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SIBANYE GOLD
EZULWINI
ENVIRONMENTAL AUTHORISATIONS FOR THE
TERMINATION OF PUMPING OPERATIONS AT
EZULWINI

Distribution Date: 8 May, 2017
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MINUTES OF THE DWS MEETING

Held at **DWS, Bothongo Plaza** on **13 April 2017**

Next meeting: TBC

PRESENT:

<u>NAME:</u>	<u>COMPANY:</u>	<u>CELL</u>	<u>EMAIL</u>
Marius van Zyl (MvZ)	Jones & Wagener	082 880 1250	vanzyl@jaws.co.za
Caroline Bladen (CB)	Jones & Wagener	081 270 1090	caroline@jaws.co.za
Grant Stuart (GS)	Sibanye Gold Limited	082 602 5992	Grant.stuart@sibanyegold.co.za
Lauren Dell (LD)	Sibanye Gold Limited	084 310 9731	Lauren.dell@sibanyegold.co.za
Nico Gewers (NG)	Sibanye Gold Limited	011 278 9749	Nico.gewers@sibanyegold.co.za
Shaun Murphy (SM)	SRK	011 441 1255	smurphy@srk.co.za
Greg Heath (GH)	Sibanye Gold Limited	083 179 3806	Greg.heath@sibanyegold.co.za
Phillimon Khwinana (PK)	DWS	082 883 1898	khwinanap@dws.gov.za
Marius van Biljon (MvB)	Jones & Wagener	079 741 9595	vanbiljon@jaws.co.za
Zoë Gebhardt (ZG)	DWS	012 392 1353	gebhardt@dws.gov.za
Simon Ngobese (SN)	DWS	012 392 1492	ngobeses@dws.gov.za
Khathutshelo Mudau (KM)	DWS	082 600 1034	mudau@dws.gov.za
Ledile Nyama (LN)	DWS	082 877 5139	nyamal@dws.gov.za
Jimmy Sekgale (JS)	DMR	071 475 8418	Jimmy.sekgale@dmr.gov.za
Mashudu Maduka (MM)	DMR	011 358 9700	Mashudu.maduka@dmr.gov.za
		079 870 5062	

APOLOGIES:

<u>NAME:</u>	<u>COMPANY:</u>	<u>CELL</u>	<u>EMAIL</u>
Johan Wagner (JW)	Sibanye Gold	082 412 4510	johan.wagner@sibanyegold.co.za
Anelle Lotter (AL)	Jones & Wagener	011 519 0920	anelle@jaws.co.za
Gina Martin (GM)	Jones & Wagener	011 519 0331	gina@jaws.co.za

DISTRIBUTION:

<u>NAME:</u>	<u>COMPANY:</u>	<u>CELL</u>	<u>EMAIL</u>
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All listed above and below

MINUTES OF MEETING

	Action	DATE
1. WELCOME AND INTRODUCTIONS		
1.1 Introductions were made and MvZ explained the purpose of the meeting and provided the project background. Please refer to Appendix A for a copy of the attendance register.		

		Action	DATE
2.	EZULWINI PRESENTATION		
2.1	The welcome and introductions was followed by a video presented by Ezulwini providing the background to the project.		
3.	LEGAL CONTEXT		
3.1	MvZ presented on the legal context of the project.		
3.2a	Question raised by DWS in reference to the sourcing of water from Rand Water. What is the estimated volume that Ezulwini will need to source and what is the estimated cost		
3.2b	MvZ responded that the estimated volume is 10MI/day at an estimated cost of R12.55/MI. It was also noted that this is just an interim measure and that once the WRTRP starts then this will be reassessed.		
3.3a	Question raised by DWS (PK) asking whether the water uses that will remain un-amended are indicated anywhere, as they are not indicated in the presentation.		
3.3b	Response by MvZ stated that these are indicated in the application.	J&W	
4.	GEOHYDROLOGY AND DOLOMITIC STABILITY		
4.1	MvB presented on the geohydrology pertaining to Ezulwini.		
4.2a	Question raised by DMR (MM) in reference to the option for South Deep to pump from the Ezulwini workings as the plugs will be sealed.		
4.2b	MvB responded that when the plugs were constructed pipes through the plugs were installed, together with valves, to facilitate transfer of water if required.		
4.3a	Question by DWS regarding the plug of the collar at Ezulwini and whether, even though it is higher than the Eye, will it still not have to be plugged.		
4.3b	MvB responded that the collar may be plugged. The shaft will need to be accessed for the purposes of measuring water qualities and levels. It may need to be plugged for security purposes. GH noted that the plugs normally do have pipes that make allowance for monitoring.		
4.4a	DMR (JS) raised a question regarding the consideration of not stopping pumping altogether but rather keeping the pumps and allowing the system to be tested.		
4.4b	MvB responded that this was considered under Alternative 4.		
4.5	DWS noted that, regarding the plugs, it is also in Sibanye's own interest that the plugs be effective in that the Cooke 3 operations, adjacent to Ezulwini, are Sibanye operations.		
4.6	MvB presented on the Dolomite Stability.		
4.7a	Question raised by DMR (MM) regarding the flow of water through dolomite and how this is possible as the un-weathered dolomite is impermeable.		
4.7b	MvB responded that this is through faults and fractures in the non-weathered dolomites. MvB noted that this is not a stability issue.		
4.8a	Question raised by DMR (MM) as to whether there is any indication as to where the risks are in terms of dolomitic instability, as the state needs to be prepared for the worst case.		
4.8b	MvB/GH responded that the VGI Consulting rating was very conservative and the risk map is currently being redone. Sibanye was placed on the safest area and its location was approved by the Council of Geoscience.		
4.9a	DWS (PK) asked whether the satellite imagery will be regularly used or whether it was just something that was considered.		

		Action	DATE
4.9b	MvB responded that it will be used. The license is for a year and other more accurate systems are also currently being considered.		
4.10a	DWS noted that the East Basin should be used as a base case for rewatering.		
4.10b	MvB/GH responded that the water table was dewatered there and so it is not really relevant as a base case comparison point.		
4.11a	DWS (PK) raised question regarding the quality of water at BH6 and where this borehole is located in relation to the Eye.		
4.11b	MvB responded, by showing the location, and noted that it is expected that there will be an improvement in the water quality and that there is no relation between the mine water and the expected water quality at this borehole. The water quality will be influenced by the aquifer water only.		
4.12a	DWS (SN) raised concern about the concrete dam at Ezulwini and whether there will be any safety measured put in place for the dam.		
4.12b	MvB responded that the dam is not on dolomites, so there is not a safety risk to the dam in this regard. It was also noted that it is not in fact a dam but rather a reservoir or tank. In addition, LD noted that a valve can be left open in the reservoir so that any rain water collecting in the tank can flow out into the Leeuspruit.		
5.	PLUG DESIGN AND BOUNDARY PILLAR INTEGRITY		
5.1	SM from SRK presented on the Plug Design and Boundary Pillar Integrity.		
5.2a	DMR (MM) asked how the potentially hazardous faults, located outside the mining area, will be linked to or affected by rewatering.		
5.2b	SM noted that these are undisturbed faults and therefore it is very unlikely that they will be effected because they are not in the dewatering cone or part of the mining area. It is noted that such faults have not yet been identified, but they may be present outside the mining area.		
5.3a	DMR (MM) inquired whether the satellite images or surveys do not pick up these faults because they, the DMR, are concerned about the bigger pictures and not just the immediate Ezulwini area.		
5.3b	SM noted that it is not possible to pick faults up from survey, but rather would need to do drilling.		
5.4a	DWS asked whether seismic events will be monitored during rewatering.		
5.4b	It was noted that this will be monitored and that currently there are systems in place to monitor this. It was also noted that there are two types of events, namely rewatering seismic induced events, as well as external events.		
5.5a	DWS asked if there are any other wetlands in the area.		
5.5b	MvZ noted that he will be presenting on the wetlands in the upcoming section of the presentation.		
6.	SURFACE WATER		
6.1	CB presented on the Surface Water		
6.1a	DWS asked whether the impact of the artificial wetland, upstream of the Peter Wright Dam, will still be high if it is rehabilitated.		
6.1b	CB responded that this will be low to negligible depending on the effectiveness of the rehabilitation.		
7.	WETLANDS AND SOCIO-ECONOMIC		

		Action	DATE
7.1	MvZ presented on the wetlands study done by Natural Scientific Services and the Socio-Economic Impact Assessment done by Southern Economic Development.		
7.2a	DMR noted that there will not be water available on the southern side of the Gatsrand after pumping stops and what effect this will have on the farmers. In addition, it was asked what their options are.		
7.2b	MvZ responded that in the worst case scenario it will be a loss of jobs if all the farms have to shut (worst case 310). However, it was noted that the areas to the north of the Gatsrand is most suitable for irrigational farming once the aquifer is restored. Alternatively, the farmers can perform farming operations that do not require as much water. In addition, Sibanye Gold should assist through the existing forums to ensure that job losses are minimised.		
8.	GENERAL		
8.1a	DWS noted that this must be presented at the river forums.		
8.1b	Response was that it will be done.		
8.2a	DMR enquired whether the Department of Agriculture has been consulted or made aware of the project.		
8.2b	MvZ responded that a copy of the reports has been sent to them.		
8.3a	DWS asked where or what the capacity constraint is on the pipeline.		
8.3b	MvZ responded to say that the pipeline was designed with a capacity of 120 MI, however it is currently operating at a capacity of 100 MI so there is a risk of overflow into the Wonderfonteinspruit if the capacity is exceeded. However, this overflow water will be lost to sinkholes, which will report to Sibanye Gold's Kloof operations.		
9.	CLOSURE		
9.1	Meeting was closed.		

Next meeting: TBC

Minuted by:



Caroline Bladen
for Jones & Wagener

APPROVAL OF MINUTES

CLIENT: _____

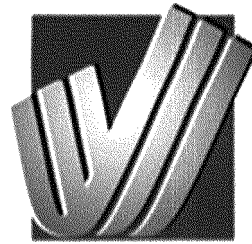
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JONES AND WAGENER: _____

DATE: _____

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APPENDIX A – ATTENDANCE REGISTER JONES & WAGENER



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ATTENDANCE REGISTER

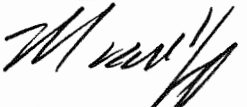
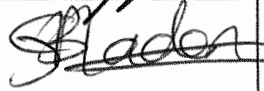


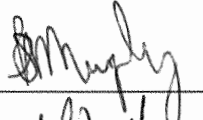
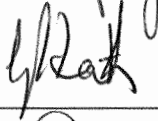

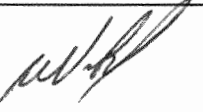
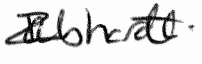

Environmental Authorisation Application Process for the Proposed Cessation of Pumping and Associated Closure of the Underground Workings of the Ezulwini Operations of Sibanye Gold, Gauteng

MEETING: DEPARTMENT OF WATER AND SANITATION





Bothongo Plaza East, Pretoria

Thursday, 13 April 2017 at 08:30

Environmental Authorisation Application Process for the Proposed Cessation of Pumping and Associated Closure of the Underground Workings of the Ezulwini Operations of Sibanye Gold, Gauteng – 13 April 2017: DWS

NAME AND SURNAME	DEPARTMENT / ORGANISATION	TEL / CELL	EMAIL	SIGNATURE
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MARIUS VAN BILTON	J & W	079 741 9595	vanbiljon@jaws.co.za	
Zöe Gebhardt	DWS	012 392 1353	gebhardt z@dws.gov.za	
Simon Ngobese	DWS	012 392 1492	Ngobese S@dws.gov.za	

Environmental Authorisation Application Process for the Proposed Cessation of Pumping and Associated Closure of the Underground Workings of the Ezulwini Operations of Sibanye Gold, Gauteng – 13 April 2017: DWS

NAME AND SURNAME	DEPARTMENT / ORGANISATION	TEL / CELL	EMAIL	SIGNATURE
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Jimmy Sekgale	DMR	011 358 9700 071 475 8418	Jimmy.sekgale@dmr.gov.za	
Mashudu Maduka	DMR	011 358 9700 079 870 5062	mashudu.maduka@dmr.gov.za	

**APPENDIX B – ATTENDANCE REGISTER
DEPARTMENT OF WATER &
SANITATION**



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

MEETING: Proposed Closure of Ezulwini Operations

TIME: 08H30

VENUE: Diphororo Boardroom

ATTENDANCE REGISTER 13 April 2017

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3	LAUREN DELL	SGL	lauren.dell@ Sibanyegold.co.za		084 310 9731	
4	Nico Gewers	SGL	nico.gewers@ sibanyegold.co.za	011 278 9769	0731055 159	
5	SHAUN MURPHY	SRK	smurphy@SRK -CO.ZA	011441 1255	0725140030	
6	Phillmo's Khumang	DWS-G	khumang@dws.gov.za	012 392 1376	0822841898	
7	Jimmy Sekgale	DMR	Jimmy.Sekgale@ dmr.gov.za	011 358 9700	0714758418	
8	Zoe Gebhardt	DWS	gebhardtz@ dws.gov.za	012 392 1394	082 3580876	
9	Simon Ngobese	DWS	Ngobese S @ dws.gov.za	012 392 1493	083 6813866	
10	Caroline Bladen	T&W	caroline@jaws.co.za	0812701090	"	



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

MEETING: Proposed Closure of Ezulwini Operations

TIME: 08H30

VENUE: Diphororo Boardroom

ATTENDANCE REGISTER 13 April 2017

No	Name	Company	Email Address	Tel No	Cell No	Signature
11	Khathutshele Mudau	DWS	mudauk@dws.gov.za	012 392 1360	082 600 1034	
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13	Mashudu Madlwa	DMR	mashudu.madlwa@dmr.gov.za	011 358 9700	079 872 5062	
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