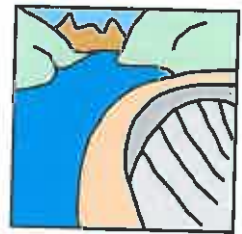


MINUTES GROOTDRAAI DAM FORUM

23 May 2017

Drinkwater Lodge, Ermelo

10:00 – 13:30



| No | Item | Action | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1. | Welcome <ul style="list-style-type: none"> Mr L Mabona (Acting Chairperson) welcomed everyone present at the forum meeting. | Chairperson | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | Introduction <ul style="list-style-type: none"> All the attendees introduced themselves. | All | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | Apologies <table border="1" data-bbox="199 784 1165 1142"> <thead> <tr> <th>No</th> <th>Name</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Mashudu Gangazhe</td> <td>Msobo Coal</td> </tr> <tr> <td>2</td> <td>Lotho Totsa</td> <td>Eskom Tutuka Power Station</td> </tr> <tr> <td>3</td> <td>Thuli Nonkonyane</td> <td>New Denmark Colliery</td> </tr> <tr> <td>4.</td> <td>Reveck Harrarim</td> <td>Rand Water</td> </tr> <tr> <td>5.</td> <td>Nicolene van der Walt</td> <td>Rand Water</td> </tr> <tr> <td>6.</td> <td>Kgadi Moremi</td> <td>New Denmark Colliery</td> </tr> <tr> <td>7.</td> <td>Musa Luhlanga</td> <td>DARDLEA</td> </tr> </tbody> </table> | No | Name | Organization | 1 | Mashudu Gangazhe | Msobo Coal | 2 | Lotho Totsa | Eskom Tutuka Power Station | 3 | Thuli Nonkonyane | New Denmark Colliery | 4. | Reveck Harrarim | Rand Water | 5. | Nicolene van der Walt | Rand Water | 6. | Kgadi Moremi | New Denmark Colliery | 7. | Musa Luhlanga | DARDLEA | All |
| No | Name | Organization | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Mashudu Gangazhe | Msobo Coal | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Lotho Totsa | Eskom Tutuka Power Station | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Thuli Nonkonyane | New Denmark Colliery | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | Reveck Harrarim | Rand Water | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6. | Kgadi Moremi | New Denmark Colliery | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | Musa Luhlanga | DARDLEA | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | Minutes of the Previous Meeting Corrections <table border="1" data-bbox="199 1243 1157 1377"> <thead> <tr> <th>Page</th> <th>Item</th> <th>Statement/word</th> <th>Corrections</th> <th>Reason</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5</td> <td>Standard</td> <td>Stanford</td> <td>incorrect</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | Page | Item | Statement/word | Corrections | Reason | 1 | 5 | Standard | Stanford | incorrect | | | | | | All | | | | | | | | | |
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| 1 | 5 | Standard | Stanford | incorrect | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | Matters Arising from the Previous Minutes <ul style="list-style-type: none"> Mr E Matseba to consult DWS Water Sector Support in Nelspruit with regard to Ermelo waste water treatment work. Mr E Matseba must check with DWS Legal Service about Ermelo WWTW not operational. Representatives from Eskom Camden Power Station and Vunene Coal Mine to investigate the seepage occurring within Witpuntspruit sub-catchment and to provide feedback at the next forum. | DWS/E Matseba DWS/E Matseba Eskom Camden Power Station and Vunene Coal Mine | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | Additions to the Agenda <ul style="list-style-type: none"> Climate change | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.1 | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| <p>7. 7.1</p> | <p>Items for discussions Rand Water</p> <ul style="list-style-type: none"> • The representative gave a presentation on water monitoring results. He reported an elevation in F, EC in Grootdraai Dam. In Ermelo WWTW, there was an elevation in NH3, Ecoli and COD. • In Witpuntspruit, there was an elevation in SO4 and low pH, due to historical mining activities. • Blesbokspruit, below BethalWWTWs, has shown an elevation in NH3, nitrate, EC, COD, alkalinity, and <i>E.coli</i>. • Rietspruit downstream of Amersfoort WWTW shown an elevation of NH3 and nitrate. • Brummerspruit downstream of Ermelo WWTW, there was an elevation in NH3, EC, CoD, Alkalinity and nitrate. • It was asked why Ermelo WWTW is not operational. It was indicated that Municipal officials does not understand the importance of water quality. • It was indicated that to solve the challenges concerning WWTWs, stakeholders must join forces and start criminal proceedings against Municipal officials in their personal capacities. | |
| <p>7.2</p> | <p>DWS Water Quality Management</p> <ul style="list-style-type: none"> • There is high concentration of NH3, nitrate, Ecoli at Bethal, Ermelo, Amersfoort and Breyten WWTW. Most of these facilities are not operating within their capacity due to increase in population and the means to increase their capacity is not entertained. It was indicated that there is renovations occurring in Ermelo WWTW. • There is also high concentration of SO4, Ec, and low pH at Humanspruit downstream of Delta mine and Witpuntspruit at Usutu mine. This is due to historical mining. • Stakeholders suggested that pictures of sewer manholes and blockages be sent to Municipal top management to sensitize them about the impacts arising from these facilities. | |
| <p>7.3</p> | <p>DWS Solid Waste Management</p> <ul style="list-style-type: none"> • An inspection of the Ermelo WDF was undertaken prior to the forum. • The site was in a mess with no proper operation plan, no equipment and no cover material. • This applies to all other WDFs within the Grootdraai Catchment. There seems to be lack of funds to manage landfills. • DWS will arrange a meeting with DARLEA and GSDM to discuss this matter in July. • This matter must be resolved as a matter of urgency and will be relayed to the respective Authorities for action. • DWS is also responsible for water resource pollution from all ash dams from all coal mines and power stations hence adhoc inspections. | |
| <p>7.4</p> | <p>DWS Compliance Monitoring and Enforcement</p> <p>Regulation: Compliance Monitoring</p> <ul style="list-style-type: none"> • It was reported that there was non-compliance at Penumbra Coal mine during the site inspection. The mine submitted an Action Plan which the Section is evaluating it. | <p>follow up on business, open coal mine</p> <p>Mine still not compliant</p> |

issued directives
 Notices were issued to WWTW of None
 - Compliance of any directive
 (old structure) None compliant

- Move coal mine
 Page 2 of 6
 Must submit action plan on it.

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| 8. 8.1 | Catchment Activities (5 Minutes Report Back by Stakeholders) TUTUKA POWER STATION <ul style="list-style-type: none"> • Potable & waste - service lease agreement for providing water • No representative provided. | |
| 8.2 | CAMDEN POWER STATION <ul style="list-style-type: none"> • It was reported that Monitoring points *R23 and *R24 has significant water quality, most likely due to mining operations upstream. Water was above recommended standard due to elevated Fe, Mn, Al and very low pH. The area is monitored regularly. A site meeting with the mine and Eskom's employed water technician to conduct a site visit in the second week of June 2017. • Monitoring points *R01 and *R02 has significant water quality, most likely due to mining operations upstream. Water was above recommended standard due to elevated Mn and Al. The area is monitored regularly. A site meeting with the mine and Eskom's employed water technician to conduct a site visit in the second week of June 2017. | Standardize presentations |
| 8.3 | MAJUBA POWER STATION <ul style="list-style-type: none"> • It was reported that there was high elevation of EC, SO4, pH, Cl. • It was also reported that the Power Station is in the process of extending the current ash disposal facility, and will engage with the Department to sort some minor issues. | |
| 8.4 | MAJUBA RAILWAY LINE PROJECT <ul style="list-style-type: none"> • There was high elevation in Turbidity, pH and Alkalinity. • An improvement in alkalinity levels was noted at Witbankspruit. • Low pH reading in most of the water courses (both upstream and downstream) | - final work completed - rail way line complete |
| 8.5 | NEW DENMARK COLLIERY - NEW DENMARK - SE RET'S NEW OWNERS <ul style="list-style-type: none"> • Absent with apology | (w) December |
| 8.6 | GOLFVIEW & LELIEFONTEIN <ul style="list-style-type: none"> • Absent without apology | No representative |
| 8.7 | MSOBO COAL (SPITZKOP AND TSELENTIS) <ul style="list-style-type: none"> • Absent with apology | |
| 8.8 | MASHALA RESOURCES (FERREIRA COAL MINE) <ul style="list-style-type: none"> • The mine is not operational – all water monitoring taking place monthly and quarterly. Monthly investigations for decant and other pollution incidents. No decant taking place, no overflows, no water contamination at downstream monitoring point. All reports submitted to DWS. • Mr E Matseba inquired about the closed mines. It was indicated that the mines will be rehabilitated and closed in time. • DWS site audit on 7 March 2017 conducted. | L. Marais |
| 8.9 | MOOIPLAATS COLLIERY <ul style="list-style-type: none"> • The mine is under care and maintenance. ✓ • It is not known as to when operation will resume. | |

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| 8.10 | UMLABU COAL MINE <ul style="list-style-type: none"> The mine is under care and maintenance. | |
| 8.11 | VUNENE COAL MINE <i>heavy Metals ↑</i> <ul style="list-style-type: none"> A concern was raised with regards to the poor water quality downstream of the Witpuntspruit at the N2 Camden Bridge. The representatives from Eskom Camden Power Station indicated that there might be seepage from an old defunct mine. Representatives from Camden and Vunene will get together to investigate this further and feedback will be provided to the forum. | |
| 8.12 | PENUMBRA COAL MINING <ul style="list-style-type: none"> Ownership of the old Loubert Colliery that is causing poor quality decant needs to be determined. The Old Loubert Colliery is not on the DMR list for ownerless and defunct mines. Information about who the owners are needs to be obtained from DMR. Up and downstream water qualities are within the limits | |
| 8.13 | THUTSI COLLIERY <i>(still in ops)</i> <ul style="list-style-type: none"> The mine is under care and maintenance, there are no activities. | |
| 8.14 | IMBABALA COAL MINE <ul style="list-style-type: none"> Absent without apology. | |
| 8.15 | Govan Mbeki Municipality <ul style="list-style-type: none"> A Mangena gave a presentation, indicating that the plant is complying in three (3) parameters which are biological, chemical and physical. <ul style="list-style-type: none"> Chemical complied by 70 % for the past 12 months Physical complied by 75% for the past 12 months Microbiological complied by 42% for the past 12 months. The Pump stations all are operational. There was a pollution at Mark Street The Burst pipe fixed on the 28 April 2017 | |
| 8.16 | GERT SIBANDE DISTRICT MUNICIPALITY <ul style="list-style-type: none"> The representative indicated that the District Municipality will cooperate with DWS, Msukaligwa local municipality <i>NO</i> to deal with water pollution matters in the catchment. | |
| 8.17 | MSUKALIGWA MUNICIPALITY <ul style="list-style-type: none"> The representative indicated that there is challenge with regard to resources in dealing with sewer manholes and spillages. However, the Municipality is working on the matter. <i>NO</i> | |
| 8.18 | PIXLEY KA SEME MUNICIPALITY <ul style="list-style-type: none"> Absent without apology. <i>NO</i> | |
| 8.19 | LEKWA LOCAL MUNICIPALITY | |

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| | <ul style="list-style-type: none"> The representative indicated that the oxidation ponds in Morgenzon remain the threat to the water resource. <p style="text-align: center;"><i>Funds</i></p> | |
| 8.20 | Department of Mineral Resources <ul style="list-style-type: none"> Absent without apology. | |
| 8.21 | DARDLEA Pollution and Waste Management <i>- Embio Land West side } Briston</i> <ul style="list-style-type: none"> No presentation provided. <i>lastly boeste pump</i> | |
| 9 | Water Use License Status See Appendix I <i>2 # applications not finalized - 10 km not gazetted area</i> | <i>License processes</i> |
| 10 | Pollution incidents Addressed per agenda. <i>Next to camdon</i> | |
| 11 | WASTE WATER TREATMENT WORKS (WWTW) TASK TEAM <ul style="list-style-type: none"> Information to be provided at the next forum. | |
| 12 | Catchment Management Agency Process <ul style="list-style-type: none"> L Mabona indicated that as previously mentioned the Vaal CMA has been Gazetted, but there is labour issues with regard to staff transfer. <i>9 CMAs going forward.</i> | <i>No Change</i> |
| 13 | Additions to the agenda Climate change Climate Change Risk and Vulnerability assessment on water Resources in the Central interior planning area(Vaal) <ul style="list-style-type: none"> Observation indicates that the seasons are shifting, rains come later than normal, and number of rain days have reduced. Of interest is that minimum and maximum average temperatures are also gradually increasing. With reduced precipitation and increased temperatures, evaporation will be high. Though for Grootdraai Dam catchment (Upper Vaal) water quantity is not serious issue in the short run, water quality is a serious major concern. Increased temperatures and evaporation lead to increased concentration of nutrients and chemicals thereby resulting in algal blooms and high polluted water in our resources. | |
| 14 | Next Meeting 22 August 2017, venue to be announced. | <i>All</i> |
| 15 | Closure Mr L Mabona thanked everyone for participating, also thanked Labrie Mine for hosting and providing catering. The meeting was adjourned at 13H30. | <i>Chairperson</i> |

Appendix I

Water Use Licence Status

| No | Name | Status | Comments |
|----|---------------------------------|------------|---------------------------------------------|
| 1. | Eskom Camden Power Station | Issued | The date is 12 April 2017 |
| 2. | Centaur De Roodepoort (Pty) Ltd | In process | Application lodged on the 30 November 2016. |
| 3. | La Brie Mine | In process | Application lodged on the 24 February 2017. |

Appendix II

Acronyms

| | |
|----------------|-------------------------------------------------------------------------------------|
| EC | Electrical conductivity |
| NH3 | Ammonia |
| pH | Percentage of Hydrogen |
| SS | Suspended Solid |
| WWTWs | Waste Water Treatment Works |
| DWS | Department of Water and Sanitation |
| DMR | Department of Mineral Resources |
| DARDLEA | Department of Agriculture, Rural Development, Land and Environmental Affairs |
| CMA | Catchment Management Agency |
| WRC | Water Research Commission |
| GSDM | Gert Sibande District Municipality |

| | | | | | | | | | | | |
|---------|---------------------------------------------|-----|------|----|-------|-------|-------|-----|-----|-------|-----|
| vbs | VS2 -3 Blesbok Spruit @ R39 Bridge Rietvley | May | 39 | 52 | <0.1 | 0.1 | 2.1 | 7.6 | 62 | 33 | 19 |
| | | Jun | 35 | 18 | <0.1 | 0.4 | 0.1 | 7.5 | 71 | 65 | 122 |
| | | Jul | | | | | | | | | |
| ND_LEEU | Leeuspruit D/S of New Denmark Colliery | May | 25 | 17 | 3.2 | <0.20 | <0.20 | 7 | 35 | 11 | 10 |
| | | Jun | 42 | 50 | 1.2 | 0.31 | <0.20 | 7.5 | 34 | 16 | 18 |
| | | Jul | | | | | | | | | |
| ND_LEEU | VS2-4 Leeuspruit at R39 Welbedacht Bridge | May | 35 | 15 | <0.1 | 0.4 | 0.1 | 8 | 155 | 62 | 142 |
| | | Jun | 34 | 14 | 3.2 | 3.5 | 0.2 | 7.5 | 52 | 45 | 85 |
| | | Jul | | | | | | | | | |
| VAS | VS4 GDDC11 Vaal River @ R35 Bloukop Bridge | May | 45 | 45 | 1.3 | 0.31 | <0.20 | 8.5 | 33 | 18 | 150 |
| | | Jun | 24.2 | 41 | <0.1 | 2.1 | <0.2 | 7 | 15 | 55 | 120 |
| | | Jul | | | | | | | | | |
| VAS | Grootdraai Dam on Vaal River Near Dam Wall | May | 22 | 24 | <0.17 | 0.3 | <0.20 | 7 | 42 | <0.10 | 6 |
| | | Jun | 23 | 14 | <0.10 | 0.2 | <0.20 | 7.4 | 35 | 12 | 9 |
| | | Jul | | | | | | | | | |

Water Quality Guidelines

| | |
|--|-------------------------|
| | - Ideal |
| | - Acceptable |
| | - Tolerable |
| | - Unacceptable |
| | - No Data/ not analysed |

Sub Catchment

Vaal Origin - VE, S-ESW

Schulpspruit - VKV, VRA, ZD

Brummerspruit- VK,VKR, VKK

Blesbokspruit - VBS, VBB, S-Bethal

Leeuspruit- ND-Leeu, S-TUTU, S-ND-South

Majuba- VB, VAS, VGK, S-Majuba