed.) In both cases, holes will be cemented as per the above procedure. Any seepage/excess water is extracted via the existing pumping system for dirty water from the shafts and decline. <u>Conclusion:</u> Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • Control measures are in place to effectively manage any water encountered during the sinking of the shafts; • Impacts of VUP on Mine Water Balance were discussed during Mine Water Steering Committees. An objective set for 2019 requires the review and alignment of the IWWMP to the updated geohydrological assessment, is in progress. • All excess water will tie in with the Mine's dirty water system once construction and the required infrastructure are completed. • It was confirmed that if/ when seepage is detected, the water removed from the underground will be tested at the clear-water dams. <u>Document Ref.:</u> • Geohydrological Assessment Draft Report, compiled by J&W dated May 2018; • Cover Drill Procedure (VUP-UMISAL-Y-PRO-6577); • UG Development Cover Drilling Procedure (VUP-UMIDEV-N-PRO-7046); • IsoMetrix: MRC Aspects Register current; • EMS Incident Investigation Form (DBG 0962).
3.2	*Increase in the depth of mining* Improved understanding of groundwater inflows and pollution.		**Compliant:** The current groundwater monitoring includes the sampling of underground

3.3	*Underground mining dewatering operational* Specific EMP Commitments: • Improved understanding of groundwater flow and flow regimes. • Improved understanding of the impact associated with dewatering on the groundwater resources. • Monitoring the drawdown cone with time. • Update Itasca Denver model to refine the cone of drawdown.		operation. Surface water monitoring continues to include VUP. The results from a detailed field investigation and numerical groundwater flow and transport model have been used to conclude the current and predicted level and extent of contamination at Venetia Mine and were used to advise on the need for mitigation measures. DVM was issued with a new WUL in August 2017. DVM has updated the IWWMP in accordance to the recommendations made and conclusions drawn from the geohydrological study. This document is said to be submitted to the Regulator for approval, by the end of 2019. An objective to review and align the integrated water and waste management plan (May 2018) to the updated geohydrological assessment and the AA water management standard is set for 2019 as well as the review and update of the Venetia mine water balance toward the finalization of designs for the Stormwater management plan. <u>Conclusion:</u> • The proposed hydrogeological assessments to improve the understanding of groundwater flow and flow regimes as well as the impact associated with dewatering on the groundwater resources have been completed. • The updated IWWMP (May 2019) • Water Conservation and Demand management plan for Venetia Mine April 2018; • Two water balances evident: o A monthly Plant balance; o Dynamic constantly updated and communicated to DWS. • Calibration of flowmeters is done every 6 months, internally. • The zero release of water policy is implemented. • Any water removed from the shaft is reused within the system.

			Document Ref.: • EMS Monitoring and Measurement Procedure (DBG 0967) • EMS Water Quality and Quantity Monitoring Procedure (DBG 0402); • Venetia mine EMS Mine wide objectives and targets statement 20/05/2019; • IsoMetrix Report MRC Aspects Register current. • Venetia Geohydrology report, August 2018 by Jones and Wagener • Venetia Mine: Integrated water and waste management plan; May 2019.
3.4	*Storage of dirty water* Specific EMP activities: • Allow for the adequate and appropriate lining of the PCD's. • Designed and construction of additional PCDs as per the Best Practices. During Construction: • Upgrade of the dirty water containment system as per surface water specialist study; • Extend monitoring programme as to include underground operations.		**Compliant:** We reiterate our statements alluded to in 2.3 above. Conclusion: • Although the Mine-wide Stormwater Management Plan has not yet been commissioned, all the required infrastructure to contain and manage dirty water during the construction phase at VUP is in place. • A gap analysis has been completed to ensure that all the required infrastructure at VUP is ready to be linked/integrated with the DVM's Site-wide Stormwater Management Plan. • Construction of the buttress (FRD 1) and dam (north of FRD 2) is at various stages of completion. • Surface and Groundwater monitoring plans have been expanded to include underground operations. Document Ref.: • We rely on the same list of evidence included under section 1.3 above. • Aquatico Scientific Pty Ltd 2018 annual water quality assessment report Volume 1 & 2.

4. Flora: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
4.	*Flora: Construction Phase*		
4.1	*Clearance of vegetation for infrastructure establishment* Specific EMP Commitments: • Minimise and demarcate construction footprints and access to site. • Implement a post-construction rehabilitation plan as per the Strategic Preliminary Closure Plan. • An approved construction plan to be implemented During Construction: • Implement approved lay-out plan.		**Compliant:** A predefined footprint has been established and construction must be conducted in line with the proposed design. There is strict access control in place at the mine. No unauthorised persons are permitted to enter the mine. DVM has completed a Conceptual Closure Plan for the VUP that forms part of DVM's Strategic Preliminary Closure Plan. DVM implements a system of concurrent rehabilitation that is carefully monitored. The Strategic Preliminary Closure Plan was used to develop the preliminary (conceptual) closure plan. The post-construction rehabilitation criteria were reviewed for VUP during this update of the closure plan and implemented post-construction i.e. 2022/2023. <u>Finding:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. An approved construction plan is in place and implemented on-site. <u>Document Ref:</u> • Change Management Assessment Form (DBG 01447); • Surface Disturbance Management Plan for open pit Operations (DBG

			01448); • Surface Disturbance Management Plan for Underground Operations (DBG 01450); • Topsoil Management Procedure (DBG 03968); • Strategic Preliminary Closure Plan for Venetia Mine dated May 2011 compiled by Golder Associates and E-Tek Consulting; • Conceptual Closure Plan for Venetia Mine Underground Project - Appendix 13; • EMS Rehabilitation Monitoring and Maintenance (DBG 01135)
4.3 *(sic)*	*Clearance of vegetation for infrastructure* Specific EMP Commitments: • Restoration of indigenous species. • Rehabilitation of the area to be undertaken in such a manner as to ensure the re-establishment of natural vegetation. During Construction: • Implement Updated Strategic Preliminary Closure Plan; • Draft Rehabilitation Procedures as per Strategic Preliminary Closure Plan.		**Compliant:** We reiterate statements made under sections 1.1 and 1.5 above regarding methods used to ensure re-establishment of natural vegetation. Specific closure management actions are set out under section 14 of the Strategic Preliminary Closure Plan, said monitoring and maintenance programmes, which includes but is not limited to: • Conducting of specialist studies; • Invader eradication programmes; • Commitments to SLP and rehabilitation are in place. <u>Conclusion:</u> • DVM has an approved Strategic Preliminary Closure Plan in place that was developed by Golder Associates, required monitoring and maintenance actions as per the plan, is implemented on-site. • Specialist biodiversity studies have shown major improvements in the rehabilitation of waste rock dumps in comparison to previous years that serves as proof that current rehab methods are effective, which suggests that current rehab methods are well entrenched at DVM. This said it is to be noted that rehabilitation had been post-phoned for 3 years. Nevertheless, it was stated that the annual rehab plan is to be submitted and will start-up again with profiling in 2020.

			Document Ref: • Change Management Assessment Form (DBG 01447); • Surface Disturbance Management Plan for open pit Operations (DBG 01448); • Surface Disturbance Management Plan for Underground Operations (DBG 01450); • Topsoil Management Procedure (DBG 03968); • Rehabilitation Amelioration (Topsoil and Fertiliser) Procedure (DBG 0410); • Rehabilitation Reshaping (C-VE-MRM-PR-018); • Rehabilitation Ripping (C-VE-MRM-PR-019); • Conceptual Closure Plan – Appendix 13; • Strategic Preliminary Closure Plan – Appendix 12(a) and (b); • Vegetation and rehabilitation assessment report for Venetia Mine, Vhembe District Municipality, Limpopo Province, Gudani report, Report No GC/VS/001/19/VM, 8 July 2019 • Social and Labour plan of 2018 • SLP proof of submission 12 April 2019
4.4	*Construction activities - all infrastructure* Specific EMP Commitments: • Minimise impact of fall-our dust on flora. During Construction: • Extend current dust suppression activities to include the underground footprint in to manage dust generation where relevant; • Implement updated air quality monitoring network.		**Compliant:** DVM includes VUP in its dust suppression programme. Regular application of dust-a-side forms part of regular dust suppression via a water cart. Dust monitoring at VUP forms part of the DVM's monitoring schedule. DVM applies the limits as prescribed by the National Dust Control Regulations (GNR 827/2013), any exceedance is logged and investigated in accordance with DVM's non-conformance procedures. Conclusion: • Dust control measures are in place and the effectiveness of these controls is

			measured at VUP. • Non-Compliances/exceedances will be investigated and addressed as per the EMS system standard procedures. <u>Document Ref.:</u> • Dust Monitoring Procedure (DBG 01130). • Air Quality Monitoring report compiled by Levego Environmental Services (Jan 2019 - Sep 2019)
4.5	*Vegetation clearance over entire mine site* Specific EMP Commitments: • Minimise and demarcate construction footprints and access to site. • Implement a post-construction rehabilitation plan as per the Strategic Preliminary Closure Plan. • Access to rehabilitated areas should be avoided. During Construction: • Implement Updated Strategic Preliminary Closure Plan; • Draft Rehabilitation Procedures as per Strategic Preliminary Closure Plan.		**Compliant:** We reiterate statements made under section 4.1 and 4.3 above. <u>Conclusion:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. <u>Document Ref:</u> We rely on the same body of evidence provided in 4.1 and 4.3 above.
4.6	*Exposed footprint areas can lead to additional vegetation loss* Specific EMP Action: • Minimise erosion on site. • Maximise concurrent rehabilitation. During Construction: • Management of stormwater to prevent erosion; • Implementation of the Strategic Preliminary Closure Plan to address erosion and restoration.		**Compliant:** Infrastructure for the management of stormwater (v-drains and channels) has been constructed at the terraces. Any new MRC-construction activities to follow the Change Management and surface disturbance management process where all potential environmental impacts are considered and aspects and management plans for that section will be updated where required. <u>Conclusion:</u> Information and site observations suggest that DVM complies with the commitment and action plans indicated in the EMP.

			Observation: • DVM has a well-established rehabilitation program in place that is monitored. Nevertheless, currently, no rehabilitation is taken place around the VUP construction site. It is accepted that due to current construction activities and foreseeable change of infrastructure and layout of the site, concurrent rehabilitation is currently not practical. Document Ref.: • J&W Stormwater Management Plan 14 September 2017; • Geohydrological Assessment Draft Report, compiled by J&W dated May 2018; • Presentation (2018) on Stormwater Plan Update; • Environmental Officer - monthly Inspections; • IsoMetrix: Murray & Roberts Aspects Register, current.
4.7	*Settlement of alien vegetation due to construction activities* Specific EMP Action: • Eradicate alien invasive species. During Construction: • Extend the existing Alien and Invasive Eradication Plan to include the underground operational areas. • Extend existing monitoring programme; • Update Weeds and Alien Plant Species Management Control Procedure.		**Compliant:** We reiterate statements made under section 1.6 above. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. Document Ref.: We rely on the same body of evidence provided in section 1.6 above. Continually monitoring of vegetation is evident. A contractor is appointed to remove alien- and invasive vegetation identified.
4.8	*Use, handling transport and storage of hazardous materials (hydrocarbons & chemicals)* Minimise loss of flora. Specific EMP Commitments:		**Complaint:** We reiterate measures that are in place for the effective management of the use, handling transport and storage of hazardous materials. We also reiterate that a predefined footprint has been established and construction must be conducted in

	• Effective dealing with and cleaning of spillages. • Adequate environmental awareness relating to spillages. Construction Phase: • Implementation of materials handling procedures; • Extend the Mine Standards Committee mandate to include the underground materials and products brought on-site; • Implement a Materials Handling training programme; • Extend training programme to include underground staff; • Spill kits will be available at all times; • Stored spilled material will be removed by an approved landfill site.		line with the proposed design as mentioned under section 4.1 above. <u>Conclusion:</u> Information provided during the assessment along with our site observations suggest that DVM complies with the commitment and action plans indicated in the EMP: • Checks are in place to ensure compliance with the relevant EMP requirements and procedures; • All required procedures have been updated to include VUP. • Hazardous waste is collected and disposed of at a lawful/approved landfill site. <u>Document ref.:</u> We rely on the same body of evidence provided under sections 1.3 and 4.1 above.

5. Fauna: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
5.	*Fauna: Construction Phase*		
5.1	*Habitat loss due to footprint expansions* Specific EMP Commitments: • Minimise and demarcate construction footprints and access to the site. • Foster biodiversity awareness amongst employees regarding biodiversity objectives and employees regarding biodiversity objectives and employee		**Compliant:** We reiterate statements regarding access to the site, demarcation of the construction footprint and concurrent rehabilitation programs as addressed under sections 4.1 and 1.6 respectively. Biodiversity awareness forms part of employee and contractor induction. In addition, awareness training has been provided with regarding to animal

	interaction with biodiversity. • Minimise habitat loss by actively implementing concurrent rehabilitation of disturbed areas with indigenous species. • Control the number of large antelope in the mining area. During Construction: • Implement approved lay-out plan; • Implementation of the Strategic Preliminary Closure Plan; • Extend the training programme to include underground staff; • Should the need arise, large antelope will be removed from the demarcated mining area.		management and snake handling. Only a few large antelope are present at VUP, these animals are managed by keeping them away from the mining operations by providing feeding stations in strategic places around the CRD and FRD. <u>Conclusion:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. <u>Observation:</u> • As mentioned under section 4.6 above, the Strategic Preliminary Closure Plan is implemented at DVM, however, concurrent rehabilitation is not currently taken place around the VUP construction site. <u>Additional Document Ref:</u> • Animal Management Procedure (DBG 01128); • Snake handling Procedure (DBG 0519).
5.2	*Clearing of vegetation and on-going mining related operations and extensions* Specific EMP Commitments: • Minimise the surface disturbance and vegetation clearance footprints within the construction area. • Foster biodiversity awareness amongst employees regarding biodiversity objectives and employee interaction with biodiversity. • Minimise habitat loss by actively implementing concurrent rehabilitation of disturbed area with indigenous species. • Control the number of large animals in the mining area that is restricted by the security fencing.		**Compliant:** We repeat the statements made in the section above. <u>Conclusion:</u> • Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. <u>Document ref.:</u> We rely on the same body of evidence provided in section 5.1 above.

	During Construction: • Development and implementation of plan/procedure to address the loss of fauna; • Implementation of concurrent rehabilitation in line with the Strategic Preliminary Closure Plan.		
5.3	*Additional power lines* Specific EMP Commitments: • Minimise the injury and mortalities of birds.		**Compliant:** The following controls were note: • Anti-collision markings have been placed on sections of the power line. • Anti-collision markings were noted during site observations.

6. Air Quality: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
6.	*Air Quality: Construction Phase*		
6.1	*Mine Waste Deposit* Specific EMP Commitments: • Minimise fugitive dust emissions. • Maximise concurrent rehabilitation as to minimise fugitive dust emissions.		**Compliant:** We reiterate statements under section 4.4 above. <u>Conclusion:</u> • Dust control measures are in place and the effectiveness of these controls are measured; • Co-ordinate and map of dust monitoring points (17 in total, 4 situated within the mining area). <u>Observation:</u> • As mentioned in section 4.6 above, concurrent rehabilitation is not currently

			taken place. Rehabilitation activities will be potentially start up again in 2020. Document ref.: We rely on the same body of evidence provided under sections 4.4 and 4.6 above. • Dust monitoring procedure (DBG 01130); • Monitoring results captured on Enablon.
6.2	*Vegetation clearance and topsoil stripping* Specific EMP Commitments: • Vegetation will only be removed where topsoil stripping is required. • The length of exposure of open areas will be restricted.		**Compliant:** We reiterate statements under sections 1.1 and 4.1 above. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. Document ref.: We rely on the same body of evidence provided under sections 1.1 and 1.4 above.
6.3	*Vehicle Emissions* Specific EMP Commitments: • Reduce vehicle emissions with the implementation of public transport. • Ensure that vehicles and machinery are serviced on a regular basis.		**Compliant:** Existing routine service programme for both LDVs and EMEs are in place. Diesel consumption is tracked on mine and monitored as GHG Emissions. Emissions are reduced through the implementation of communal transport. Emissions monitoring was conducted on LDV's vehicles from time to time. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • Maintenance and Monitoring programs for services and emissions from exhaust fumes are in place; • The use of public transport systems is implemented. Document ref.:

			• IsoMetrix: MRC Aspects Register

7. Noise Construction Phase

No:	Commitment / Management Objective	Finding	Comments
7.	*Noise Construction Phase*		
7.1	*Construction noise* Specific EMP Commitments: • Minimise noise generated from the site. During Construction: • Extend the maintenance plan to include the diesel-powered equipment. • Implement noise monitoring programme. • Formalise the Mine's Complaints register and amend the Environmental Communication Procedure.		**Compliant:** DVM has a Noise Monitoring program in place. All vehicles and equipment are serviced as per their respective maintenance schedules. VUP runs a 24-hour operation but is located within the mining area noise from the area cannot be measured in isolation to the rest of the mine's operation, as such monitoring takes place on the boundary of the Mine. An ambient noise survey was conducted by dBAcoustics during November 2018. The report indicates that: *"The pre-vailing noise levels at the measuring points along the boundaries of the mining area were in line with the recommended noise levels as prescribed in SANS 10103 of 2008 and the Health and Safety Regulations of the IFC."* <u>Finding:</u> Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • An existing routine service programme for both LDVs and EMEs is in place;

			• A noise monitoring programme is in place; • DVM has a formal Communication Procedure to record complaints. <u>Document Ref.:</u> • Noise Monitoring Procedure (DBG 0513); • Communication procedure (DBG 0931); • Baseline noise survey – 2018 compiled by dBAcoustics.

8. Cultural Historic: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
8.	*Cultural Historic: Construction Phase*		
8.1	*Site disturbance and on-going mining related operations* • Specific EMP Commitments: • Prevent the disturbance of archaeological sites and artefacts. • Ensure that mine staff recognise archaeological artefacts, when encountered. • Ensure that archaeological specialist is consulted when encountering artefacts.		**Compliant:** DVM had a heritage impact assessment conducted in 2012 which identified existing archaeological sites of significance, of which burial sites are fenced off. Terrace establishment is complete, and the majority of ground disturbance is now limited to the shaft-sinking and decline progression. No archaeological or burial sites have been identified or discovered on the site. DVM has a procedure regarding Heritage Resource protection in place that forms part of employees and contractor induction. <u>Conclusion:</u> • Maintenance of the bundle conductor and transformer structures located in the Greefswald area of Mapungubwe National Park is planned. A specialist contractor is appointed to conduct an assessment of the potential impact on heritage and apply for a permit should it be required. The delivery date is

			proposed as 30 April 2021. Document Ref.: • EMS Heritage Resources Procedure (DBG 01133); • EMS Surface Disturbance Management Procedure (DBG 01139) • Training and Awareness Procedure (DBG 0933); • Destruction permits (2083, 2084, 2085 and 2086) granted for Iron age sites 21-08-2015 – 31-08-2016; • Permit 2639 valid from 27-10-2017 until 31-10-2018 for the well-field.

9. Visual Aspects: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
9.	*Visual Aspects: Construction Phase*		
9.1	*Dust caused by blasting and other activities* Specific EMP Commitments: • To minimise the visual impacts during construction, dust control measures should be kept in place. During Construction: • Develop an air quality management procedure that includes fugitive dust management; • Extend current dust suppression activities to include the underground footprint to manage dust generation where relevant.		**Compliant:** We reiterate our statements made under section 4.4 above. Conclusion: • Dust control measures are in place and effectiveness of these controls are measured. • Non-Compliances/exceedance will be investigated and addressed as per the EMS system standard procedures. Document Ref.: We rely on the same body of evidence as provided in section 4.4 above.

9.2	*Use of lights and lighting plants at night* Specific EMP Commitments: • Minimise the visual impact associated with night lighting on surrounding land users.		**Compliant:** Illumination monitoring takes place bi-annually and includes impacts from VUP. Low intensity bulbs are used for lighting. Physical barriers are used as shielding to restrict light pollution from the Mine. It was stated in the report that: '*It appears that the lights from the Venetia mine have slightly depreciated over time and have therefore reduced in intensity when compared to the assessment conducted in 2017".* Recommendation from specialist concludes that illumination monitoring is only required every 5 years. <u>Conclusion:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • During our previous assessment, it was confirmed that training of employees at the VUP included non-conformity and incident reporting procedure (DBG 0979) and the Communication Procedure (DBG 0931) applies for any incident and community complaints related to visual impacts. • The last illumination assessment was conducted in 2019. <u>Document Ref.:</u> • Visual Impact Study - Appendix 3 was completed by SRK Consulting in October 2011; • IsoMetrix Report MRC Aspects Register. • Bi-annual lighting survey for the Venetia Diamond Mine – July/August 2019 (OHMS).
9.3	*Vegetation clearance and construction of offices and shaft and*		**Compliant:**

	powerlines Specific EMP Commitments: • Control measures should be kept in place to ensure that excessive scarring of the landscape is reduced. • Power of the proposed new underground operation to be supplied from the existing on-site Eskom supply.		We reiterate our statements regarding land management and rehabilitation under section 1.1; 1.5 and 4.4 above. Power is supplied via the existing Eskom supply. <u>Conclusion:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP.

10. Socio-Economic: Construction Phase

No:	Commitment / Management Objective	Finding	Comments
10.	*Socio-Economic: Construction Phase*		
10.1	*Contractors camp* Specific EMP Commitments: • Pro-actively manage all impacts on the local community due to the location of the contractors' camp.		**Noted:** At the time of the assessment, it was confirmed that there are no Contractor Camps. DVM is obligated as per their employment and procurement procedures to give preference to the local community, it was confirmed that most contractor employees are from the surrounding areas of Musina and Alldays. A village has been established for Murray & Roberts Construction Employees in Musina. DVM completed a study to create accommodation for the VUP employees, at the mine however this project will not be proceeding.
10.2	*Contractors Camp* Specific EMP Commitments: • Implement management measures to control the anticipated social pressures on the local communities.		
10.3	*Contractors Camp* Specific EMP Commitments: • Design and construct a water efficient housing development.		
10.4	*Contractors Camp*		

	Specific EMP Commitments: • Design and construct a water efficient housing development.		DVM's continued impact on the town of Musina is included in DVM's SLPs and community projects. Conclusions: • Based on the information received on-site, this section of commitments does not apply at this time. • Projects are identified annually as part of DVM's SLP • Specialist services are provided for technical guidance to the municipality of Musina. Observation: Notwithstanding the above, the following actions were noted as part of DVM's ongoing commitments: • 10.3 Address the increase demand for water in the town of Musina through SLP, DVM provides assistance with new water-related projects, if so required. • 10.4 Address the increase demand for electricity in the town of Musina through SLP – All projection included in the Municipal IDP is aligned with the Mine's SLP and assistance will be provided where required. • 10.5 Address the increase demand for sewage treatment in the town of Musina through SLP – All projection included in the Municipal IDP is aligned with the Mine's SLP and assistance will be provided where required. • 10.6 Address the increase demand for waste management in the town of Musina through awareness campaigns. • Cooperative relationship between the municipality and the DVM. Assistance with baobab relocation and management as well as waste management is evident. Document Ref.: • Socio-Economic Assessment Report 2016;
10.5	*Contractors Camp* Specific EMP Commitments: • Design and construct in-line with the municipal disposal systems of the Musina Municipality.		
10.6	*Contractors Camp* Specific EMP Commitments: • Design and implement a waste disposal system in-line with the municipal by-laws.		
10.7	*Contractors Camp* Specific EMP Commitments: • Ensure that Venetia Mine is fully compliant with all relevant tax legislation and contribute accordingly to the local provincial and national tax bases that will ensure a real and lasting contribution to the communities in which we operate.		

			• De Beers Social Performance Strategy dated 12 September 2017 • Social and labour plan 2018
10.8	*Construction of underground site and workings* Specific EMP Commitments: • Implement employment practices that where possible, give preference to local residents as well as woman and the youth.		**Compliant:** All appointments are made in accordance with DVM Employment and Recruitment Policies. Preference will be given to local community members in respect of semi-skilled type jobs. DVM also has various other employment programs in place to assist disabled and local members from the community Procurement processes are in place. <u>Conclusions:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • A Contractor Employment Policy is in place that gives preference to residence, woman, and youth. • An updated SLP was developed and submitted during 2018, the content was approved, however, delivery dates on projects are still being finalised. <u>Document Ref:</u> • Local Procurement Plan 2018; • Venetia Mine Labour sending areas – Business opportunities identification dated March 2017 compiled by Kayamandi Development Services
10.9	*Construction of underground site and workings* Specific EMP Commitments: • Implement community development programmes that will ensure a real and listing contribution to the communities.		**Compliant:** DMV engages with the community through its Corporate Community Development Programmes and Social and Labour Plans. It was noted in the 2018 SLP annual report that DVM submitted a revised social and labour plan to the Limpopo Regional Department of Mineral Resources offices. The SLP was approved, however, finalisation of due dates for the approved projects is still pending. Nonetheless, it was agreed that the Human Resources Development Plan, Procurement Plan and Housing and Living Conditions commitments will be implemented.

			In addition to the above, DVM is currently advising on and assisting with planning regarding the Moringa Project, which commenced before the instruction from the Chief Director was received.
			
			<u>Conclusion:</u>
			Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP:
			• Community Development Programmes are included in the SLPs.
			  o Education at rural Limpopo schools (maths and science, financial study assistance, etc.)
			  o Road infrastructure, etc.
			
			<u>Document Ref:</u>
			• SLP 2018 – 2022, version 3 dated 14 December 2018
			• Social and Labour plan annual report – 2018
			• Ga Kibi Summary of discussion and next steps: Email 12 September 2019.
			• Moringa out-growers business opportunity assessment Feasibility study report, August 2018 by Kayamandi Development Services.

10.10	*Construction of the underground site and workings* Specific EMP Commitments: • Maintain and build productive relationships with all interested and affected parties in addressing socio-economic issues and proactively managing the reputational risk of the company.		**Compliant:** DVM engages with stakeholders and I&APs through its Contractor Supplier Community Development Programs and forums. <u>Conclusion:</u> Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • Various forums for communication with the communities is evident. These include, but are not limited to Local area committee, IDP forum, Venetia mine future forum (consultation with employees related to future mine plans including the inclusion of the underground operation); etc. • During our previous assessment, it was established that it is perceived that the mentioned procedure is not yet fully understood by the community.

			Nevertheless, attendance registers of the briefing held in relation the communication procedure were provided. • No complaints related to environmental management received during 2019. Document ref: • Future forum signed TOR – 28 January 2012, and minutes for 2019; • Communication procedure (DBG 0931); • Anglo Social way.

Table 9.6. Environmental Management Measures: Venetia Mine Operational Phase (Total Mine)

1. Soils, Land Use and Land Capability

No:	Commitment / Management Objective	Finding	Comments
1.	*Soils, Land Use and Land Capability: Operational Phase*		
1.1	*Uncontrolled surface water run-off* Specific EMP Commitments: • Minimise topsoil erosion; • Prevention topsoil loss due to erosion; • Maintain land capability.		**Compliant:** DVM has developed and implemented a Topsoil Management Plan and related procedures. Paddocks have been constructed at different levels around the waste rock dumps to control stormwater run-off and prevent erosion. Larger reserve piles are located in specifically demarcated areas and covered with natural vegetation to prevent erosion. Smaller stockpiles, especially around the FRD, were not covered, however, these stockpiles are strategically placed and utilised for proposes of concurrent

			rehabilitation. Monitoring is conducted by way of an annual internal survey that records, *inter alia:* • the quantities of topsoil stripped; • quantities of topsoil in each stockpile; • quantities of topsoil removed from stockpiles; • storage locations of new stockpiles are recorded. Records were last updated in July 2017. Moreover, during 2017, E-Tek Consulting was requested by DVM to undertake a topsoil assessment to quantify the remaining available topsoil that can be stripped ahead of the developing of the CRD and WRW. The scope of work included measurement of the PH and EC of samples taken, determining the depth of usable topsoil as well as the potential amount of topsoil available for stripping. Following the assessment conducted, the potential topsoil was measured at 241 000 and 243 000 at CRD North and CRD South Respectively. The comprehensive Stormwater Management Plan developed by Jones & Wagner for the entire site taken up in the WUL is currently being updated in accordance with the Group Technical Standard 15 (Anglo Standard) that adopts a risk assessment approach. A complete hydrogeological study was performed by J&W. The purpose of the study was to develop a conceptual model of the geohydrological regime and to provide a regional assessment of the current and potential future impacts associated with the existing Venetia Opencast Project (VOP) and planned Venetia Underground Project (VUP). The results from a detailed field investigation and numerical groundwater flow and transport model have been used to conclude the current and predicted level and extent of contamination at Venetia Mine and were used to advise on the need for mitigation measures.

			Following the geohydrological and other studies conducted, it was found that the initial SWMP proposed, was not developed in relation to the actual risk identified in relation to mining activities. This meant that the execution of the currently approved SWMP would have resulted in unnecessary exorbitant costs than that required to illustrate compliance with GNR 704 and DVM's duty of care. As such, the SWMP is being revised and will be presented to DWS for consideration and comment. <u>Conclusions:</u> Based on-site observations and the information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • Topsoil Management Plan and related procedures are in place along with monitoring controls to ensure continued implementation; • A comprehensive Mine-wide Stormwater management plan has been developed and approved for the entire mine, however following reassessing the project from an engineering and cost perspective to ensure the best execution thereof the SWMP has undergone major review and implementation thereof will be dependent to the outcome of <u>discussions with DWS</u>. <u>Document Ref:</u> • EMS Monitoring and Measurement Procedure (DBG 0967); • Topsoil Management Procedure (DBG 03968); • J&W Stormwater Management Plan 14 September 2017; • Geohydrological Assessment Draft Report, compiled by J&W dated May 2018; • Presentation (2018) on Stormwater Plan Update; • Excel spreadsheet _Topsoil Stockpiles Inventory 2017-07; • Venetia mine Topsoil Assessment, July 2017 (E-TEK).

1.2	*Use, handling, transport and storage of hazardous materials (hydrocarbons & chemicals)* Specific EMP Commitments: • Prevention of soil contamination through hazardous material spills and leaks. • Effective, timeous spills management and clean-up. • Effective mechanical maintenance on all critical equipment to prevent leaks, abnormalities and risk of failure. • Adequate secondary containment measures associated with pollution point sources.		**Non-Compliant:** Heavy-duty equipment is hired from Basil Read and Barloworld who are responsible for the maintenance of the equipment. Drill Rigs are services at regular intervals, as per the engineering maintenance schedule. Storage and handling of petroleum products (AEL): • Subterranean (23 m^3 Diesel and 23 m^3 Petrol); • Above ground: 3 x 110m^3, 11 x 83m^3 Diesel tanks, 7 x 23 m^3; • Bulk offload Station; • Used oil – collected in tanks (4.5 m^3 at the bus depot, 83 m^3 at off-loading bay, piped to off-loading bay for collect by registered used oil collector). LDV's are serviced by the workshop on site. Fully equipped spill kits that are regularly inspected available at working areas (plastic liner/ drip trays, spill-sorb). Workshops are fitted with Drizits for the collection and separation of oily water. A monitoring program is in place for the Drizits to monitor effectiveness and effluent quality. Procedures are in place for the containment of spills due to mechanical failure outside of the workshop. Awareness campaigns on spill management are in place. During the site visit at Basil Read and Barloworld Workshops, the auditor noted that:

			• Most of the areas were sufficiently hard-surfaced and made provision for run-off water from dirty areas to collection; • Each workshop is fitted with a Drizit that is monitored, quarterly monitoring results indicate that the chemistry appeared to be in spec, however, oil and grease levels are present; • Spill kits were inspected and found to be intact/locked; • Drip trays are in use when servicing trucks to prevent spills; • Demarcated areas were indicated for the storage of hazardous and other waste materials. • It was noted that there is no paved/concreted area at the N1 Parking area at the Barloworld Workshop. Although it was noted that drip trays are used to prevent spills, minor hydrocarbon spills were visible around the area. • No provision for run-off water from the workshop is provided for at the front of the Barloworld Workshop. Although the workshop area is slanted toward the back, hydrocarbon spills from washings were noted. The auditor was advised that the upgrade of the workshop trenches would form part of the Mine-wide Stormwater Management Plan. • Awareness sessions with regard to the spill and bund management were evident. <u>Conclusion:</u> During the site visit at Basil Read and Barloworld Workshops, the auditor noted that: • Most of the areas were sufficiently hard-surfaced and made provision for run-off water from dirty areas to collection; • Each workshop is fitted with a Drizit that is monitored, quarterly monitoring results indicate that the chemistry appeared to be in spec, however, oil and grease levels are present; • Spill kits were inspected and found to be intact/locked; • Drip trays are in use when servicing trucks to prevent spills; • Demarcated areas were indicated for the storage of hazardous and other

			waste materials. • The new wash-bay had been completed for the area, closed-loop system working effectively. • Cut-off valves are installed on the pipeline so should there be an incident the solenoid valves will close and keep fuel in the line, thus decreasing the spill volume. Areas of concern: <u>Barloworld Workshop:</u> • The auditor noted that there is no paved/concreted area at the N1 Parking area at the Barloworld Workshop. Although it was noted that drip trays are used to prevent spills, minor hydrocarbon spills were visible around the area. • No provision for run-off water from the workshop is provided for at the front of the Barloworld Workshop. Although the workshop area is slanted toward the back, minor hydrocarbon spills from washings were noted. <u>Bulk off-load area:</u> • The drizit located in the area was not operational. A large spill around the area was noted. – the auditor was informed that a new system was to be installed. Nevertheless, it was evident that the “old” system is not being maintained pending the installation of the new one. • Spills were noted around the bunded area as well as cracks in the bund wall itself. • An open skip with waste, including contaminated soil was evident on unprotected soil. <u>Salvage Yard:</u> • The bund walls in some areas are lower or at ground level, this could lead to runoff and soil entering the bunding. Raising the outer surface area may occur during upgrade of the dirt roads in the salvage yard.

			Document Ref.: • Requirements for lay down areas procedure (DBG 0517)); • Spill Management procedure (DBG 01138)); • Environmental Competence, Training and Awareness procedure (DBG 0933); • Hazardous Materials Application and Management Procedure (DBG 01132)); • Fuel off-loading procedure • Non-conformity and Incident Reporting Procedure (DBG 0979)); • Requirements for the Bund Walls procedure (DBG 01136). • Spill kit inspection checklist 21-01-2019 • Bund wall inspection checklist 21-01-2019 • Barloworld: awareness training attendance registers (all shifts) on spill management procedure (04-10-2019) and bund wall management procedure (11-001-2019)

2. Surface Water

No:	Commitment / Management Objective	Finding	Comments
2.	*Surface Water*		
2.1	*Surface water run-off from slopes of Mine Residue Deposits (MRD)* Specific EMP Commitments: • Minimise surface water run-off from MRD side slopes. • Improved understanding of surface water flow and flow regimes.		**Compliant:** DVM has 3 main waste rock dumps (Krone, Rugen & Venetia). Paddocks have been constructed at different levels around the waste rock dumps to control stormwater run-off and prevent erosion.

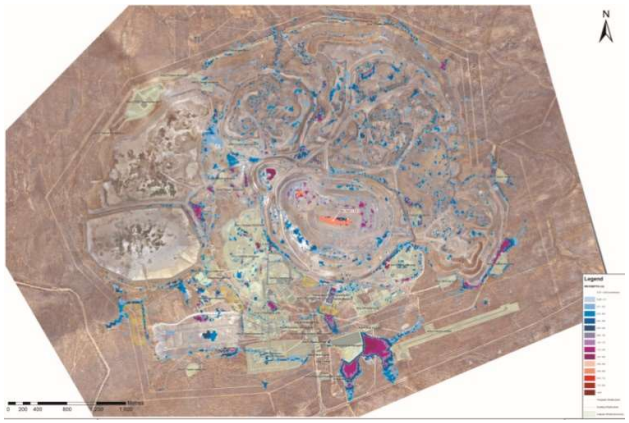

Fig 3 1:50 Year Inundation: WUL scope works included

Larger reserve piles are located in specifically demarcated areas and covered with natural vegetation to prevent erosion.

A Vegetation and Rehabilitation Monitoring Survey was conducted by Dr. Faan van Wyk. The report confirms that stormwater control structures are in place and effectively managed. It was stated that an updated closure plan including an annual rehab plan, will be completed and submitted to DMR during the beginning of 2019.

Following the geohydrological and other studies conducted, it was found that the initial SWMP proposed, was not developed in relation to the actual risk identified in relation to mining activities. This meant that the execution of the currently approved SWMP would have resulted in unnecessary exorbitant costs than that required to illustrate compliance with GNR 704 and DVM's duty of care. As such, the SWMP was revised and would be presented to DWS for consideration and comment.

It is understood that once the proposed revised Stormwater Management Plan (RSWMP) is complete that this should ensure future compliance.

Finding:

No specific erosion noted at the CRDs and the information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP.

Document ref.:

- Reshaping (C-VE-MRM-PR-018);
- Ripping (C-VE-MRM-PR-019);
- Mandatory Code of Practice for Coarse Residue Deposits at Venetia Mine (C-VE-OP-COP-001)
- Vegetation and Rehabilitation Monitoring Survey dated May 2016 conducted

			by Mr. Albie Gotze and Dr. Faan van Wyk. • Vegetation Monitoring Survey conducted by Green Thorn Environmental Consultants during July 2019.
2.2	*Use, handling transport and storage of hazardous materials (hydrocarbons & chemicals)* Specific EMP Commitments: • Prevent spillages of any hazardous materials during the use, handling, transportation and storage thereof during all activities. • Ensure proper design and functioning of the wash bay area, lay-down areas, chemical storage area and oil separating systems to prevent leakage of hazardous materials which will contaminate surface water. • Ensure that effective pollution prevention measures are maintained for the salvage yard.		**Partial-Compliance:** We reiterate measures that are in place for the use, handling transport and storage of hazardous materials discussed under section 1.2 above as well as partial compliance findings raised. At the salvage yard, the auditor noticed a tremendous improvement relating to waste management, waste segregation, and storage of hazardous waste to prevent pollution from spills. DVM was issued with a WML during February 2018 (Ref. 12/4/10/8-A/9/V1/A1) however, construction for the upgrading of the facility has not yet commenced. Nevertheless, the proper management of waste in the area was evident during our site visit.
2.3	*Storage of dirty water (all section NWA 21(g) water uses)* Specific EMP Commitments: • Prevention of pollution on groundwater resources. • Effective surface and stormwater management. • Continued understanding of impacts on groundwater resources • Maximise the re-use of contained run-off water. • Compliance with NWA and IWUL requirements and license conditions		**Partial-Compliance:** Upon review of the geohydrological studies conducted, it was found that the current infrastructure provided for dirty water containment would be deemed sufficient in light of the fact that modeling done in respect of run-off proves that in most instances water is not deemed to run-off to lower laying areas but that the challenge is rather the management of standing (pooling) water on site. Nevertheless, there are still some areas of concern such as the RWD at FRD 1 that is not lined (only dams constructed after 2008 are lined). Monitoring results indicate the formation of or migration of pollution from these structures. However, the Geohydrology study conducted indicated that no plume migration is evident or expected. To address the issue and to provide for the extended LoM due to the underground project DVM, with the assistance of J&W developed an extensive stormwater management plan to address any current non-compliance with the provisions of

			GNR 704 published under the NWA. The project commenced in 2014 and aimed to address both current and future challenges. However, following the results from recent studies conducted by DVM, the SWMP has undergone a major revision and implementation thereof will be dependent on the outcome of discussions with DWS: • It is our understanding, following a discussion held with relevant stakeholders, that there are primarily, still three issues that need to be resolved before the revised SWMP can be finalised and submitted to DWS for approval, namely: o Finalising and approval of the IWWMP that will inform the SWMP project schedule going forward; o Finalising a decision on the location of PCD 3, which is subject to approval and change of the Mapungubwe National Park and World heritage site' buffer zone. o Completion of specialist studies in respect of risk approach and flood protection. ▪ *Completion of stochastic water balance;* ▪ *Finalising of geotechnical study.* Action plans with specific timeframes have been put in place to ensure the speedy execution of these actions: • Notwithstanding the above, in 2019 DBV commenced with the execution of Phase II of the SWMP, that includes amongst other things, the rebuild of the North Seepage PCD and installation of related infrastructure, as well as the construction of a canal along the edge of the FRD to allow for the drainage of water to FRD 2 RWD. • Tabacks was informed that further implementation of the SWMP will be subject to the outcome of discussions with DWS relating to this matter, however, the relevant information has been shared with DWS since inception of the project. Tabacks was further advised that DWS will undertake their annual audit at the mine on/or about 26 November 2019, where the matter will be presented for further discussion.

			Conclusion: • An extensive Ground Water Monitoring programme is in place. • Effective reuse of runoff water within the Mine was observed. • A stormwater diversion channel that now allows for the stormwater to be diverted around the CRD and not through it was constructed. • Several reportable incidents occurred during 2019, although contained within the mining area. o Corrective and Preventative actions together with a responsible person and due dates have been put in place. • The upgraded Stormwater plan is not yet implemented, to ensure compliance with the provision of GNR 704 and future expansion of the Mine's underground operations. • External review of compliance to the conditions set out by the WUL indicated that a high level of compliance to the conditions assessed was noted, safe for some instances of partial and non-compliance that requires DVMs' attention. These non-compliances, however, mostly related to completion of the Stormwater Management Plan as well as finalisation and submission of documentation required the licence, such as the IWWMP and RSIP. Document Ref: • J&W Stormwater Management Plan 14 September 2017; • Geohydrological Assessment Draft Report, compiled by J&W dated May 2018; • Presentation (2018) on Stormwater Plan Update; • Proof of Incident reporting to DWS; • Operating Strategy and Control Philosophy for the Venetia Mine Water Supply and Storage System VEN ENG-OCP-WS001. • Project details: FRD Project and FRD EPIC. • 2019 WUL Compliance assessment.

2.4	*Storage of dirty water (all section NWA 21(g) water uses)* Specific EMP Commitments: • Upgrade and increase the surface water storage capacity. • Effectively separate clean and dirty water. • Prevent clean water form reporting to PCD's. • Maintain effective functioning of PCD's. • Maximise the re-use of contained run-off water. • Compliance with NWA and IWUL requirements and license conditions.		**Partial-Compliance:** We reiterate the statements and findings raised in section 2.3 above. <u>Conclusion:</u> • The Stormwater plan (revised) is not yet implemented, to ensure compliance with the provision of GNR 704 and future expansion of the Mine's underground operations.
2.5	*Extension of the CRD in a westerly and northern direction* Specific EMP Commitments: • Minimise dirty surface water run-off.		**Noted:** A project plan is implemented to move the CRD material to the Western Side, this forms part of the long-term plan for the underground mining project and is covered under the new WUL issued to DVM. Following the geohydrological and other studies conducted, it was found that the initial SWMP proposed, was not developed in relation to the actual risk identified in relation to mining activities. This meant that the execution of the currently approved SWMP would have resulted in unnecessary exorbitant costs than that required to illustrate compliance with GNR 704 and DVM's duty of care. As such, the SWMP was revised and would be presented to DWS for consideration and comment. It is understood that once the proposed revised Stormwater Management Plan is constructed that this should ensure future compliance. <u>Conclusion:</u> • Although the Mine-wide Stormwater Management Plan has not yet been integrated, excess run-off water from the CRD is currently captured and diverted via the temporary cut-off trench excavated at the toe of the CRD. As such, no run-off water from the area is currently leaving the mining area. It is

			therefore accepted that the current control measures that are in place are adequate for the current operations. • It is recorded that full compliance with EMP, at this time is premature/not yet required. • Despite various improvements made around the mine to reduce, minimise and/or contain potential sources of pollution, full compliance in respect of Section 19 of the NWA and GNR 704 will only be achieved once the SWMP has been completed.
2.6	*Continued operational and extension of MRD's (CRD, FRD, WRD)* Specific EMP Actions: • Prevention of pollution on groundwater resources. • Effective surface and stormwater management. • Improved understanding of groundwater flow and flow regimes. • Continued understanding of impacts to groundwater resources.		**Partial Compliance:** An extensive groundwater monitoring program is in place and trending is conducted to identify any abnormalities or sudden decrease in groundwater quality. Originally it was proposed that the Stormwater Plan includes the construction of PCD (no.3) that is specifically designed to contain any runoff from the Western side of the Mine. Following the geohydrological and other studies conducted, it was found that the initial SWMP proposed, was not developed in relation to the actual risk identified in relation to mining activities. This meant that execution of the currently approved SWMP would have resulted in unnecessary exorbitant costs than that required to illustrate compliance with GNR 704 and DVM's duty of care. As such, the SWMP was revised and would be presented to DWS for consideration and comment. <u>Conclusion:</u> • Further study has been conducted to ensure that the correct measures are put in place to actively control possible seepage/run-off from the CRD, FRD & WRD. Some recommendations have been made in this regard. DVM will continue to monitor groundwater through the new network of boreholes drilled for this purpose that will report back into the overall strategy regarding water management. • A temporary trench has been excavated at the toe of the CRD as an interim solution to seepage from the tailings.

			• The upgraded Stormwater plan is not yet implemented, to ensure compliance with the provision of GNR 704 and future expansion of the Mine's underground operations. Document ref: • Geohydrological Study Completed by Jones and Wagner, dated May 2018 Ref. JW093/18/F630
2.7	*Spillages/seepage from Van Zylsrust Dam resulting in potential pollution of the Kolope River.* Specific EMP Actions: • Prevent dirty water inflow into the Van Zylsrust Dam. • Effective clean water discharge into the Kolope River. • Compliance with NWA and IWUL requirements and license conditions.		**Compliance:** During 2018/19 there have been no spillages into Van Zylsrust dam including dirty water inflow into the dam. The river diversion ensures effective clean water discharge into the Kolope River. Conclusion: • Although the Mine-wide Stormwater Management Plan has not yet been commissioned, excess run-off water from the CRD is currently captured and diverted via the temporary cut-off trench excavated at the toe of the CRD. As such, no run-off water from the area is currently leaving the mining area. It is therefore accepted that the current control measures that are in place are adequate for the current operations.
2.8	*Re-alignment of the existing stream diversion of the Kolope River* Specific EMP Actions: • Maximise clean surface water flow into the river diversion. • Prevent dirty water flow in the river diversion. • Effective clean water discharge into the Kolope River. • Compliance with NWA and IWUL requirements and license conditions.		**Compliant:** The diversion of run-off around the mine caters for a 1:200-year flood event and as such is deemed to be effective. No in-flow into the operation from the south – southeast evident. Conclusion: Although the Mine-wide Stormwater Management Plan has not yet been commissioned, excess run-off water from the CRD is currently captured and diverted via the temporary cut-off trench excavated at the toe of the CRD. As such, no run-off water from the area is currently leaving the mining area.
2.9	*Mine Waste Residue (MRD) extensions (WRD, CRD and FRI) and creation of toe paddocks during LoM*		**Partial Compliance:** We reiterate statements and findings raised under section 2.6 above.

	Specific EMP Actions: • Minimise the potential impacts of reduced catchment yields due to MRD extensions and the construction of toe paddocks along the inner toe of the MRDs. • Maximise clean water run-off into the environment, where possible.		<u>Conclusion:</u> • Further study to ensure that the correct measures are put in place to actively control possible seepage/run-off from the CRD, FRD & WRD has been completed. • An underflow trench has been excavated at the toe of the CRD as an interim solution to seepage from the tailings. This water is pumped back to the return water dam for re-use. • Buttress of the WRD is completed and the cut off trench of the CRD is currently being constructed. • Several incidents were reported to the DWS, however, none of the incidents so recorded had any impact on the water resources surrounding the Mine. • Construction of a seepage dam on the northern side of the mine has commenced. • The upgraded Stormwater plan is not yet implemented, to ensure compliance with the provision of GNR 704 and future expansion of the Mine's underground operations. <u>Documented Ref:</u> • Venetia Stormwater Management Plan E-Tek Consulting, dated June 2014; • Presentation on proposed revised SWMP, 2018; • Presentation on proposed continuation of SWMP, 2019 • Project details: FRD Project and FRD EPIC. • Email notifications dated: 25/01/2019, 05/02/2019; 05/08/2019; 17/09/2019; 09/10/2019 directed to the DWS
2.10	*Instability of the FRD due to increased capacity and the potential for the failure of the outer slopes of the FRD due to walls being raised* Specific EMP Actions: • Compliance with NWA and IWUL requirements and license conditions.		**Compliant:** A buttress wall has been cast around the FRD this will not only assist the stability of the tailings but ensure effective rehabilitation. Waste rock has been used to construct the buttress was and the same principles that have been applied at the 3 dumpsites will be implemented in this instance.

	• Maximise recycling of water from the FRD to reduce load/pressure on FRD walls. • Effectively implement fines depositing strategy into the FRD so that the FRD wall stability is not compromised. • Minimise erosion on outer slopes of the FRD.		Conclusion: • At the time of the assessment, DVM had completed the buttress wall around its fine tailings. The auditor was advised that DVM concluded studies to determine the required properties/characteristics for material to be used as an interface between tailings and the rock dump, and that course tailings will be sufficient for this purpose. • Compliance of the IWUL is conducted annually and submitted to the DWS.
2.11	*Surface water inflow and groundwater ingress into the pit and underground workings will require dewatering activities* Specific EMP Actions: • Prevention of pollution on groundwater resources. • Reduction of surface water inflow into the pit and underground workings. • Adequate dirty surface water storage capacity.		**Compliant:** The footprint of the Waste Rock Dumps started to creep towards the open pit, resulting in seepage from the WRD into the pit. DVM started with inner rehabilitation of the dumps but stopped as it is not deemed practical to continue as the full rehabilitation design has not been completed. The conceptual rehabilitation design has been completed. Water collected in the pit is pumped to the on mine water storage dams. Thus, water collected in these dams are recycled when needed and is used for dust suppression. A project was also implemented to upgrade the pumping system that is in place to pump water from the pit. Conclusion: • Pumping infrastructure was upgraded to reduce the collection of water flowing into the pit; • All haul roads are sloped away from the pit; • The stormwater diversion that had been completed will prevent the ingress of runoff water into the pit. Observations: • The infrastructure for storage of dirty water is currently not adequate for future expansion of the underground workings however, the stormwater plan once implemented will address these issues. Dewatering has not yet

			commenced from the underground operations.

3. Groundwater: Operational Phase

No:	Commitment / Management Objective	Finding	Comments
3.	*Groundwater: Operational Phase*		
3.1	*Mine Waste Residue disposal* Specific EMP Actions: • Prevention of pollution on groundwater resources. • Effective surface and stormwater management. • Improved understanding of groundwater flow and flow regimes. • Continued understanding of impacts to groundwater resources.		**Partial-Compliance:** We reiterate our findings and statements raised under section 2.6 above. <u>Finding:</u> • Further study has been conducted to ensure that the correct measures are put in place to actively control possible seepage/run-off from the CRD, FRD & WRD. • The Groundwater model has been updated. • Upon review of the geohydrological studies conducted, it was found that the current infrastructure provided for dirty water containment would be deemed sufficient in light of the fact that modeling done in respect of run-off proves that in most instances water is not deemed to run-off to lower laying areas but that the challenge is rather the management of standing water on site. • Nevertheless, there are still some areas of exposures such as the RWD at FRD 1 that is not lined (only dams constructed after 2008 are lined). • The Stormwater plan (revised) is not yet implemented, to ensure compliance with the provision of GNR 704 and future expansion of the Mine's underground operations. Based on the information provided during the assessment, groundwater monitoring results as indicated by Aquatico as well as the fact that the Stormwater

			plan is not implemented, suggest that DVM is currently not fully compliant with the commitment and action plans indicated in the EMP. <u>Document Ref:</u> • J&W Stormwater Management Plan 14 September 2017; • Geohydrological Assessment Draft Report, compiled by J&W dated May 2018; • Presentation (2018) on Stormwater Plan Update; • Operating Strategy and Control Philosophy for the Venetia Mine Water Supply and Storage System VEN ENG-OCP-WS001. • Water Monitoring Program Quarterly Water Quality Report by Aquatico, 2018 Vol 1 & 2.
3.2	*Storage of dirty water (All section NWA 21(g) water uses)* Specific EMP Actions: • Prevention of pollution on groundwater resources. • Effective surface and stormwater management. • Improved understanding of groundwater flow and flow regimes. • Improved understanding of the impact associated with seepage on the Kolope and Matotwane Rivers. • Continued understanding of impacts to groundwater resources.		**Partial-Compliance:** We reiterate our statements and findings made in sections 2.3, 2.7 and 3.1 above.
3.3	*Surface water management within the EMV workshops and EMV refuelling catchment area* Specific EMP Actions: • Prevention of pollution on groundwater resources. • Effective surface and stormwater management including: • Prevention of water and contaminant discharge from the workshop surfaces. • Management and monitoring of water discharge from the		**Compliant:** Workshops are fitted with Drizits for the collection and separation of oily water. A monitoring program is in place for the Drizits to monitor effectiveness and effluent quality. Procedures are in place for the containment of spills due to mechanical failure outside of the workshop.

	oil separation units. • Prevention of soil and groundwater pollution associated with water reticulation, canals and impoundments. • Improved understanding of groundwater flow and flow regimes. • Effective monitoring to improve understanding of impacts.		Awareness campaigns on spill management are in place. A new washday was constructed to address previous challenges with hydrocarbon spills at the workshop. <u>Conclusion:</u> The information received, our site observations and the improvements made by DVM such as the construction of new wash-bay where effective control of runoff water could previously not be achieved, suggest that DVM complies with the commitment and action plans indicated in the EMP. <u>Document Ref.:</u> • Requirements for lay down area procedure (DBG 0517); • Spill Management procedure (DBG 01138); • Requirements for Bund Walls procedure (DBG 01136) • J&W Stormwater Management Plan 14 September 2017; • Geohydrological Assessment Draft Report, compiled by J&W dated May 2018; • Presentation (2018) on Stormwater Plan Update.
3.4	*Underground mining dewatering operational* Specific EMP Actions: • Improved understanding of groundwater flow and flow regimes. • Improved understanding of the impact associated with dewatering on the groundwater resources. • Monitoring the drawdown cone with time. • Update Itasca Denver model to refine the cone of drawdown.		**Compliant:** Although underground mining has not yet commenced DVM undertook studies to understand the groundwater flow and flow regime, as well as the impact associated with dewatering on groundwater resources. The update of the Itasca Denver model to refine the cone of drawdown was however not evident in this geohydrological assessment. In this regard, it is noted in the report as: *'It is unlikely that an extensive dewatering cone has developed, nor will it be the case for the Life of Mine (LoM). This is as a result of the tight, low permeability, rocks which were confirmed by J&W as well as previous investigations conducted at Venetia Mine*."

			Document ref: • Venetia Geohydrological assessment final report, dated August 2018 by Jones and Wagener
3.5	*Surface water inflow and groundwater ingress into the pit and underground working* Specific EMP Actions: • Prevention of pollution on groundwater resources. • Reduction of surface water inflow into the pit and underground workings. • Adequate dirty surface water storage capacity.		**Compliant:** We reiterate statements and findings made under section 2.11 above. Conclusion: • Pumping infrastructure was upgraded to reduce the collection of water flowing into the pit; • All haul roads are sloped away from the pit; • The stormwater diversion that had been completed will prevent the ingress of runoff water into the pit.
3.6	*Handling, transporting and re-fuelling of hydrocarbons in the field (pit and dumps)* • Prevention of pollution on groundwater resources. • Reduction of surface water inflow into the pit transporting pollutants to groundwater resources due to seepage. • Adequate dirty surface water storage capacity, • Continued understanding of impacts to groundwater resources.		**Compliance:** We reiterate statements made under section 1.2 above.
3.7	*Abstraction of groundwater, via the well fields, from the alluvial aquafer of the Limpopo River* Specific EMP Actions: • Minimise raw water consumption in the treatment process. • Maximise recycled and dirty surface water consumption in the treatment process. • Maximise abstraction during period of surplus river flow. • Reduce abstraction from the aquifer during dry periods when the vegetation and aquatic environments indicates		**Compliant:** Systems to ensure the reuse of surface water from the Mine is in place. Moreover, DVM carefully monitors its impact on the wellfields and manages abstraction accordingly. Conclusion: • The information received, affirms compliance with provisions of the EMP and IWUL. Document ref.:

	elevated stress. • Increase water abstraction from the OCS dam during periods of stressed PMS levels. • Implement hierarchy of water use principles. • Maintain legal compliance w.r.t the NWA and section 21 water use permit conditions (IWUL)		• 2 Water Balances compiled: a monthly and a dynamic - Appendix 14; • Wellfields Vegetation Management 2013 (DBG 0780); • Plant Moisture Stress Reports by Ysterberg Environmental Services; • IWUL Compliance assessment 2019.

4. Flora: Operational Phase

No:	Commitment / Management Objective	Finding	Comments
4.	*Flora: Operational Phase*		
4.1	*Occurrence and regeneration of alien invasive species on the mine* Specific EMP Actions: • Identification and eradication of all alien invasive species.		**Compliant:** Several alien and invasive species have been identified at the Mine. The auditor acknowledges the fact the management of alien and invasive species is an ongoing process. In the Vegetation and Rehabilitation Monitoring Survey conducted by Gudani Consulting remarks that a large amount of *Datura innoxia* plants at Rugen – Phase 2 & 3 should be manually eradicated before ripening of the fruits. This species could also be seen in other disturbed areas all over the mining area. It was also recommended that a full audit of alien and invasive species should be done in a summer visit (January or February) in order to get the best results. Furthermore, the auditor was advised that the contract that is currently in place with service providers acquired for the management of alien and invasive plants had been renewed.

			DVM has an herbicide and pesticide management procedure in place that is effectively implemented on site. <u>Conclusion:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • Relevant procedures have been developed for the management of topsoil, land and rehabilitation areas; • A service provider was appointed in June 2019. • An alien vegetation eradication programme and schedule are in place, however, progress in respect thereof formed part of the 2019 biodiversity assessment study conducted by Gudani Consulting. <u>Document Ref:</u> • EMS Weeds, Pests, Alien and Invasive Plant Species Management Procedure (DBG 0507); • Vegetation and Rehabilitation Monitoring Survey dated July 2019 conducted by Gudani Consulting.
4.2	*Clearing of vegetation on site for on-going operations* Specific EMP Actions: • Minimise the surface disturbance and vegetation clearance footprints within the mining area. • Relocation and/or offsets associated with the disturbance of protected floral species. • Legal compliance w.r.t legislation governing the disturbance of protected species. • Address the loss of floral species diversity during concurrent rehabilitation and post closure. • Responsibility manage all mining activities within the current mining demarcated footprint area.		**Compliant:** When clearing is required for the expansion of existing areas the Topsoil Management Plan, Site Disturbance and Change Management procedures are enforced. All employees whose duties are related to the above are trained on the necessary procedures. No clearing may commence without first obtaining the required permission from DVM. No bush clearing is done prior to soil stripping. Thus, all existing vegetation is removed and stockpiled with the soil. This method has proven successful in assisting with the propagating of plant species ensuring the correct mix of natural vegetation when the soil is appropriated for concurrent rehabilitation.

	• Consider and where relevant, implement biodiversity offsets in line with De Beers Standards.		Stockpile placement is determined by the Mine's current operations. It was confirmed that smaller stockpiles are generated for the use of concurrent rehabilitation, whilst larger reserve piles, located in specifically demarcated areas, are covered with natural vegetation to preserve stockpiles for later use and prevent erosion. Monitoring of topsoil is conducted by way of an annual internal survey that records, inter alia: • the quantities of topsoil stripped; • quantities of topsoil in each stockpile; • quantities of topsoil removed from stockpiles; • storage locations of new stockpiles are recorded. Monitoring records were last updated in July 2017. A Vegetation and Rehabilitation Monitoring Survey is conducted annually. The 2017 report remarks that since 2008 experts in the field of rehabilitation became involved in assisting DVM with the rehabilitation of their Waste Rock Dumps. The implementation of ecological and engineering principles to these sites have shown huge improvements All areas that were surveyed in 2016 has shown positive signs of developing in terms of vegetation cover and soil stability and the latest areas will be watched closely in the next round of ecological investigations. The basal and crown cover of all rehabilitated areas are at least equal but mostly exceed that of the surrounding natural veld, but a natural increase in species diversity (natural succession) is progressing slowly and even receding in some rehabilitated areas. Crown cover was lower in many areas compared to 2016 but is ascribed to the prevailing winter conditions at the time of the study. In most cases basal cover and the percentage of perennial grass species on the rehabilitated areas had improved slightly. In some cases, the frequency of bare soil had increased by a small margin, which may also be as a result of the winter conditions and the subsequent seasonal decline of annual species in those areas. The contour failures at Krone phase 1 and Venetia phase 1 remains a concern.

			It is also noted that rehabilitation had been postponed for 3 years. Nevertheless, it was stated that the annual rehab plan is to be submitted and will start-up again with profiling in 2020. The calculation of Veld Condition (VC) and Grazing Capacity was added to the surveying in 2017. From the results of this survey, it was realized that the current VC of natural veld and rehabilitated areas is mostly poor in terms of grazing potential. Natural areas especially, need to recuperate. A proper game count will have to be conducted and after calculation of stocking rates, all excess animals be removed as soon as possible. During 2017, E-Tek Consulting was requested by DVM to also undertake a topsoil assessment to quantify the remaining available topsoil that can be stripped ahead of the developing of the CRD and WRW. The scope of work included measurement of the PH and EC of samples taken, determining the depth of usable topsoil as well as the potential amount of topsoil available for stripping. Following the assessment conducted, the potential topsoil was measured at 241 000 and 243 000 at CRD North and CRD South Respectively. <u>Finding:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • A topsoil management plan and relevant procedures have been developed and are implemented when clearing is required to ensure all management measures are adequately addressed. • A topsoil monitoring programme is implemented on-site. <u>Document Ref:</u> • Change Management Assessment Form (DBG 01447); • Surface Disturbance Management Plan for open pit Operations (DBG 01448);

			• Surface Disturbance Management Plan for Underground Operations (DBG 01450); • Topsoil Management Procedure (DBG 03968); • Rehabilitation Amelioration (Topsoil and Fertiliser) Procedure (DBG 0410); • Rehabilitation Reshaping (C-VE-MRM-PR-018); • Rehabilitation Ripping (C-VE-MRM-PR-019); • Vegetation and Rehabilitation Monitoring Survey dated 5 May 2016 conducted by Mr. Albie Gotze and Dr. Faan van Wyk; • De Beers Venetia Mine Rehabilitation Monitoring; Landscape Function Assessment (2017) Agreenco. • Vegetation and Rehabilitation Monitoring Survey dated July 2019 conducted by Gudani Consulting.
4.3	*Development of new waste management facility and use of natural undistributed areas for waste disposal or waste management activities* Specific EMP Requirements: • Maintain good housekeeping at the waste disposal area • Ensure that employees undergo environmental awareness training. • Maintain fencing around waste disposal site. • Minimise waste management facility footprint. • Monitoring of vegetation sustainability. • Implement rehabilitation as and when required. • Compliance to conditions of Waste Licence and the Waste Act.		**Partial compliance:** We reiterate our statements and findings made regarding the salvage yard under section 2.2 above. The salvage yard is in the pipeline along with upgrading various other infrastructures. At the time of the audit, it was noticed that waste is dumped at the receiving area of the salvage yard. Tabacks was provided with a copy of the Required Operational Capability Statement (ROC) that had been developed in respect of the Waste Management Facility Upgrade. In terms of the ROC, the following activities was proposed as part of the upgrade of the facility: • Upgrade of all bund walls to meet legal and site requirements (Norms and Standards, EMS Bund Walls Procedure); • Installation of Drizit units of a capacity to remediate contaminated storm-water run-off and any potential spills from the facility; • Extension of the yard's fencing to include the bioremediation site as well as

			2 gates to allow for entrance and exit to further restrict access to unauthorised areas.
			• Installation of a weighbridge;
			• Improvements to the General Waste Sorting Area, such as:
			  ○ installation of infrastructure/ mechanisms to prevent the access of wild/nuisance animals and pests to wastes
			  ○ construction of impermeable floors to facilitate the movement of sorting trolleys between sorting tables and the associated facilities (baling room etc.)
			  ○ upgrade of a facility to prevent direct sun and rain from getting into contact with the wastes
			  ○ drainage system to allow for the containment and clean-up of potential spills within the sorting area
			• Upgrade of General / Recyclable Waste Temporary Storage Areas and WMF Yard.
			
			A waste management license has been granted.
			
			<u>Conclusion:</u>
			• At the salvage yard activities include waste management, waste segregation, and storage of hazardous waste to prevent pollution from spills.
			• Although the waste yard has been cleaned up and greatly improved, upgraded infrastructure for the facility is still incomplete.
			
			<u>Document ref.:</u>
			• ROC Ref. VEN-DEP-SEC-000;
			• Stormwater Management Plan (SWMP) developed by J&W during 2012;
			• Aerial photographs for layout plans - VN0964.
			• Letter: Receipt and comments on the Venetia waste management licence (Licence mp 12/4/10/8-A/9V1) dated 03 Nov 2017.

5. Fauna: Operational Phase

No:	Conditions	Finding	Comments
5.	*Fauna: Operational Phase*		
5.1	*Clearing of vegetation* • Minimise the surface disturbance and vegetation clearance footprints within the mining area. • Limit the clearing of vegetation and periods of prolonged vegetation clearing and exposure. • Minimise habitat loss by actively implementing concurrent rehabilitation of disturbed areas with indigenous species.		**Compliant:** We reiterate statements made under section 4.3 above.
5.2	*Clearing of vegetation and on-going mining related operations and extensions* • Minimise the surface disturbance and vegetation clearance footprints within the construction area. • Foster biodiversity awareness amongst employees regarding biodiversity objectives and employee interaction with biodiversity. • Minimise habitat loss by actively implementing concurrent rehabilitation of disturbed area with indigenous species. • Control the number of large animals in the mining area that are restricted by the security fencing.		**Compliant:** We reiterate statements made under section 4.3 above. Biodiversity awareness forms part of employee and contractor induction. In addition, awareness training has been provided regarding animal management and snake handling. <u>Conclusion:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. <u>Additional Document Ref:</u> • Animal Management Procedure (DBG 01128);

			• Snake handling Procedure (DBG 0519); • Environmental Competence, Training and Awareness procedure (DBG 0933).
5.3	*Co-existence of fauna and mining processes staff in the mining area* • Minimise interaction with fauna and associated problems.		**Compliant:** Most of the large game that was found on the Mine, has been relocated to the Venetia game lodge. DVM has developed and implemented a procedure for the management of animals. Biodiversity awareness forms part of employee and contractor induction. In addition, awareness training has been provided regarding animal management and snake handling. Only a few large antelope are present at VUP, these animals are managed by keeping them away from the mining operations by providing feeding stations in strategic places around the CRD and FRD. <u>Conclusion:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP.

6. Air Quality: Operational Phase

No:	Commitment / Management Objective	Finding	Comments
6.	*Air Quality: Operational Phase*		
6.1	*Air blown dust generated from waste residue deposits* • Minimise the generation of air blown dust.		**Compliant:** DVM has a dust suppression programme in place. Regular application of dust-a-

	• Improve understanding of impacts associated with air blown dust. • Ensure that the CRD and FRD have a continuous high moisture content within the safe operating rules of the facility.		side forms part of regular dust suppression via a water cart. Dust monitoring is conducted monthly. DVM applies the limits as prescribed by the National Dust Control Regulations (GNR 827/2013), any exceedances will be investigated. Construction of the buttress wall and vegetating the area will also reduce dust from the CRD and FRD. <u>Finding:</u> Dust control measures are in place and the effectiveness of these controls is measured. <u>Document Ref.:</u> • Dust Monitoring Procedure (DBG 01130); • Air Quality Monitoring report compiled by Levego Environmental Services (Jan 2019 - Sep 2019).
6.2	*Air blown dust generated by on-going mining activities* • Minimise the generation of air blown dust. • Improve understanding of impacts associated with air blown dust.		**Compliant:** We reiterate statements made in the section above.
6.3	*Fugitive gas emissions from on-going mining activities including emissions from blasting activities, mining fleet, incinerators and busses* • Reduce generation of fugitive gas emissions where possible. • Reduce energy consumption leading to fugitive gas emissions where possible. • Improve understanding of gas emissions and extent of impact.		**Compliant:** DVM utilises bus services to transport employees to and from the site. Vehicle maintenance schedules are in place and emissions monitoring is conducted on all EMV's during service. Various projects have been implemented for the measurement and management of Greenhouse Gasses generated from the site. Controlled burning of Explosives boxes takes place as required by the Explosives

	• Improve understanding of impacts associated with fugitive gas emissions.		Act. The mine no longer has an incinerator on site. <u>Finding:</u> Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP.

7. Noise Operational Phase

No:	Commitment / Management Objective	Finding	Comments
7.	*Noise Operational Phase*		
7.1	*On-going mining and ore treatment operations* • Reduce the generation of noise where possible. • Improve understanding of noise emissions and extent of impact. • Improve understanding of impacts associated with noise emissions.		**Compliant:** DVM has a Noise Monitoring program in place. All vehicles and equipment are services as per their respective maintenance schedules. DVM runs a 24-hour operation but is located within the mining area noise from the area cannot be measured in isolation to the rest of the mine's operation, as such monitoring takes place on the boundary of the Mine. An ambient noise survey was conducted by dBAcoustics during November 2018. The report indicates that: *"The pre-vailing noise levels at the measuring points along the boundaries of the mining area were in line with the recommended noise levels as prescribed in SANS 10103 of 2008 and the Health and Safety Regulations of the IFC."*

			Finding: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • Existing routine service programme for all vehicles used on site is placed; • A noise monitoring programme is in place; • DVM has a formal Communication Procedure. Document Ref.: • Noise Monitoring Procedure (DBG 0513); • Communication procedure (DBG 0931); • Baseline noise survey – 2018 compiled by dBAcoustics.
7.2	*Blasting of waste rock and ore* • Reduce the generation of noise where possible. • Improve understanding of noise emissions and extent of impact • Improve understanding of impacts associated with noise emissions. • Improve understanding of impacts associated with vibrations and building damage.		**Compliant:** Blasting activities are restricted to daytime and is conducted in accordance with the Mine's blasting procedures. Vibration and shock reports are generated upon each blast to monitor the impact thereof. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. Document Ref.: • Vibration and shock reports, dated 06/11/2018.
7.3	*Water abstraction and pumping form the well fields in Mapungubwe National Park* • Reduce the generation of noise where possible. • Improve understanding of noise emissions and extent of impact. • Improve understanding of impacts associated with noise emissions.		**Compliant:** Sound dampening covers are fitted to all the pumps at the wellfields to reduce noise generation. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP.

8. Archaeology

No:	Commitment / Management Objective	Finding	Comments
8.	*Archaeology*		
8.1	*Site disturbance and on-going mining related operations* • Prevent the disturbance of archaeological sites and artefacts. • Ensure that mine staff recognise archaeological artefacts, when encountered. • Ensure that archaeological specialist is consulted when encountering artefacts.		**Compliant:** There are existing graves at DVM, however these areas have been fenced off and are proclaimed as “no-go” areas. DVM has a procedure regarding Heritage Resource protection in place. Resource management forms part of employees and contractor induction. <u>Finding:</u> • Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • All activities permitted (Destruction permits) are competed • Also see comments and finding as described in 8.1. <u>Document Ref.:</u> • EMS Heritage Resources Procedure (DBG 01133) • Destruction permits (2083, 2084, 2085 and 2086) granted for Iron age sites 21/08/2015 – 31/08/2016 with all activities completed; • Permit 2639 valid from 27/10/2017 until 31/10/2018 for the well field with all activities completed.

9. Visual Aspects: Operational Phase

No:	Commitment / Management Objective	Finding	Comments
9.	*Visual Aspects: Operational Phase*		
9.1	*Visible mining operations* • To minimise the visual impacts associated with mining operations. • Improve understanding of visual impacts and extent of impact.		**Compliant:** Illumination monitoring takes place bi-annually. Low-intensity bulbs are used for lighting. Physical barriers are used as shielding to restrict light pollution from the Mine. Recommendation from specialist concludes that illumination monitoring is only required every 5 years. <u>Conclusion:</u> Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • During our previous assessment, it was confirmed that training of employees at the VUP included non-conformity and incident reporting procedure (DBG 0979) and the Communication Procedure (DBG 0931) applies for any incident and community complaints related to visual impacts. • The last illumination assessment was conducted in 2019. <u>Document Ref.:</u> • Visual Impact Study - Appendix 3 was completed by SRK Consulting in October 2011; • Bi-annual lighting survey for the Venetia Diamond Mine – June 2017 (SRK consulting)

			• Bi-annual lighting survey for the Venetia Diamond Mine – August 2019 (OHSM)
9.2	*Development of mine residue deposits (MRD's) and occupying airspace (CRD, WRD and FRD)* • Minimise the visual impact associated with MRD extensions. • Improve understanding of visual impacts and extent of impact.		**Compliant:** We reiterate statements made in the section (9.1) above.
9.3	*Mine maintained infrastructure associated with water abstraction and pump at the well fields* • Mitigate the visual impacts by facilitating the visual blending of infrastructure at the well fields with the environment, where possible.		**Compliant:** A standard colour scheme for all buildings and screens that are visible is in place. The colour scheme blends in with the infrastructure and natural environment. <u>Conclusion:</u> • Site observations confirm that DVM complies with the commitment and action plans indicated in the EMP.
9.4	*Use of lights and lighting plants at night* • Minimise the visual impact associated with night lighting on surrounding land users.		**Compliant:** We reiterate our statements made in section 9.1 above.

10. Socio-Economic: Operational Phase

No:	Commitment / Management Objective	Finding	Comments
10.	*Socio-Economic: Operational Phase*		
10.1	*All activities of the mine that interacts with local, district and provincial stakeholders* • Maintain and build productive relationships with all		**Compliant:** DVM engages with stakeholders and I&APs through its Contractor Supplier Community Development Programs and forums.

	interested and affected parties in addressing socio-economic issues and proactively managing the reputational risk of the company.		Conclusion: Information provided during the assessment suggest that DVM complies with the commitment and action plans indicated in the EMP: • Various forums for communication with the communities is evident. These include, but are not limited to Local area committee, IDP forum, Venetia mine future forum (consultation with employees related to future mine plans including the inclusion of the underground operation); etc. • No complaints related to environmental management received during 2018/2019. Document ref: • Future forum signed TOR – 28 January 2012 ○ Future Forum Minutes 10 June 2019 • Communication procedure (DBG 0931) • SEAT report 2016 • Anglo Social way
10.2	*Community Development Programmes* • Implement community development programmes that will ensure a real and listing contribution to the communities.		**Compliant:** DMV engages with the community through its Corporate Community Development Programmes and Social and Labour Plans. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. Notwithstanding the above, various assistance programs to local communities in line with the Municipal IDP is in place. Some of these include: • Address the increase demand for water in the town of Musina– Municipal SDP does not indicate any current issues with infrastructure. Sewage facilities are in the IDP but bulk water storage facilities may be required. The new municipal council is currently revising the IDP. Water and electricity

			projects have been included in the 2018 SLP. • Address the increase demand for electricity in the town of Musina. All projection included in the Municipal IDP is aligned with the Mine's SLP. • Address the increase demand for sewage treatment in the town of Musina. All projection included in the Municipal IDP is aligned with the Mine's SLP. • Also, see 10.9 under construction. Document Ref.: • Socio-Economic Assessment Report 2016; • De Beers Social Performance Strategy dated 12 September 2017 • Social and Labour plan 2018 – 2023
10.3	*Contribution to the local tax revenue base* • Ensure that Venetia Mine is fully compliant with all relevant tax legislation and contribute accordingly to the local provincial and national tax bases that will ensure a real and lasting contribution to the communities in which we operate.		**Compliant:** DVM utilises tax payment systems and processes to contribute to the local tax revenue base.
10.4	*Local employments practices* • Implement employment practices that where possible, give preference to local residents as well as woman and the youth.		**Compliant:** All appointments are made in accordance with DVM Employment and Recruitment Policies. Preference will be given to local community members in respect of semi-skilled type jobs. DVM also has various other employment programs in place to assist disabled and local members from the community. Discussed during the future forum meeting. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. • A Contractor Employment Policy is in place that gives preference to residence, women, and youth.

			Document Ref.: • Local Procurement Plan 2018; • Venetia Mine Labour sending areas – Business opportunities identification dated March 2017 compiled by Kayamandi Development Services
10.5	*Change in mining method from open pit to underground* • Proactively manage all possible changes in employment conditions during the transition from an openpit operation to an underground operation.		**Compliant:** Underground operations have not yet commenced. It was explained that the transition process will commence on or about 2019. Nevertheless, the following actions are proposed as part of the proactive management of change: • Skills Gap Analysis to be done by HR; • Determining current percentage compliance and plans for closing gaps identified; • Consideration of levels of positions that will be available and salary discrepancies related to mini mine closure; • Consideration of portable skills and positions that may become redundant. • The transition from VOP to VUP is discussed during the future forum meetings. Document Ref.: • Socio-Economic Aspects Internal Investigation and Feedback – hard copy provided during EMP Assessment 2016 • Minutes of Future Forum Meeting July 2019.
10.6	*Change in mining method from open pit to underground* • Proactively engage with possible affected contractors and suppliers of the change or termination of services during the transition from an open-pit operation to an underground operation, which could result in a loss of revenue and the loss in direct and indirect jobs.		**Compliant:** Underground operations have not yet commenced. It is foreseen that the underground mining activities will commence by 2023. Nevertheless, DVM has Supply Chain Policies in place. Following the above statement, any transition will take place in accordance with DVM's Contractor and

			Supplier Community Development Programs. Observation: • It is noted that a transitional plan was communicated to all affected contractors and suppliers in order to actively engage with all possible affected contractors and suppliers. Document Ref.: • Socio-Economic Aspects Internal Investigation and Feedback – hard copy provided during EMP Assessment 2016. • Minutes of Future Forum Meeting.
10.7	*Change in mining method from open pit to underground* • Proactively engage with possible affected contractors and suppliers of the change or termination of services during the transition from an open-pit operation to an underground operation, which could result in a loss of revenue and the loss in direct and indirect jobs.		**Compliant:** The SLP covers Mine Community Development Programmes for both the open cast and underground operations. Conclusion: Information provided during the assessment suggests that DVM complies with the commitment and action plans indicated in the EMP. Document Ref.: • Socio-Economic Aspects Internal Investigation and Feedback – hard copy provided during EMP Assessment 2016. • Minutes of Future Forum Meeting dated July 2019.