



Impala Platinum Holdings

Joint Venture Tailings Dams

FEBRUARY 2021

Tailings Facilities



MIMOSA

Disclosure Requirements	Mimosa
Tailings Facility Name and Identifier	Mimosa TSF3
Location	20° 19.151'S; 29° 50.039'E

1 Company name	Mimosa Mining Company	12 Do the contents of the TMF include toxic materials?	No. There is a comprehensive monitoring program in place for the TSF
2 Company's membership with ICMM or other international industry body.	No	For a decommissioned facility	
3 Does the company have an internal monitoring set-up specific to Tailings Management Facilities (TMFs)?	Yes, daily, weekly, quarterly, annually	13 Year construction was started.	1995
a. Are audit reports (external and/or internal) shared with the board?	Yes. Quarterly designer reports (Stefanutti Stocks Mining Services) and Annually 3rd party reports (SRK)	14 Last year that material was added to the facility.	2006
4 Number of TMFs owned by the company	1	15 Year of decommissioning.	2006
a. In construction?	0	a. Was it capped, crowned and/or was another method used to reduce water infiltration?	The facility is well vegetated with indigenous species of grass and trees. Storm water control measures in place are cross walls and channels that were constructed from the outer wall towards the centre on top of the beach. These cross walls help to guide rainwater away from ponding on the edges of the facility to the central area where a penstock is. This penstock decants water from the pool.
b. In operation?	1	b. Frequency of internal/external inspections of an TMF after decommissioning for monitoring safety and environmental impacts.	Quarterly inspections for the structure, perimeter fence and dust monitoring in place
c. Closed/decommissioned?	One (TSF2)	For an operational and closed facilities	
d. In operation/closed but not decommissioned/decommissioned?	N/A	16 Year construction was started.	2001
For Each TMF		17 Current tailings production (ktpy).	2796ktpy
5 Mine name	Mimosa Mining Company	18 Current density/water content of the tailings being deposited.	Average is 53% solids.
6 Location (Country/State/Municipality)	(Zimbabwe/Midlands Province/Zvishavane)	19 Expected remaining years of operations.	±4 years
7 TMF name or designation	Mimosa TSF3	TMF Monitoring	
8 Location of Facility (lat/long or position relative to the main mine facilities)	Latitude: 20° 19.151'S Longitude 29° 50.039'E	20 Frequency of internal inspections (if any)	Daily, weekly, monthly inspections
9 The types of commodities being mined	Mining Great Dyke orebody and the ensuing metallurgical processes to produce Platinum Group Metals concentrate.	a. Date of last internal inspection including outcome.	Daily inspections: Involves wall construction, recordings (pool depth, paddocks deposited). Outcome-TSF is in a good condition
10 What are the main methods used in the processing of the ore prior to deposition.	Mined ore undergoes the processes of Crushing, Milling, Flotation, Thickening before disposal to the Tailings storage facility. Crushing and milling are ore dressing stages. Flotation consists of various stages of reagents dosages, roughing and cleaning stages producing a PGMs concentrate. This concentrate is then shipped to the Impala smelter in Rustenburg for further processing. The tailings stream tailings is disposed of onto Tailings Storage facility No.3 in a slurry by a spray bar/spigot system around the deposition area.	21 Is there a requirement for external inspections?	Yes
11 How are the tailings stored? (conventional, thickened, paste, dry stack, other)	Conventional spray bar/spigot method in an upstream manner	a. Frequency of external inspections.	Quarterly designer inspections and Annual independent reviews

MIMOSA



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Tailings Facility Name and Identifier	Mimosa Phase 3 Tailings facility
Location	20°19'06.6"S 29°49'54.5"E

<p>b. Name of external firm that performs the inspection.</p>	<p>Stefanutti Stocks Mining Services (designer) and SRK Consulting (3rd party)</p>	<p>Surrounding environment analysis</p>	
<p>c. Date of last external inspection including outcome.</p>	<p>Last quarterly meeting was a virtual meeting carried out on the 03 Nov 2020 and no comprehensive assessment could be concluded. However previous inspections have noted that sections having seepages require remedial work to prevent localized sloughing or toe failure. Construction of buttress wall on these flanks is in progress.</p>		
<p>22 If there is an external rating system (i.e. local regulator),</p>	<p>Yes. Risk rating set out in CoP and based on the SANS 10286</p>	<p>30. Is the TMF located in a climatic zone where evaporation levels are exceeded by precipitation?</p>	<p>TMF located in a drier area where the evaporation rates are higher than precipitation.</p>
<p>a. What is the risk rating for the TMF?</p>	<p>High Hazard based on the SANS 10286 as defined in the CoP</p>	<p>31. Seismicity rating of the TMF's location.</p>	<p>There is no record of seismic activity in the area.</p>
<p>For TMF with embankment retaining structures</p>		<p>32. Do current neighboring mining operations include blasting?</p>	<p>Yes</p>
<p>Design</p>		<p>a. If yes, distance of the TMF to the mining operations.</p>	<p>Quarry mining about 15km away</p>
<p>23 Type of construction</p> <p>a. Upstream, downstream, centerline, other;</p>	<p>Upstream</p>	<p>33. Identification of habitation(s)/ settlements(s) and/or flora/ fauna critical habitat(s) or high biodiversity area(s) located downstream of the facility, with indication of areas or number of populations at risk, and the mitigative measures that have been undertaken or remain to be implemented.</p> <p>At final height of 40m, the TSF will have two zones of influence, the Northern and Southern side. Northern Side:- Is the primary zone of influence. There are no settlements along the zone of influence. There is continual engagements with the local community through the Corporate Social Responsibility department Southern Side:- This is a secondary zone of influence at maximum dam height. This zone of influence covers some mine premises like clinic, high density village, bus workshops, water treatment plant and truck yard. For this Zone of Influence the Population at risk is 210. Mitigative measures-A Disaster Recovery Plan has been drafted and is in place</p>	
<p>b. Is it constructed on flat ground or on a slope?</p>	<p>The TSF is constructed in a shallow valley on a gently sloping ground.</p>		
<p>c. Does it include a spillway or other structure to mitigate overtopping?</p>	<p>There are two penstock structures for decanting the water from the top of the TSF.</p>		
<p>d. Does it include an overdrain and/or underdrain system?</p>	<p>Underdrain system has been installed.</p>		
<p>24. What standards/guidelines were applied to the dam design and construction, i.e. Canadian (MAC/CDA), ANCOLD, ICOLD or others?</p>	<p>SANS 10286</p>	<p>34. Nearest critical infrastructure downstream from the facility, including nearby TMFs.</p>	<p>Southern Side:- Zone of influence covers some mine premises like clinic, high density village, stores, bus workshops and water treatment plant</p>
<p>25. What is the "Factor of Safety" (under current conditions and "worst case/undrained conditions")?</p>	<p>FoS of 0.9 of lower bench (Ref SRK report 408793/2019 dated April 2020). Installation of under-drained buttress as remedial action plan to improve the stability on the identified lower benches is in progress with one flank already completed.</p>	<p>Additional comments incl. mitigants</p>	
<p>26. Current dimensions of main structure, including height, upstream slope and downstream slope.</p>	<p>Footprint-113.8ha, Dam Height-34m, Upstream slope-270, Overall Slope angle 220</p>	<ul style="list-style-type: none"> The facility is being operated by Fraser Alexander who have the requisite expertise in TSF management together with mine management. Daily inspections are done by the operator Weekly joint inspections by the operator and mine management. Quarterly inspection by the designer Annual 3rd party review Ad hoc independent TSF reviews are also being carried out Monthly surveillance report, TORAS report and KPIs (freeboard, phreatic level, drain readings) Annual 3rd party inspection & review of operational & Management practices, review previous audit inspections reports, Assess a safety rating. Drone inspections. Under-drained buttress installation on seepage areas. Annual jet-rodding of drains. Additional piezometers were installed to increase monitoring of the phreatic level. 	
<p>27. Planned final dimensions of main structure.</p>	<p>Final design height is 40m</p>		
<p>28. Current volume of tailings facility (m³, tonnes, etc.).</p>	<p>38.97 million tonnes</p>		
<p>29. Planned final volume of tailings facility.</p>	<p>51.5 million tonnes</p>		



TWO RIVERS

Disclosure Requirements	Two Rivers
Tailings Facility Name and Identifier	Dwarsrivier TSF and De Grooteboom under construction
Location	Dwarsrivier TSF 24°57'19.02"S ; 30° 6'22.36"E De Grooteboom TSF -24.931341°S ; 30.134788°

1 Company name	Two River Platinum (PTY) LTD	b. Frequency of internal/ external inspections of an TMF after decommissioning for monitoring safety and environmental impacts.	N/A
2 Company's membership with ICMM or other international industry body.	No	For an operational and closed facilities	
3 Does the company have an internal monitoring set-up specific to Tailings Management Facilities (TMFs)?	EOR appointed	16 Year construction was started.	2004
a. Are audit reports (external and/ or internal) shared with the board?	Yes at the sustainability meetings	17 Current tailings production (ktpy).	3.4 Mtpy
4 Number of TMFs owned by the company		18 Current density/water content of the tailings being deposited.	1.6SG
a. In construction?	1	19 Expected remaining years of operations.	One
b. In operation?	1	TMF Monitoring	
c. Closed/decommissioned?	0	20 Frequency of internal inspections (if any)	Monthly
d. In operation/closed but not decommissioned/ decommissioned?	0	a. Date of last internal inspection including outcome.	Nov 2020 Dec skipped due to Covid 19. Jan done awaiting report
For Each TMF		21 Is there a requirement for external inspections?	
5 Mine name	Two River Platinum (PTY) LTD	a. Frequency of external inspections.	Biannually
6 Location (Country/State/ Municipality)	Steelpoort	b. Name of external firm that performs the inspection.	John Wates consulting
7 TMF name or designation	Dwarsrivier TSF and De Grooteboom under construction	c. Date of last external inspection including outcome.	9 Dec. 2019
8 Location of Facility (lat/long or position relative to the main mine facilities)	De Grooteboom TSF Latitude: -24.931341°S Longitude: 30.134788°E Dwarsrivier TSF Latitude 24°57'19.02"S Longitude 30° 6'22.36"E	22 If there is an external rating system (i.e. local regulator),	
9 The types of commodities being mined	Platinum	a. What is the risk rating for the TMF?	High by EOR based on dam failure report
10 What are the main methods used in the processing of the ore prior to deposition.	MF ²	For TMF with embankment retaining structures	
11 How are the tailings stored? (conventional, thickened, paste, dry stack, other)	Conventional upstream cyclone	Design	
12 Do the contents of the TMF include toxic materials?	No	23 Type of construction	
For a decommissioned facility		a. Upstream, downstream, centerline, other;	upstream cyclone
13 Year construction was started.	N/A	b. Is it constructed on flat ground or on a slope?	Slope
14 Last year that material was added to the facility.	N/A	c. Does it include a spillway or other structure to mitigate overtopping?	No decant, barge pumps can take 1 in 10000 year rain event
15 Year of decommissioning.	N/A	d. Does it include an overdrain and/or underdrain system?	Underdrain system
a. Was it capped, crowned and/ or was another method used to reduce water infiltration?	N/A		



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Location	Dwarsrivier TSF 24°57'19.02"S ; 30° 6'22.36"E De Grooteboom TSF -24.931341°S ; 30.134788°

24. What standards/guidelines were applied to the dam design and construction, i.e. Canadian (MAC/CDA), ANCOLD, ICOLD or others?	SANS 10286	Surrounding environment analysis	
25. What is the "Factor of Safety" (under current conditions and "worst case/undrained conditions")?	Current = 1.55 at lowest section, Undrained = 1.34 at lowest section and Post Liquefaction (seismic) = 1.03 at lowest section	30. Is the TMF located in a climatic zone where evaporation levels are exceeded by precipitation?	No
26. Current dimensions of main structure, including height, upstream slope and downstream slope.	Height = 53m, Footprint = 91ha, Basin = 61.5ha, Upstream slope = 1(v):3.5(h)	31. Seismicity rating of the TMF's location.	Falls in the strong range. This was used in stability calculations.
27. Planned final dimensions of main structure.	Height = 56m, Footprint = 96ha, Basin = 60ha, Upstream slope = 1(v):3.4(h)	32. Do current neighboring mining operations include blasting?	Yes
28. Current volume of tailings facility (m³, tonnes, etc.).	Current volume = 22 400 000m ³ and 38 080 000t	a. If yes, distance of the TMF to the mining operations.	Dwarsrivier Chrome Mine are undermining the existing TSF
29. Planned final volume of tailings facility.	Final volume = 27 100 000m ³ and 46 070 000t	33. Identification of habitation(s)/ settlements(s) and/or flora/ fauna critical habitat(s) or high biodiversity area(s) located downstream of the facility, with indication of areas or number of populations at risk, and the mitigative measures that have been undertaken or remain to be implemented.	Only the Klein Dwars River A TSF failure will affect the water quality for downstream communities about 10km away
		34. Nearest critical infrastructure downstream from the facility, including nearby TMFs.	1.5km not in failure zone
Additional comments incl. mitigants			