

**APPENDIX C: COMMENTS AND RESPONSE TABLE**

| #   | I&AP Details<br>(X = contact has been added to stakeholder database) |   | Date and mode of communication                    | Issue raised   | Response (as amended for the purposes of the scoping report)  |
|-----|--|---|---|--|---|
| 1   | <b>Environmental related comments and responses</b>                  |   |   |  |   |
| 1.1 | K.A. Fortuin   | X | Email, Emailed registration form, 18 October 2019 | How will the pollution be controlled? Environmental impacts and their controls? Social impacts on residing community? Water consumption control?   | Various specialist studies including biodiversity, ground water, surface water and air quality are being undertaken to identify potential impacts and provide mitigation measures. These will be addressed in the EIA and EMPr which will be circulated for public review at a later stage in the process.  |
| 1.2 | M. Botha   | X | Emailed registration form, 18 October 2019        | Who is the CEA for the smelter?<br><br>There is incomplete or non-compliant mitigation from previous environmental authorisations. How will this be managed in the EIA process? DEFF is not listed as regulatory authority or an interested party. | The Competent Environmental Authority for the smelter application is the DMR.<br><br>Please raise any concerns related to suspected non-compliance with previous environmental authorisations with the applicable authority – DMR, DENC or DWS. The Department of Environment, Forestry and Fisheries (DEFF, formerly DEA) has been included as an I&AP.<br><br>A focus group meeting with the Department of Environment and Nature Conservation, Northern Cape, with whom BMM signed the original Gamsberg Biodiversity offset Agreement, will be held once the specialist biodiversity studies and air quality model are completed to get their inputs, comments and recommendations. |
| 1.4 | S.A.C Hockaday   | X | Emailed registration form, 1 November 2019        | I would like to know if any measures were considered to limit direct and indirect greenhouse gas emissions.  | A Climate Change specialist study has been commissioned for the Gamsberg Smelter Project to assess the emissions from the project and the potential impact on greenhouse gases.   |

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| 1.5 | A. Young o.b.o the Mesemb Study Group                                | X | Emailed registration form,<br>6 November 2019 | Current safeguards concerning preservation of succulent flora at the Gamsberg have been shown to be inadequate and until these issues are resolved no further developments that are likely to negatively impact the biodiversity of the Gamsberg should be undertaken. What specific measures will be taken by the mine to ensure that the floral biodiversity in the area is protected as a result of this development? | <p>As part of the Gamsberg Smelter Project a Biodiversity specialist study is being undertaken to understand the current impacts from the Gamsberg Zinc Mine as well potential impacts from the operation of the smelter and associated facilities on the vegetation of the area.</p> <p>In addition to this an Offset Agreement is currently in place as well as a Biodiversity Management Plan (BMP) to manage the impacts of the mine. This BMP will be updated to include the Proposed Gamsberg Smelter Project.</p> <p>A focus group meeting with the Department of Environment and Nature Conservation, Northern Cape, with whom BMM signed the original Gamsberg Biodiversity offset Agreement, will be held once the specialist biodiversity studies and air quality model are completed to get their inputs, comments and recommendations.</p> <p>Implementation of Biodiversity Offset Agreement has resulted in the Proclamation of the Gamsberg Nature Reserve as Gazetted in the Northern Cape Provincial Gazette on 5 August 2019. The Gamsberg Nature Reserve was proclaimed as a Protected Area under the National Environmental Management Protected Area Act and the Management Plan as required by the NEMPA is currently being compiled by DENC. This will safeguard the conservation of succulents within the secured Gamsberg Nature Reserve for future generations.</p> |
| 1.6 | P. Mokomele o.b.o the Industrial Development Corporation             | X | Emailed registration form,                    | How will waste be treated and what will be the environmental effects?  | Process waste produced by the Gamsberg Smelter Project is proposed to be stored in a new Secured Landfill Facility as stabilised Jarofix. A full specialist ground and surface water studies will be undertaken to inform requirements and any potential impacts.  |

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|     |  |   | 12 November 2019                               |   | Domestic and general waste will be sent to the existing Black Mountain Mining landfill facilities.<br><br>Hazardous wastes will be removed by licenced contractors as is current practice at Gamsberg Zinc Mine.  |
| 1.7 | P. Mokomele o.b.o the Industrial Development Corporation             | X | Emailed registration form,<br>12 November 2019 | Will the building of a smelter mean that there will be more people coming to the area? How will the influx be handled? Has the capacity of the municipality in terms of infrastructure been assessed to accommodate (the project?). | Black Mountain Mining (Pty) Ltd and its associated Business Partners will follow a recruitment process that maximises the use of local skills as far as possible. It is anticipated that there will be some additional people moving to the area particularly where those skills are not available locally.<br><br>There is a skills database in place which is planned to be reviewed in consultation with the DoL and the Khâi-Ma Municipality.<br><br>A Socio-economic specialist study has been commissioned to assess the potential impact on the local infrastructure.<br><br>The Northern Cape Provincial Government (NCPG) is in the process of establishing a SEZ in Aggeneys, which will include the smelter development. The spatial layout and related infrastructure requirements is managed by the NCPG, including the Khâi-Ma local and Namakwa District Municipalities. |
| 1.8 | K. Purnell, o.b.o Wilderness Foundation Africa                       | X | Emailed registration form,<br>15 December 2019 | Wilderness Foundation Africa is concerned with the loss of biodiversity and whether it is being offset sufficiently.  | As part of the Gamsberg Smelter Project a Biodiversity specialist study is being undertaken to understand the current impacts of the Gamsberg Zinc Mine as well potential impacts from the operation of the smelter and associated facilities on the vegetation of the area.<br><br>A focus group meeting with the Department of Environment and Nature Conservation, Northern Cape, with whom BMM signed the original Gamsberg Biodiversity offset Agreement, will be held once  |

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|      |  |   |  |   | <p>the specialist biodiversity studies and air quality model are completed to get their inputs, comments and recommendations.</p> <p>Implementation of Biodiversity Offset Agreement of Gamsberg has resulted in the Proclamation of the Gamsberg Nature Reserve as Gazetted in the Northern Cape Provincial Gazette on 5 August 2019. The Gamsberg Nature Reserve was proclaimed as a Protected area under the National Environmental Management Protected Area Act and the Management Plan as required by the NEMPA are currently being compiled by DENC. This will safeguard the conservation of succulents within the secured Gamsberg Nature Reserve for future generations.</p>   |
| 1.9  | K. Purnell, o.b.o Wilderness Foundation Africa                       | X | Emailed registration form,<br>15 December 2019 | We are very concerned with the fallout from sulphur and its impacts on the surrounding environment, which could affect a large area around the smelter. This needs to be adequately addressed through a thorough modelling of the sulphur fallout in the EIA.                           | <p>An Air Quality specialist study is being undertaken to understand emissions from the proposed Gamsberg Smelter. These emissions will be modelled to give an understanding of potential impacts on the surrounding environment as well as mitigation measures provided to minimise potential impacts.</p> <p>Predicted fallout from the modelling of emissions will be interpreted by biodiversity specialists to assess the potential impact on vegetation. Especially the succulent species.</p> <p>In addition, the Gamsberg Smelter has been designed with the latest technology to minimise SO<sub>2</sub> emissions during the acid making process and in adherence with relevant national guidelines and legal requirements.</p> |
| 1.10 | Johan van Dyk  | X | Emailed registration form,                     | <p>My only concern is sustainability, hence my question:</p> <ol style="list-style-type: none"> <li>1. History in the wider Namaqualand area shows that mining activities are continuing in the area, and once the resource has been depleted, little infrastructure is left</li> </ol> | Black Mountain Mining (Pty) Ltd and Vedanta Zinc International are engaging with a range of government authorities to develop a long-term, post-mining economy for the Aggeneys area.   |

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|          |  |   | 29 January 2020                | <p>behind to support, maintain and create sustainable work and long term investment opportunities for the community. There are various examples of historical mining activities in the area that left the area as “ghost towns” with little sustainable businesses established (which only benefits a few)...i.e. Koiingnaas, Kleinzee, Alexanderbay, Baken / Sanddrift, Nababeep, O’okiep, Carolusberg..... to name a few. Springbok is the only “big hub” in the area.</p> <p>2. My question is, what legacy will the responsible company leave once the resource is completed for example in 20/30 years’ time? Another Ghost Town? Aggeneys is a mining town with majority mining activities. How will the company ensure long term sustainability and employment opportunities post life of mine? Could you present a long term Social Development Plan post life of mine?</p> | The Northern Cape Provincial Government (NCPG) is in the process of establishing a SEZ in Aggeneys, which will include the smelter development. This forms part of BMM (Pty) Ltd and the NCPG’s diversification strategy. The spatial layout and related infrastructure requirements is managed by the NCPG, including the Khâi-Ma local and Namakwa District Municipalities. |
| <b>2</b> | <b>Technical / Technology related comments and responses</b>         |   |                                |   |   |
| 2.1      | J. Crowder o.b.o Standard Bank                                       | X | Email, 18 October 2019         | Thank you very much for the information. Do you perhaps have timelines for the proposed project please?   | Pending approval of the EIA and EMPr, construction is planned to start in 2021. The construction phase will take 2 to 3 years.  |
| 2.2      | J. Leader  | X | Emailed registration form,     | Is there a proposed finish date yet?  | Pending approval of the EIA and EMPr, construction is planned to start in 2021. The construction phase will take 2 to 3 years.  |

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|     |  |   | 18 October 2019                               |   |  |
| 2.3 | S. Meijers o.b.o ELB Engineering Services                            | X | Emailed registration form,<br>22 October 2019 | Has phase 2 been considered in your layouts?                          | Phase 2 has been considered and is already included in all layouts as it is part of the existing Environmental Authorisation and EMPr for the Gamsberg Zinc Mine. The anticipated impacts of Phase 2 will also be assessed cumulatively with additional impacts from the proposed Gamsberg Smelter Project.  |
| 2.4 | C. Steyn o.b.o Connolee Investment                                   | X | Emailed registration form,<br>25 October 2019 | I am interested in the renewable energy section.                      | <p>A zinc smelter is a power intensive plant and electrical power plays a major role in the operation with power outages severely affecting production capacity. As such it is essential that power sourcing be reliable with 100 percent availability for uninterrupted operation of the plant. The following alternative power sources are being considered:</p> <ul style="list-style-type: none"> <li>• Eskom grid substation;</li> <li>• Captive solar power plant;</li> <li>• Wind based power plant; and</li> <li>• Hybrid model (including both Eskom and renewable source).</li> </ul> <p>Considerable focus is placed on utilising alternative/hybrid energy sources such as wind and solar power sources, and not total reliance on the ESKOM grid.</p> |
| 2.5 | S.A.C Hockaday   | X | Emailed registration form,                    | I would like to know the measures taken to ensure water conservation. | The design of the smelter has looked at minimising water consumption against the benchmark of existing zinc smelters with similar capacity around the world and has been designed to include an effluent recycling system with zero liquid discharge. Black  |

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|     |  |   | 1 November 2019                               |  | Mountain Mining (Pty) Ltd will also not exceed the current water allowance.  |
| 2.6 | S.A.C Hockaday   | X | Emailed registration form,<br>1 November 2019 | I would like to know the process alternatives considered and how the electrolytic process was selected to ensure it is appropriate to the resource | <p>A process selection study was carried out by Vedanta Zinc International at conceptual level which involved identifying the technologies currently being used by the largest zinc producers worldwide as a benchmark. The study resulted in the selection of the following two process options:</p> <ul style="list-style-type: none"> <li>• Roast-Leach-Electrowinning (R-L-E) with Jarosite precipitation; and</li> <li>• High Pressure/ Atmospheric Acid Leach.</li> </ul> <p>The survey of the largest global zinc producers confirmed that conventional Roast-Leach-Electrowinning (R-L-E) is by far the most used and efficient processing route within excess of 85% of the zinc producers using variations of the process.</p> |
| 2.7 | S.A.C Hockaday   | X | Emailed registration form,<br>1 November 2019 | I would like to know if the use of renewable energy sources were considered as alternative to grid electricity dependence.                         | <p>A zinc smelter is a power intensive plant and electrical power plays a major role in the operation with power outages severely affecting production capacity. As such it is essential that power sourcing be reliable with 100 percent availability for uninterrupted operation of the plant. The following alternative power sources are being considered:</p> <ul style="list-style-type: none"> <li>• Eskom grid substation;</li> <li>• Captive solar power plant;</li> <li>• Wind based power plant; and</li> <li>• Hybrid model (including both Eskom and renewable source).</li> </ul>  |



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|     |  |   |   |  | Considerable focus is placed on utilising alternative/hybrid energy sources such as wind and solar power sources, and not total reliance on the Eskom grid.  |
| 2.8 | N. Uys o.b.o Minerals to Metals Initiative, University of cape Town  | X | Emailed registration form, 13 November 2019 | <p>Is the use of the term smelter not misleading? Our understanding is that it is a Roast-Leach-Electrowinning (R-L-E) process as opposed to a smelter.</p> <p>Roasting: A pyrometallurgical process where ore/concentrates is heated to below its melting point, in the presence of air, in order to oxidise impurities. In the case of zinc sulphide ores, sulphur is oxidised. Most common equipment for this process is a rotary kiln.</p> <p>Smelting: A pyrometallurgical process where metals are extracted from ore/concentrate heating above the melting point of all constituents in a furnace and separating into metal rich (blister, matte) and oxide-rich (slag) phases that are tapped separately from the furnace.</p> <p>Questions:</p> <p>Technology</p> <ul style="list-style-type: none"> <li>• What was the driving factor for the Roast-Leach-Electrowinning (R-L-E) technology choice? <ul style="list-style-type: none"> <li>○ What is the fuel source for the roasting step (coal, gas, diesel), where is it coming from and how is it stored?</li> <li>○ What are the exhausts from the R-L-E process?</li> <li>○ What is the expected CO2 footprint?</li> </ul> </li> </ul> | <p>“Zinc smelter” is the most commonly used terminology worldwide for extracting zinc metal from zinc bearing concentrate. Conventional R-L-E is one of the process routes which is intended to be implemented to treat the Gamsberg zinc concentrate.</p> <p>At the Gamsberg Zinc Smelter it is the intention to apply the Roasting process, where in the presence of air, the zinc sulphide is oxidised to zinc oxide and sulphur in concentrate is oxidised to sulphur dioxide which is cleaned and converted to sulphuric acid. The process is exothermic and auto thermal.</p> <p>The technical process queries have been addressed in Section 3.2 of the EIA report.</p> |

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|   |  |                                | <ul style="list-style-type: none"> <li>○ Are there any deleterious metals/dust in the exhaust gas?</li> <li>○ Has gas dispersion been modelled?</li> <li>○ Has any means of CO2 capture been considered?</li> <li>● What other technology options (as opposed to R-L-E) were considered (e.g. pressure leaching)?</li> </ul> <p>Products</p> <ul style="list-style-type: none"> <li>● Apart from zinc and sulphuric acid, are there any other proposed or potential sellable products (e.g. metal impurities such as silver, indium, germanium which are removed during purification)? If there are potential other sellable products, what is hindering their inclusion in the process flowsheet?</li> <li>● Is there a reliable market for sulphuric acid? <ul style="list-style-type: none"> <li>○ If so where is the market?</li> <li>○ How will it be stored and transported?</li> </ul> </li> <li>● Is there potential for a close-by facility for fertiliser production? <ul style="list-style-type: none"> <li>○ Is there a market for fertiliser?</li> </ul> </li> <li>● Will all the concentrate be processed by the proposed refining process, or will a portion of the concentrate be exported?</li> </ul> <p>Waste</p> <ul style="list-style-type: none"> <li>● What are the proposed waste management strategies? <ul style="list-style-type: none"> <li>○ In terms of leach residues, impurity removal products, flue-gas precipitates, etc.</li> </ul> </li> </ul> | <p>Leach residues with a potential market value such as Manganese oxides will be sold into the market. The remaining hazardous waste streams such as Jarosite will be stabilised to Jarofix and disposed of</p> |

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|   |  |                                | <ul style="list-style-type: none"> <li>○ What is the current plan for iron precipitates (Jarosite) and gypsum products?</li> <li>○ Have any other options for minimisation/elimination of waste production been considered?</li> <li>● What is the expected department of deleterious elements into waste streams?</li> </ul> <p>Utilities</p> <ul style="list-style-type: none"> <li>● Is the Eskom Aggeneys Substation the sole source of the plant's electricity requirements? <ul style="list-style-type: none"> <li>○ What is the anticipated electrical power demand for the process, particularly the energy intensive electrowinning step?</li> <li>○ Can Eskom Aggeneys Substation accommodate this additional electricity demand?</li> <li>○ What are the impacts associated with this (locally and nationally)?</li> <li>○ What additional environmental concerns need to be addressed in building the power line from the substation?</li> </ul> </li> </ul> <p>Given an already constrained national grid, what is the 'backup' plan if Eskom's electricity provision is constrained (periods of less or no electricity)?</p> | <p>to a dedicated secure landfill facility in close proximity to the smelter complex.</p> <p>Samples of Jarosite and jarofix obtained from sister operations in India that have a similar concentrate make-up as the Gamsberg Zinc Mine will be analysed to determine waste content and assist with the waste classification.</p> <p>When fully reliant on Eskom for electricity supply the Aggeneys Substation will be the sole source of electricity, however, as part of the design of the project the sole reliance on Eskom is being offset by investigating the implementation of alternative sources for electricity such as solar, wind power and various combinations thereof.</p> <p>The maximum demand anticipated is 150MW.</p> <p>The current Aggeneys Eskom substation will be upgraded as part of the project and additional transformers will be installed at the substation. Installation of the additional transformers will increase the footprint of the current substation slightly.</p> <p>The current power pylons of the installed power line could be utilised as it was constructed to enable the replacement of only the power line itself and not the pylons</p> |

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|          |  |   |   |   | Active partnerships is being investigated with alternative power producers as per the IPP process. Currently there have been no such developments in the vicinity of the Gamsberg Smelter Project due to lack of contracts with Eskom.   |
| <b>3</b> | <b>Procurement of Services (people offering their services) related comments and responses</b> |   |   |   |  |
| 3.1      | C.G. March   | X | Emailed registration form,<br>16 October 2019 | Mostly interested in the job creation aspects as well as the prospect(ive) projects social economic development objectives.   | During the construction phase approximately 6 000 jobs will be created and 1 200 during operations.<br>During the construction phase the Business Partners will be aligned with Black Mountain Mining (Pty) Ltd/ Department of Labour (DoL)/ Khâi-Ma Municipality requirements.<br>For the operational phase the normal Black Mountain Mining (Pty) Ltd recruitment process will be in place.<br>Black Mountain Mining (Pty) Ltd have invested more than R100 million in LED projects incl. community development between April 2014 and December 2019 towards empowering of community members. Black Mountain Mine (Pty) Ltd has further committed to spend close to R150 million over the next five years (2019-2023) on local economic development initiatives. |
| 3.2      | E. Beukes  | X | Emailed registration form,<br>17 October 2019 | With the development of the new Gamsberg Zinc Mine there has been no significant differences in our communities in terms of development and economic empowerment despite millions of rand raised through the SLP being spent. | Black Mountain Mining (Pty) Ltd currently contributes towards the employment of approximately 2 850 people (direct/indirect). Of the 1 804 people directly employed, Khâi-Ma employees represent 25% of the total employment and Namakwa as a whole 61%. Gamsberg Zinc Mine has contributed significantly to the local employment increase experienced since the start of its plant operations in 2018.  |

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|   |  |                                | <p>How will the new smelter help improve the economic empowerment of our local communities?</p> <p>How can it help to employ fewer contractors outside the Northern Cape who are impoverishing our small businesses?</p> <p>How can incumbent contractors be forced to subcontract small businesses for the purpose of building them?</p> <p>Will the mine stop bringing in (external, outside Khâi-Ma) people and companies while we have local capacity?</p> <p>Compared to Postmasburg which expanded to the new mines, how will the smelter contribute so that we see similar development in our towns?</p> <p>“Contact details for L. Steenkamp provided.”</p> | <p>Currently 177 community members are enrolled at the TVET College in Okiep. This is planned to increase to approximately 250 over 2020. All candidates will have the opportunity to be employed.</p> <p>Black Mountain Mining (Pty) Ltd will ensure that the Business Partners follow the required recruitment process and prioritise local people.</p> <p>Black Mountain Mining (Pty) Ltd have invested more than R100 million in LED projects including community development between April 2014 and December 2019 towards empowering of community members. Local skills will be prioritised for employment. There is a skills database in place which is planned to be reviewed in consultation with the DoL and the Khâi-Ma Municipality.</p> <p>Black Mountain Mining (Pty) Ltd is in the process of implementing a preferential procurement policy which aims to address the current shortcoming in the Enterprise and Local Supplier Development process.</p> <p>Black Mountain Mining (Pty) Ltd has spent just over R4.2 million towards small business support and enterprise development. It is Black Mountain Mining (Pty) Ltd’s aim to ensure that SMME mentoring and support are implemented and provided.</p> <p>There is a process in place for businesses to register for providing services to Black Mountain Mining (Pty) Ltd. Black Mountain Mining (Pty) Ltd is committed and will continue to encourage our business partners to procure material or services as far as possible from our local suppliers.</p> |

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| 3.3 | G. Stock, o.b.o Moolmans   | X | Emailed registration form,<br>17 October 2019 | Please to keep us informed of the EIA development as it progresses.  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project. |
| 3.4 | I. Andrea o.b.o Southey Contracting                                  | X | Emailed registration form,<br>17 October 2019 | We were part of Phase 1 and completed the scaffolding for civils and mechanical work without any injuries.   | Thank you for your comment.  |
| 3.5 | M. van Kuijeren o.b.o B&W Instrumentation & Electrical               | X | Emailed registration form,<br>17 October 2019 | <p>B&amp;W complied 100% on the Vedanta Environmental Management Phase throughout the Project Construction Phase.</p> <p>B&amp;W complied 100% on the Vedanta Safety Management Plan, achieving 100% Safety Audit via Vedanta and their Safety Agents 8 months in a row.</p> <p>B&amp;W also received the Safety Excellence award for the Gamsberg Zinc Mine 1st Phase presented by Vedanta CEO and Chairman.</p> <p>B&amp;W also won the Reticulation Contractor of the Year by the ECA (Electrical Contractors Association) for the OHL and Sub-station Installation Scope of Work on the Gamsberg Project.</p> <p>B&amp;W was runner-up for the National Safety Award Contractor of the Year by the ECA for the Gamsberg Project.</p> | Thank you for your comment.  |

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|     |  |   |   | B&W was also runner-up for the Installation Contractor of the Year-Industrial by the ECA for the Gamsberg Project.   |   |
| 3.6 | T. Padotan<br>o.b.o Roadlab  | X | Emailed registration form,<br>17 October 2019 | We conduct civil engineering materials testing.  | Thank you for your comment  |
| 3.7 | C. Steyn o.b.o EOH   | X | Emailed registration form,<br>27 October 2019 | Job opportunities should be positive.  | During the construction phase approximately 6 000 jobs will be created and 1 200 during operations.<br><br>During the construction phase the Business Partners will be aligned with Black Mountain Mining (Pty) Ltd/ Department of Labour (DoL)/ Khâi-Ma Municipality requirements.<br><br>For the operational phase the normal Black Mountain Mining (Pty) Ltd recruitment process will be in place. |
| 3.8 | M. Vogel o.b.o CSG Foods (Pty) Ltd                                   | X | Emailed registration form,<br>5 November 2019 | We are South African registered company and a subsidiary of CSG Group of Companies. CSG Foods specialize in Camp Construction, Camp Management, Catering, Cleaning, Laundry and Related Services. We will without hesitation take you to some of our current sites in order to introduce you to our current clients for reference purposes and will be able to assist you immediately with proposed solutions and pricing you might require. | Thank you for your comment  |
| 3.9 | P. Mokomele o.b.o the Industrial                                     | X | Emailed registration form,                    | I would be interested in knowing how unemployment will be impacted.  | During the construction phase approximately 6 000 jobs will be created and 1 200 during operations.   |

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|      | Development Corporation  |   | 12 November 2019                               |   | During the construction phase the Business Partners will be aligned with Black Mountain Mining (Pty) Ltd/ Department of Labour (DoL)/ Khâi-Ma Municipality requirements.<br>For the operational phase the normal Black Mountain Mining (Pty) Ltd recruitment process will be in place.  |
| 3.10 | D. Bursic o.b.o Novatec  | X | Emailed registration form,<br>12 November 2019 | As supplier of control system (system integrator), LV equipment (MCC, PLC, RIO, LCS and other similar types) on Gamsberg Project phase 1, we are showing interest for future project phases (smelter, second concentrator plant) that will follow.  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |
| 3.11 | R. Stuurman, o.b.o Desert Road Inn                                   | X | Emailed registration form,<br>18 November 2019 | As the Social and Labour Plan says, local small business must be uplifted. We as small business owners in Khâi-Ma gained nothing from the projects at Gamsberg. I hope this project will not be the same as the first one.  | Black Mountain Mining (Pty) Ltd has spent just over R4.2 million towards small business support and enterprise development. It is Black Mountain Mining (Pty) Ltd's aim to ensure that SMME mentoring and support are implemented and provided.<br><br>There is a process in place for businesses to register for providing services to Black Mountain Mining (Pty) Ltd. Black Mountain Mining (Pty) Ltd is committed and will continue to encourage our business partners to procure material or services as far as possible from our local suppliers. |
| 3.12 | R. Nortje, o.b.o Rowena's Cottage                                    | X | Email,<br>18 November 2019                     | As an entrepreneur, and as an interested party, I would like to congratulate you in development that is taking place in our Municipal Area. Question will be who will benefit in this project and how?<br><br>With the first development of the current Plant that is operational, outside company's benefited and left with the Capital. Will it be the repeat of future beneficiaries? I am a | Thank you for your comment .<br><br>There is a process in place for businesses to register for providing services to Black Mountain Mining (Pty) Ltd. Black Mountain Mining (Pty) Ltd is committed and will continue to encourage our business partners to procure material or services as far as possible from our local suppliers.  |



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|------|--|---|--|---|--|
|      |  |   |  | black female business owner. My business does purified water whereby the machine is an upmarket RO 4000 Reverse Osmosis Machine. My company did not benefit from the first project. Pofadder itself was not developed and business shift to Springbok and Kakamas. Are we going to see a repeat? My Company's name is Rowena's Cottage, producing 'Pofadder Water'.   | Rowena's cottage is currently benefitting from business from the current operations at Gamsberg and Deeps. Black Mountain Mining (Pty) Ltd will continue to encourage business partners to procure material or services, as far as possible, from local suppliers. |
| 3.13 | S. Williams<br>o.b.o BVI   | X | Emailed registration form,<br>19 November 2019 | BVI Consulting Engineers was involved with the previous phase 1 of this project.  | Thank you for your comment   |
| 3.14 | B. Harley, o.b.o B&W Instrumentation and electrical                  | X | Email,<br>22 November 2019                     | Thank you for the comprehensive report on the project and indeed the existing environment. B&W were involved extensively on the concentrator project particularly when building the overhead line from Aggeneys to site regarding the line route and the process and procedures we had to adhere to. Both B&W and the client team I believe achieved the goals set in maintaining and preserving the environment ensuring absolute minimum damage and relocation. B&W will be attending the public meeting at Pofadder on the 4th of December 2019. | Thank you for your comment.  |
| 3.15 | N. Bruhns, o.b.o FCS   | X | Emailed registration form,<br>26 November 2019 | We are Suppliers, based in Upington in the Northern Cape, and would be so glad if you list us as an interested party for the Gamsberg Smelter and Bulk Water Pipeline Project. Please be so kind and keep us updated.   | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.   |

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| 3.16     | Harry Ruiters  | X | Emailed registration form,<br>15 January 2019 | <p>Please find attached the registration form as received to get more information regarding the Gamsberg Smelter and it's process.</p> <p>I wish to also know more about the following:</p> <p>Which vacancies will be available at the Gamsberg Smelter including job titles?</p> <p>What are the requirements and training needs for the construction phase?</p> | <p>Thank you for your comment .</p> <p>There is a process in place for businesses to register for providing services to Black Mountain Mining (Pty) Ltd. Black Mountain Mining (Pty) Ltd is committed and will continue to encourage our business partners to procure material or services as far as possible from our local suppliers.</p> <p>The list of vacancies and specific requirements would be finalised at a later stage.</p>  |
| 3.17     | Blaize Magee   | X | Emailed,<br>29 January 2019                   | <p>We provided the plant substation 11kV and 66kV protective relaying and SCADA integration for the Black Mountain project.</p> <p>We would like to be of assistance on the new smelter. Would you let me know who we should talk to in this regard ?</p>  | <p>Thank you for your comment .</p> <p>There is a process in place for businesses to register for providing services to Black Mountain Mining (Pty) Ltd. Black Mountain Mining (Pty) Ltd is committed and will continue to encourage our business partners to procure material or services as far as possible from our local suppliers. The list of vacancies and specific requirements would be finalised at a later stage.</p> <p>Your details have been forwarded to Black Mountain Mining (Pty) Ltd.</p> |
| <b>4</b> | <b>I&amp;AP registration related comments and responses</b>          |   |   |  |  |
| 4.1      | M. Letsoso,<br>o.b.o NCPG  | X | Email,<br>16 October 2019                     | New I&AP contact details provided for NCPG   | Thank you for the update. The database has been updated accordingly.   |

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|-----|--|--------------------------------|---|--|--|
| 4.2 | A. Van Schalkwyk o.b.o Waltons                                       | X                              | Email,<br>16 October 2019                     | Please remove me from this mailing communication, thanks.  | Thank you for the update. The database has been updated accordingly.   |
| 4.3 | L. Ntobela o.b.o NCPG  | X                              | Email,<br>16 October 2019                     | New I&AP contact details provided for NCPG Renee Williams and Lucretia van der Westhuizen  | Thank you for the update. The database has been updated accordingly.   |
| 4.4 | F. Scott o.b.o Osborn Engineered Products SA                         | X                              | Email,<br>16 October 2019.                    | Osborn Engineered Products will be interested in participating on this Project, I will submit the document back to you.              | Comment noted. No further correspondence received to date.   |
| 4.5 | A. Costa o.b.o the IDC   | X                              | Email,<br>16 October 2019                     | I don't require communications on this matter, thank you.  | Thank you for the update. The database has been updated accordingly.   |
| 4.6 | Dr L. Kirsten o.b.o SMEC   | X                              | Email,<br>16 October 2019                     | We are not an interested or party in relation to this notice. It should therefore be ok if you removed me from the circulation list. | Thank you for the update. The database has been updated accordingly.   |
| 4.7 | I. Coetzee o.b.o Radio NFM   | X                              | Emailed registration form,<br>16 October 2019 | "Request I&AP registration."   | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project. |
| 4.8 | A. Duff o.b.o MV Switchgear  | X                              | Email,  | We would appreciate receiving any further applicable information.  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project. |

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|------|--|---|---|--|---|
|      |  |   | 17 October 2019   |  |   |
| 4.9  | L. Smith o.b.o NCPG  | X | Email,<br>18 October 2019                               | 1. Ms D Stander - Environmental Management<br>2. Dr L Mabona - Infrastructure Management<br><br>Please receive this communicate for your attention and noting. The HOD requests that this office be kept updated in this regard. | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |
| 4.10 | JA. Kruger   | X | Email,<br>18 October 2019                               | “Additional I&AP contact details provided for Cassie Kruger.”  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |
| 4.11 | K.A. Fortuin,  | X | Email,<br>Emailed registration form,<br>18 October 2019 | How many I&AP participants do you have, and can anyone join? Also, when will the first meeting be held and where? Lastly, is there a formal process of research being done on this project?                                      | There are currently just under 1 050 participants registered on the stakeholder database. Initial public meetings were held from 2 to 5 December 2019 which all registered I&AP’s were informed of. Further meetings will be held later in the process. |
| 4.12 | M. Swarts o.b.o Labex  | X | Emailed registration form,<br>18 October 2019           | Suppliers of lab equipment and chemicals   | Thank you for your comment. I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |
| 4.13 | M. Ferreira o.b.o Quality Tube Services                              | X | Emailed registration form,                              | We are very interested in the project. Supply of steel pipe and related fittings as well as rubber lining and HDPE lining and HDPE pipes and fittings.   | Thank you for your comment. I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |

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|      |  |   | 18 October 2019                               |  |   |
| 4.14 | R. Stuurman<br>o.b.o Desert Road Inn                                 | X | Emailed registration form,<br>18 October 2019 | As a small business owner, my question is whether they will give us businesses in Khâi-Ma opportunity to benefit from the project? On the original project there were only promises. | There is a process in place for businesses to register for providing services to Black Mountain Mining (Pty) Ltd.<br><br>Black Mountain Mining (Pty) Ltd is committed & will continue to encourage our business partners to procure material or services as far as possible from our local suppliers. |
| 4.15 | C. Vele o.b.o<br>Industrial Analytical                               | X | Emailed registration form,<br>18 October 2019 | To be the supplier of certified reference materials, high purity compounds, chemicals and claïse fusion equipment for sample preparation.  | Thank you for your comment. I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |
| 4.16 | JA. Wessels  | X | Emailed registration form,<br>8 November 2019 | May I please be given opportunity to comment on the EIA documentation/reports.   | All registered I&APs will be afforded the opportunity to comment on the scoping report and EIA report when these reports are distributed for public review.<br><br>I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.           |
| 4.17 | D. Mclvor o.b.o<br>Baltimo Engineering Agency                        | X | Email,<br>19 November 2019                    | Please include us on correspondence relating to this project.  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |
| 4.18 | H. Yingsheng,<br>o.b.o ENFI  | X | Email,  | Sorry for the late reply due to annual leave. I copied in Maggie. She will contact you.  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.  |

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|          |  |   | 20 November 2019                   |  | As of this time, no further comment has been received from the I&AP.   |
| 4.19     | M. Lee, o.b.o ENFI   | X | Email, 21 November 2019            | Thank you very much for your information. Please feel free to let us know if there's any updated or request.   | Thank you for your comment. I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.   |
| 4.20     | J. Whon  | X | Email, 25 November 2019            | As discussed over the phone, could you please send me more info regarding this EIA?  | I&AP has been registered on the I&AP database to receive any and all current and future public communications regarding the project. Draft Scoping Report was emailed for comment on 29 January 2020.  |
| 4.21     | R. Kamish. O.b.o Mainstream Renewable Power                          | X | Email, 10 January 2020             | Could you kindly register myself as an Interested and Affected Party?  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.   |
| <b>5</b> | <b>Comments received during the Scoping Phase</b>                    |   |                                    |  |  |
| 5.1      | Dr Philip Desmet   | X | Emailed comments, 28 February 2020 | Thank you for the draft scoping report. I am mostly happy with the content of the report in terms of project description and impact identification. I do feel, however, that the document does downplay somewhat the scale of the project particularly the scale of the air quality impacts. It should be recognised that this is a sulphuric acid mine that produces zinc as a by-product. Even if the smelting process is 95% efficient at capturing emission that still leaves approximately 22 500 tpa. of SO <sub>2</sub> that escapes into the local environment. I think the scoping report could | <p>The design of the Acid plant will meet the requirements of the IFC Performance standards where a maximum of 1.5 kg of SO<sub>2</sub> is emitted per tonne of Sulphuric Acid. Cognisance is taken that even at this design and operational requirement the volume of emissions equates to a maximum of 817.5 tonnes of sulphur dioxide emitted annually.”</p> <p>The impact of emissions of the Acid plant is potentially the single most significant impact in conjunction with storing and transporting acid. The models for emission was run against the legal limits as per the Air Quality Act. Cognisance is taken that this</p> |

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|   |  |                                | <p>have done a better job at discussing the quantum of emissions impacts given that there is detailed knowledge of the input chemistry and there is a detailed breakdown of the smelter outputs. I hope that greater detail on emissions will be provided in the final scoping report.</p> <p>On page 148 the draft scoping report already attempts to downplay the significance of the smelter emissions. Given that nothing is presented in the draft document quantifying the chemistry, quantity or extent of emissions there is no factual basis for making these assumptions. We need to bare in mind that this smelter will be the largest zinc concentrate smelter in the world by volume of output and it is processing an ore with an exceptionally high sulphur content. A quick scan of the scientific literature on smelter emission impacts on biodiversity paint a very different picture to your comments in the draft scoping report:</p> <ol style="list-style-type: none"> <li>1.<br/><a href="http://repository.unam.edu.na/bitstream/handle/11070/361/Nunes2007.pdf?sequence=2&amp;isAllowed=y">http://repository.unam.edu.na/bitstream/handle/11070/361/Nunes2007.pdf?sequence=2&amp;isAllowed=y</a> Here in a savanna system they are picking up significant plant community impacts 1km from the smelter.</li> <li>2.<br/><a href="https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1442-9993.2000.tb00071.x">https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1442-9993.2000.tb00071.x</a> A quote from the abstract: "...Species richness in high SO2 plots (up to 5 km</li> </ol> | <p>approach is potentially not sufficient to address the biodiversity impacts and your advice to rather utilise the 5% of background approach is appreciated. As part of the further studies the modelling will be recalculated based on the 5% background to determine the impact on succulent species and determine the extent of the potential plume.</p> <p>To address the cumulative impacts of the various planned developments by Black Mountain Mining (Pty) Ltd a strategic biodiversity roadmap will be developed to ensure that the integrity of the current offsets is not destroyed.</p> |

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|   |  |                                | <p>from the source) was approximately half that of control plots..."</p> <p>3.<br/> <a href="https://www.sciencedirect.com/science/article/abs/pii/S006320797000293">https://www.sciencedirect.com/science/article/abs/pii/S006320797000293</a></p> <p>4.<br/> <a href="https://www.nrcresearchpress.com/doi/abs/10.1139/e98-001#.Xj00xy17GAw">https://www.nrcresearchpress.com/doi/abs/10.1139/e98-001#.Xj00xy17GAw</a> A quote from the abstract on this one: "...The maximum radius of contamination varies among the major smelter metals, ranging from 70 km for Cd to 104 km for As..."</p> <p>In terms of any air quality/emission studies that are conducted for the final scoping report I would like to request that raw model outputs are provided (i.e. continuous value surfaces with emissions extrapolated to limit of detection) and not summarised isobar maps indicating particular significant thresholds. Typically, threshold maps use indicators set for human receptors which may be legislated or recommended in local or international air quality standards. A unique attribute of the local landscape is the incredible small size of many of the species of conservation concern. Some species are barely larger than a pinhead. In this context, thresholds acceptable for human health and safety are not necessarily acceptable for biodiversity health and safety. In the absence of any quantitative research to the contrary I would recommend using an emissions threshold of 5% of</p> |  |



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|     |   |   |                                | <p>background rate for defining the default threshold for impact significance.</p> <p>Given what I read in the literature, it is highly likely that this threshold even with mitigation will extend far beyond the dust impact quantified for the mine EIA. How then will a biodiversity offset be calculated given (1) that existing offset and set aside sites will be impacted by emissions; (2) there will be a cumulative impact of new mining (Swartberg), prospecting and the smelter; and, (3) given points 1 and 2 that impacted biodiversity features will now become more un-offsettable meaning that the “no net loss” goal of Vedanta will be pushed even further from their grasp?</p>             |  |
| 5.2 | John Geeringh, Senior Consultant Environmental Management, Eskom Transmission Division: Land & Rights | X | By email, 3 February 2020      | <p>Eskom requirements for work in or near Eskom servitudes.</p> <ol style="list-style-type: none"> <li>1. Eskom’s rights and services must be acknowledged and respected at all times.</li> <li>2. Eskom shall at all times retain unobstructed access to and egress from its servitudes.</li> <li>3. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer.</li> <li>4. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer’s activities or because of the presence of his equipment or installation within the servitude restriction</li> </ol> | Thank you for the input. Black Mountain Mining (Pty) Ltd is aware of Eskom’s requirements. Relevant mitigation measures will be included in the EMPPr. |

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|   |  |                                | <p>area, the developer shall pay such costs to Eskom on demand.</p> <p>5. The use of explosives of any type within 500 metres of Eskom’s services shall only occur with Eskom’s previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.</p> <p>6. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom’s satisfaction.</p> <p>7. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom’s services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer’s equipment.</p> |  |

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|   |  |                                | <p>8. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager</p> <p>Note: Where an electrical outage is required, at least fourteen work days are required to arrange it.</p> <p>9. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</p> <p>10. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.</p> <p>11. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</p> <p>12. Equipment shall be regarded electrically live and therefore dangerous at all times.</p> |  |

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|     |  |   |                                | <p>13. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</p> <p>14. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</p> <p>15. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</p> <p>16. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.</p> |  |
| 5.3 | Cliffy o.b.o. Upington Container Park                                | X | Email, 3 February 2020         | <p>We (Upington Container Park) specialise in converting containers into Offices, Storages and Spaza Shops. These are just a few examples of what we are able to provide to the public.</p> <p>We came across the Gamsberg Smeltery Project, and it seems they will be needing offices and libraries.</p>  | Thank you for your interest in providing services to the project. I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project. |

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|-----|--|---|--------------------------------|--|---|
|     |  |   |                                | Will you be able to help me with the specification on these above mention, because we would like to help you by submitting a quote as soon as possible.  |   |
| 5.4 | Robin Clarke, B.Sc (Mech Eng) SAIMEchE, Executive Director Hot Dip Galvanizers Association Southern Africa | X | Email, 5 February 2020         | <p>The Hot Dip Galvanizers Association of Southern Africa represents the interests of 20 Galvanizers situated in Southern Africa. These Galvanizing companies probably represent about 80% of the value of galvanizing in the region and possibly approximately 90% of the weight of steel that is galvanized.</p> <p>Since galvanizing technologies represents over 60% of all zinc consumption there is therefore strong congruence between the mining and production of zinc and our industry. Vedanta Resources is an Associate member of our organization and has a vested interest in our efforts to stimulated market conditions for the galvanizing industry.</p> <p>The news of the zinc smelter/ processing plant is therefore excellent news.</p> <p>It is, we believe, imperative that the technical specification related to the corrosion protection for the steelwork of the new smelter be that of hot dip galvanized to ISO 1461:2011 standards and that fabrication of this steelwork as well as the galvanizing thereof be performed locally in S.A.</p> <p>The following commercial benefits and positive social responsibility spin-offs for both parties are listed:</p> <ul style="list-style-type: none"> <li>• local Increase in Zinc sales for Vedanta Resources related to the project - short term.</li> </ul> | Thank you for your input to the process. I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project. |

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|     |   |   |                                | <ul style="list-style-type: none"> <li>Stimulation of the S.A. galvanizing industry, presently operating with at least 30% spare capacity – creates a platform for longer term market and stimulation for zinc sales.</li> <li>Positive social impact resultant from localizing of fabrication and galvanizing of steelworks through job creation at both fabricators and galvanizers.</li> </ul> <p>Accountability for project deliverables is localized and simplified.</p> |   |
| 5.5 | Karen Low, Project Development Manager, juwi Renewable Energies (Pty) Ltd | X | Email, 21 February 2020        | Please can you register me as an I&AP for the Gamsberg Smelter EIA (SLR project reference: 720.22013.00002).  | I&AP has been registered on the I&AP database to receive any and all future public communications regarding the project.                  |
| 5.6 | Leonardo Steenkamp  | X | Email, 3 February 2020         | Thank you for the synopsis. I humbly request a full copy of the Scoping Report. This will assist in affording us an opportunity to peruse the full impact and to exploit opportunities for the community and going forward how do we protect the environment as well.   | Mr Steenkamp was sent an electronic copy of the Draft Scoping Report and was also referred to the SLR Project website on 4 February 2020. |
| 5.7 | Sasha McPherson, Business Development, Webber Wentzel                     | X | Email, 3 February 2020         | Please amend the key email contact at Webber Wentzel from Stuart Boyd (COO) to Sean Testa (Senior Business Development Manager (Mining and Energy))? This will enable us to review and assess your emails and then liaise with the most appropriate legal experts more efficiently.   | Contact has been updated in the I&AP database.  |

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| 5.8 | Gerhard Visser, Landowner  | X | Emailed letter, 9 March 2020   | <p>I oppose the approval of the proposed smelter, namely Gamsberg.</p> <p>Firstly, there is not enough water available in the Orange River for the proposed 10 ML additional water the smelter will require. The existing Water Use Licence allowing 44 ML (Sedibeng) will therefore need to be increased. This is against the background of the Orange River which has run dry on two occasions in the last ten years with agriculture (primary work provider and food provider) under pressure due to water restrictions.</p> <p>Secondly farmers around Gamsberg Mine have an agreement with Vedanta – which is recorded in the EMPr – to provide them and all farmers with water should the groundwater in the area be affected as a consequence of open cast mining. It was clear from the Background Information Document of 4 December 2019 that the mine did not account for this potential requirement.</p> | <p>Thank you for your comments.</p> <p>The volume of water to be abstracted to supply the Smelter is within the already authorised abstraction volumes which are included and allocated in the DWS reserve determination for the Orange River. No additional water volumes are being requested in this application. Gamsberg will operate the current activities and the Smelter within the approved water allocation.</p> <p>Black Mountain Mining (Pty) Ltd is aware of the commitment in the mine’s EMPr and Farmer’s Impact Agreement to provide farmers with an alternative water source should groundwater resources be impacted by mining. The Background Information Document is a summary document which is unable to reflect the full complexities of a project. The Smelter EIA water balance will include consideration of the potential volumes of water for farmers covered by the agreement if their resource is impacted by mining.</p> <p>Current and historic groundwater monitoring conducted since 2015 does not reflect any impacts on groundwater levels and in the quality of farms production and monitoring boreholes. Monitoring of these boreholes as well as the BMM and Gamsberg Zinc Mine groundwater monitoring programme will continue for the life of mine. Groundwater monitoring closer to the BMM operations has not indicated any impacts to date on groundwater quantities. Monitoring boreholes close to operations would serve as early warning indicators to impacts on groundwater levels (quantity) and the quality of production boreholes that are located further away on farmers properties. Should impacts on groundwater levels</p> |

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|   |  |                                |  | <p>(quantity) and quality at monitoring boreholes in the immediate surroundings of operations be recorded, Black Mountain Mining (Pty) Ltd will investigate and commence with contingency plans to supply water as and when farmers production boreholes are impacted.</p> <p>With the existing shortages for electricity provision, the power required for the proposed smelter is not available. Renewable energy projects which are referred to as alternatives, do not provide more than 5% - 10% of the current national energy generation capacity. The increased roll out of renewable energy projects in the Gamsberg area for the purpose of providing the smelter with electricity, has the consequence that further destruction of the base in the environment takes place.</p> <p>The pollution impact of the smelter is unacceptable in a region where organic, extensive production of meat is the only feasible farming practice. This low rainfall region has unique pastures, which gives lamb meat a very specific taste and smell. New generation consumers place an extremely high premium on organically produced meat products as well as the unique meat taste due to the area. With the inevitable polluting of the area and pastures by the proposed smelter the farmers will lose these marketing and premium advantages. Even for future generations. Farmers bordering Gamsberg Mine have since 2016 been bringing to Vedanta's attention the fact that dust pollution in the area is unacceptably high. This dust spreads up to a</p> |
|   |  |                                | <p>The impact of power supply and the potential new renewable energy projects in the area will be included in the cumulative impact assessment in the EIA Report.</p> <p>The Project team is also investigating partnerships with regional approved alternative power producers to expand the capacity for sole supply of power to the project and reduce reliance on Eskom for power supply.</p>  |  |
|   |  |                                | <p>An Air Quality Impact Assessment (AQIA) is being undertaken which will model the dispersion of pollutants from the smelter. This will then be assessed against baseline conditions, South African and international standards, and the resultant impacts assessed. The secondary impact on animals that graze these areas will be included.</p> <p>Dust monitoring around the Gamsberg Zinc Mine operations indicates that the dust liberated by blasting and dumping activities at the waste rock dump in particular does not travel as far as the neighbouring properties (fallout dust). From the onsite electronic sampling network the PM10 and smaller fraction is measured to be within the national limits as per the National Air Quality Act.</p> |  |



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|   |  |                                | <p>radius of 30 km around the mine. Up to now, 4 years later, Vedanta still has no solution for it. This again underlines the fact that our businesses will be negatively affected. Farms which will be affected first are: Namies 146/0/1, Namies Suid 212/0, Rozybosch 41/0/1/2, Haramoep 53/0/1, Koeris 54/0/1/2/3/4, Aroams 57/0/1/2/3/4/5, Koupsleegte 58/0/1/2/3, Achab 59/0, gams 60/0/1/2, Bloemhoek 61/0/1, Zuurwater 62/0/1/2/3/4/5/6, Kykgat 87/0/1/2, Vogelstruishoek 88/0/1, Wolfkop and Kalkvlei.</p>  |  |
|   |  |                                | <p>Sulphur Dioxide, cadmium, copper, arsenic, cobalt etc. are very detrimental elements to the environment which the smelter will pollute. The installation of a sulphur dioxide scrubber system makes the operation of the smelter complicated. A sulphuric acid plant requires a specific volume of gas at a specific temperature and a specific dust loading. If these criteria are not met, the pollution of the area is increased dramatically. Whilst the focus is on zinc production and not sulphuric acid, the pollution on the environment is a given. What will happen later when the market for this large volume of sulphuric acid, which is produced as a by-product, is oversupplied?</p> | <p>These potential pollutants will be included in the Air Quality Impact Assessment modelling.</p> <p>Technologies included in the smelter design will limit the emissions from the smelter and other stacks at the plant to reduce the impact of the gaseous emissions from the plant on the surrounding environment. Start-up of the roaster section will entail the heating of the roasters by utilising diesel to a temperature in excess of 900°C before concentrate is entered into the roaster. This will maximise the collection of sulphur dioxide gas thus removing up to 99% of the gas from the stack. The capturing of sulphur dioxide gas is important to the process as this will be the basis for the sulphuric acid required in the process. Excess acid is a product and will be sold into the market and the establishment of industries such as a fertiliser plant is being investigated to allow creation of third party industries in South Africa as additional benefits from the smelter.</p> <p>Black Mountain Mining (Pty) Ltd is currently engaging with government at a national and provincial level to investigate these alternative consumers for the sulphuric acid.</p> |

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|   |  |                                | <p>From the Background Information Document of 4 December 2019, about the proposed smelter project, it is indicated that the existing Tailings Storage Facility will be used, when the proposed smelter is in operation. The existing tailings storage facility is already too small. It already has, to an extent over flowed and the discharged material ended up in the environment. How much more if the smelter is in operation? Environmental and underground water pollution is then unavoidable.</p> | <p>A groundwater study will be undertaken to model potential contamination plumes associated with the smelter development and the disposal of jarofix waste. Alternative disposal sites for the disposal of the jarofix have been assessed as part of the Scoping phase. At this stage it is likely that the jarofix will be disposed of in a separate waste disposal facility to the existing tailings storage facility.</p> <p>Due to the classification of the Jarofix an impermeable liner is being designed as per the National Waste Act and associated Regulations to prevent seepage from the Jarofix to the environment.</p> <p>The current tailings storage facility is constructed to cater for the first phase of the Gamsberg Zinc Mine where production is limited to 4 million tons of ore per annum. The current size of the TSF is just 50% of the approved size.</p> <p>The overflow of the return water dam occurred during commissioning of the plant when an excess of water was present in the water circuit. The water balance for the plant has subsequently been restored and with approval from DWS a series of evaporative cannons was acquired to use as an emergency measure to evaporate water.</p> |
|   |  |                                | <p>Vedanta's record for environmental pollution is doubtful, for example look at the class action by 2000 Zambian citizens against Vedanta to the pollution of their environment by The Vedanta Konkola Copper Mine in Zambia.</p>   | <p>As a global company Vedanta is committed to the protection of the environment. In this specific case we are dealing with this problem in collaboration with the Government of Zambia and the surrounding communities.</p>  |

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|          |  |   |                                |   | Vedanta Zinc International have also been tasked to assist with addressing the current situation in Zambia and have established a task team to assist at KCM   |
|          |  |   |                                | <p>With Environmental Impact Studies it is non-negotiable that a baseline value of all the potential polluting substances for at least 24 months be carried out before the construction of the proposed Smelter takes place. These measurements must also be integrated with the existing monitoring program of the mine and also quarterly with the Environmental Liaison Committee meetings report.</p> <p>As far as emissions monitoring is concerned (Emissions determination techniques) at the proposed Smelter project in order to monitor air pollution at the smelter only the "Direct Measurement Technique" must be used to measure true pollution concentrations.</p> | <p>During the construction of the smelter a monitoring station to establish a baseline for ambient SO<sub>2</sub> and NO<sub>x</sub> will be established. This ambient monitoring station will then be onsite for the duration of the operation of the smelter. This monitoring will be used to establish what the potential impact is on vegetation</p> <p>In stack inline monitoring probes will also be installed to determine the point source emissions from the stack. This will continuously monitor the levels of SO<sub>2</sub> and NO<sub>x</sub> and other gas emissions that are emitted from the various stacks at the smelter.</p> |
|          |  |   |                                | Finally, it is once again non-negotiable, should the proposed smelter project continue, that a proper impact management agreement between Vedanta and all affected parties is agreed upon and that Vedanta will ensure that this impact management agreement is recorded in the EMPr.   | An existing agreement is in place regarding the potential impacts associated with the opencast mining activities at Gamsberg Zinc Mine. Gamsberg Zinc Mine is willing to revisit the agreement with the farmers if the studies for the Smelter indicate that the smelter will impact on the neighbouring farms.  |
| <b>6</b> | <b>Comments received during the 30-day review and comment period of the EIA Report</b> |   |                                |   |  |
| 6.1      | Paul Engelsman   | X | Email,                         | I Paul Engelsman a resident of the Pella community reject this project, my main reason is that the mine Vedanta must  | BMM (Pty) Ltd is working closely with the Khâi-Ma Local Municipality, as directed by Khâi-Ma council, through their local  |

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|     | Rest Assured Life  |   | 30 September 2020              | <p>come back and consult with us the community as we have agreed with the ex-CEO and both GM's of Gamsberg and Black Mountain. As far as we remember the community had a meeting with the mine and we rejected the project so why does the mine continue with the project.</p> <p>It clearly shows that corruption is at play, hence why I personally have a laid a formal complaint with the public protector against the municipality and DMR because our voices and opinions doesn't count hence why the only option is the legal route and if that's the way we need to follow to get justice for the community then we will.</p> <p>For 40 years the mine is mining on our land which an ACT 9 land and we as the hosting community hasn't benefit over these years so I say no to this project.</p> <p>Please see link where 73 people from the Pell community have signed and they are also against the project.</p> <p><a href="http://chnng.it/bgfsMYk2Gq">http://chnng.it/bgfsMYk2Gq</a>.</p> | <p>ward and community structures to communicate, identify and implement relevant approved social development projects benefitting the local communities.</p> <p>Black Mountain Mining (Pty) Ltd senior leadership have scheduled monthly meetings with the Khâi-Ma Local Municipality related to future development including progress in the implementation of our the SLP.</p>                   |
| 6.2 | Colene Runkel<br>SANRAL  | X | Email,<br>2 October 2020       | Please note that Ms Nicole Abrahams is our Environmental Practitioner and all future Environmental related documentation must be addressed to her.  | The comment from SANRAL is acknowledged. The database has been updated accordingly.  |
| 6.3 | David Adams<br>Kamiesberg Municipality                               | X | Email,<br>2 October 2020       | <p>I am located at Kamiesberg Municipality, I think you must come in contact with someone at Nama Khoi Municipality and Namakwa District Municipality.</p> <p>You can contact Jannie Loubser at Namakwa District at email: <a href="mailto:janniel@namakwa-dm.gov.za">janniel@namakwa-dm.gov.za</a>.</p>  | Thanks for your response, the Khâi-Ma Local Municipality and the Namakwa District Municipality. Numerous contacts in Nama Khoi Local Municipality, Khâi-Ma Local Municipality and the Namakwa District Municipality (see Stakeholder Database in Appendix B9) were identified as stakeholders from the start of the project and have been included in notification and consultation throughout all |

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|     |  |   |                                |  | phases of the EIA. Mr Jannie Loubser is included on the database and has also been consulted throughout the process.  |
| 6.4 | Christo Koegelenberg<br>CSG Foods                                    | X | Email,<br>5 October<br>2020    | <p>I would like to comment on the Gamsberg Smelter Project (Ref: 720.22013.00002) regarding the position of the proposed Business Partner Camp. We as CSG Food Solution are in the Facilities, and Camp Management business, and can identify a huge Safety Risk with Camp residents movement across a National road (N14) to the smelter construction area, and back. Out of experience, we know that the Business Partners will not transport their staff in busses over short distances to work and back, if in close proximity like in this instance. Even if staff transport are used, the road crossing will still have a significant high risk causing accidents.</p> <p>I would like to propose an area across the N14 (Southern side) between the old entrance gravel road, and the current tar entrance road, for the following reasons:</p> <ul style="list-style-type: none"> <li>• A large percentage of the soil and plants in this area have already been disturbed/destroyed.</li> <li>• This is outside of the botanical sensitive area.</li> <li>• The area does not have any plant species of conservation concern (One area in proposed site).</li> <li>• The area has already been disturbed by the previous entry road (gravel road) to the plant, and the road parallel to the N14 to the current contractors camp.</li> <li>• There has also been a borrow pit in the same area, that has been filled up again, but no plants have grown there since.</li> </ul> | Construction of the construction camp to the north of the N14 is an option but it is most likely that the current camp will be utilised. In the event that the camp is constructed to the north of the N14 as a safety condition the business partner will be contractually obliged to supply the required transport. |

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|     |  |   |                                | <ul style="list-style-type: none"> <li>The fresh water supply line runs across that area, which make water supply easy.</li> <li>The power supply is also in close proximity.</li> <li>Might be able to connect sewer line to the current sewer plant situated next to the plant.</li> </ul>  |  |
| 6.5 | David Khakhane   | X | Email, 7 October 2020          | Greetings, can you please submit copies of the Specialist Air Quality Impact Assessment Study (including an assessment of potential health impacts).  | The link to all the relevant project documentation was provided to Mr Khakhane on 7 October 2020.  |
| 6.6 | Mark Botha   | X | Email, 13 October 2020         | I don't have major concerns with the Biodiversity report for the Smelter, or its relative contribution to the cumulative impacts in the region.   | Thank you for your comment.  |
| 6.7 | Gerhard Visser   | X | Email, 14 October 2020         | <p>Ek wil graag die volgende kommentaar lewer:</p> <p>Ek is gebore en getoe in die Pofadderomgewing. Meeste van die mense in hierdie area by reeds vir geslagte hier. Die uitsonderlike natuurskoon, rustigheid en veiligheid van die omgewing wat ons hier geniet, het vir ons ontsettend baie waarde.</p> <p>Met elke potensiele ontwikkeling wat hier plaavind, word ons gedeeltik beroof van hierdie voorregte wat ons omgewing ons vir dekades reeds bied.</p> <p>Met elke EIA wat gedoen word, lewer ons kommentaar. Elke keer met geen respons op ons kommentaar. Net die aftik van nog 'n blokkie dat die sogenaamde geaffekteerde partye in die omgewing gekonsulter is. EIA afgehandel.</p> | <p>Thank you very much for your comment regarding your concerns on the impact on crime levels due to the influx of job seekers during the construction phase, and ongoing. This impact was assessed as part of the social impact assessment and in order to minimise this risk various recommendations have been made such as:</p> <ul style="list-style-type: none"> <li>Black Mountain Mining (Pty) Ltd should consult with the South African Police Service (SAPS) and/ or security firms active in the area to establish standard operating procedures for the control and removal of loiterers around the Gamsberg Zinc Mine.</li> <li>Appropriate liaison structures should be established with local police services to monitor social changes in crime patterns. Liaison should also be established with existing crime control organisations, such as community policing forums.</li> </ul> |

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|   |  |                                | <p>Hierdie week verloor ons een van ons gemeenskaplede aan moord. 'n Eerste in my lewe in die Boesmanslan. Van nog 'n stukkie is ons beroof.</p> <p>Julle tabelletjie met potensiele impakte het betrekking: Projek-geinduseerde bevolkingstoeloop, hoof – onversag en laag – versag. Verduidelik asseblief.</p> <p>Met elke EIA meld ons getrou dat on veiligheid in gedrang is as gevolg van die instroom van vreemde mense in ons ongewing in. Mense wat werk soek. As kontrukiefases afgehandel is bly daar altyd van hierdie mense in ons dorp agter. Meestal werkloos.</p> <p>Drankmisbruik, motorongelukke, dwelmissbruik, diefstal en nou moord, het oor die laaste decade of twee toegeneem.</p> <p>Die Smelterprojek. Nog 'n instroming van onbekende mense. Nog 'n EIA. Weer ons kommentaar: Ons veiligheid gaan verder van ons beroof word.</p> <p>Dit is tyd dat die Vedanta sy verpligting rondom die beveiliging van die mense in die Khai-Ma munisipale area nakom. Primer om misdaad te voorkom.</p> <p>Julle as onafhanklike konsultante is veronderstel om aanbeveiligings langs hierdie lyne onder die aandag van die DMR te bring.</p> <p>Pofadder Landbouvereniging dring aan om met relevante partye te vergader ten einde spesifieke beveiligingsaksies op te neem in 'n Omgewingsbestuurplan wat in die die EMPr vervat moet word. Ons wil verder stritelike kennis</p> | <ul style="list-style-type: none"> <li>Through the abovementioned forums, identify if recorded criminal activities (for example housebreaking) has any connection with the Gamsberg Smelter Project workforce. Verify claims of surrounding communities in this regard and take appropriate action.</li> </ul> <p>Regular updates are provided by Black Mountain Mining (Pty) Ltd to the local South African Police Services (SAPS) regarding growth plans and potential associated impacts on the safety and security of the local communities. Black Mountain Ming (Pty) Ltd employees that reside in Aggeneys, are also part of the community police forum in Aggeneys. Black Mountain Mining (Pty) Ltd is also currently developing a long term development strategy focussing on the biodiversity and environmental impacts of the related development.</p> <p>In addition to this the local police were consulted with regard to the Gamsberg Smelter Project and were given the opportunity to comment on the EIA and EMPr. It is, however, the responsibility of the SAPS to maintain safety of community members in towns.</p> |

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|      |  |   | ontvang dat hierdie Omgewingbestuurplan wel in die EMPr vervat is.  |   |
| 6.8  |  | Email, 4 November 2020                    | I have requested a meeting with Vedanta regarding the safety and security issue. I would like to reserve further comments regarding the latter till after that meeting.   | Black Mountain Mining (Pty) Ltd to confirm details for the meeting.   |
| 6.9  | Etienne Magerman   | X<br>Facebook Comment,<br>15 October 2020 | Pella as a Community will never approve a smelter on their communal land.<br><br>What do Vedanta call public participation?<br><br>When do they do not accept Pella Community as their partners.                                    | The Gamsberg Smelter Project is planned to be developed within the approved Mining Right Area and not on communal land<br><br>The Public Participation Process for the Gamsberg Smelter Project was undertaken according to the NEMA Regulations (2014, as amended) as well as in accordance with the Public Participation Plan approved by the DMRE on 12 August 2020.<br><br>BMM (Pty) Ltd is working closely with the Khâi-Ma Local Municipality through their local ward and community structures to communicate, identify and implement relevant approved social development projects benefitting our local communities.<br><br>BMM (Pty) Ltd senior leadership have scheduled monthly meetings with the Khâi-Ma Local Municipality related to future development including progress on the implementation of the SLP. |
| 6.10 | Natasha Higgitt<br>South African Heritage Resources Agency (SAHRA)   | X<br>Letter,<br>29 October 2020           | The following comments are made as a requirement in terms of section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA and must be included in the Final EIA and EMPr: | All comments are noted and the Gamsberg Smelter Project EIA and EMPr have been updated accordingly, where required.   |
| 6.11 |  |   | 38(4)a – The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objections to the proposed development.  |   |



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| 6.12 |  |                                | 38(4)b – The recommendations of the specialists are supported and must be adhered to. No additional specific conditions are provided for the development.   |  |
| 6.13 |  |                                | 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule. |  |
| 6.14 |  |                                | 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.   |  |
| 6.15 |  |                                | 38(4)d – See section 51(1) of the NHRA.   |  |

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| 6.16 |  |                                | 38(4)e – The following conditions apply with regards to the appointment of specialists:<br>i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; |   |
| 6.17 |  |                                | The Final EIA and EMPr must be submitted to SAHRA for record purposes;  | The final EIA has been uploaded to SAHRA for their records.   |
| 6.18 |  |                                | The decision regarding the EA Application must be communicated to SAHRA and uploaded to the SAHRIS Case application.  | The decision once received from the DMRE will be uploaded on SAHRIS and communicated to Natasha Higgitt of SAHRA.   |
| 6.19 | Matthew Norval<br>Wilderness Foundation Africa                       | X                              | Letter, 28 October 2020<br>Wilderness Foundation Africa hereby wishes, as a registered Interested and Affected Party (IAP) to object to the Environmental Authorisation application (DMR Ref: NCS 30/5/1/2/2/ (518) MR) based on (but not limited to) the following:  | Thank you for your comments, please see responses to individual comments in the following sections.   |
| 6.20 |  |                                | <b><u>Air Quality Assessment</u></b><br><br>Simulations conducted as part of the Air Quality Impact Assessment, depicts different outputs for dust deposition and other heavy metal emissions than initial models from 2013. This is largely due to the fact that modelling in 2013 was based, among other factors, on a control efficiency of  | Both the air quality impact assessments completed in 2013 and 2020 assume a 75% control efficiency on unpaved road surfaces. This can be achieved through the use of water suppression as indicated in literature and referenced in both the 2013 and 2020 air quality assessments. |

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|  |  |                                | <p>50% while a 75% control efficiency for roads and 80% for material handling activities was used for the models depicted in the 2019 assessment. No evidence is provided to support a current 75% - 80% control efficiency of material handling.</p> <p>Furthermore, no data was available for baseline levels of Zinc (Zn) and Lead (Pb), while data on Sulphur Dioxide (SO<sub>2</sub>) and Nitrogen Dioxide (NO<sub>2</sub>) levels used for modelling was from 2009, before the Gamsberg Mine had been commissioned. Modelling also shows increased ground level concentrations of SO<sub>2</sub>, NO<sub>2</sub>, Zn and Pb around the proposed smelter site, the exact effects of which on surrounding vegetation is not yet known with certainty.</p> <p>From the models provided it is also unclear what the total extent of air emissions will be, with maps and other visual models mainly focussed on depicting footprints around core mining activities and infrastructure. Additionally, long term dispersion and leaching of chemicals and heavy minerals in soil through accumulated concentrations thereof is not clearly defined.</p> | <p>The main differences between the modelling of the two air quality assessments is summarised in the table below (and is included in Appendix E of the 2020 Air Quality Impact Assessment).</p> <table border="1" data-bbox="1325 529 1982 1279"> <thead> <tr> <th data-bbox="1325 529 1625 565">2013 AQIA</th> <th data-bbox="1625 529 1982 565">Current assessment</th> </tr> </thead> <tbody> <tr> <td data-bbox="1325 565 1625 659">Meteorological data used: Pofadder for the period 2007-2009.</td> <td data-bbox="1625 565 1982 659">Meteorological data used: WRF data for a point extracted at site for the period 2016-2018.</td> </tr> <tr> <td data-bbox="1325 659 1625 813">High moisture ore (&gt;4%) emission factor used for the quantification of emissions from the crusher.</td> <td data-bbox="1625 659 1982 813">More for the moisture provided as 0.4%. Low moisture ore (&lt;4%) emission factor used for the quantification of crushing emissions.</td> </tr> <tr> <td data-bbox="1325 813 1625 967">50% control efficiency assumed on all transfer points.</td> <td data-bbox="1625 813 1982 967">Control efficiency for materials handling was only assumed at the crusher transfer point (50% for wetting and a further 30% for enclosure).</td> </tr> <tr> <td data-bbox="1325 967 1625 1154">Mean weight of trucks assumed to be 320t and 32 trucks used to haul ore.</td> <td data-bbox="1625 967 1982 1154">Provided that the trucks will be between 90t and 180t capacity. This equates to an average weight of between 120t and 240t and ~203 trips per day to move 10 Mtpa ore.</td> </tr> <tr> <td data-bbox="1325 1154 1625 1279">The silt content on the road was assumed to be 6.9%. this assumption was not qualified.</td> <td data-bbox="1625 1154 1982 1279">The silt content on the road was assumed to be 8.4% based on US EPA defaults.</td> </tr> </tbody> </table> | 2013 AQIA | Current assessment | Meteorological data used: Pofadder for the period 2007-2009. | Meteorological data used: WRF data for a point extracted at site for the period 2016-2018. | High moisture ore (>4%) emission factor used for the quantification of emissions from the crusher. | More for the moisture provided as 0.4%. Low moisture ore (<4%) emission factor used for the quantification of crushing emissions. | 50% control efficiency assumed on all transfer points. | Control efficiency for materials handling was only assumed at the crusher transfer point (50% for wetting and a further 30% for enclosure). | Mean weight of trucks assumed to be 320t and 32 trucks used to haul ore. | Provided that the trucks will be between 90t and 180t capacity. This equates to an average weight of between 120t and 240t and ~203 trips per day to move 10 Mtpa ore. | The silt content on the road was assumed to be 6.9%. this assumption was not qualified. | The silt content on the road was assumed to be 8.4% based on US EPA defaults. |
| 2013 AQIA  | Current assessment   |                                |   |  |           |                    |  |  |  |   |  |   |  |  |   |   |
| Meteorological data used: Pofadder for the period 2007-2009.                                       | Meteorological data used: WRF data for a point extracted at site for the period 2016-2018.   |                                |   |  |           |                    |  |  |  |   |  |   |  |  |   |   |
| High moisture ore (>4%) emission factor used for the quantification of emissions from the crusher. | More for the moisture provided as 0.4%. Low moisture ore (<4%) emission factor used for the quantification of crushing emissions.                                      |                                |   |  |           |                    |  |  |  |   |  |   |  |  |   |   |
| 50% control efficiency assumed on all transfer points.   | Control efficiency for materials handling was only assumed at the crusher transfer point (50% for wetting and a further 30% for enclosure).                            |                                |   |  |           |                    |  |  |  |   |  |   |  |  |   |   |
| Mean weight of trucks assumed to be 320t and 32 trucks used to haul ore.                           | Provided that the trucks will be between 90t and 180t capacity. This equates to an average weight of between 120t and 240t and ~203 trips per day to move 10 Mtpa ore. |                                |   |  |           |                    |  |  |  |   |  |   |  |  |   |   |
| The silt content on the road was assumed to be 6.9%. this assumption was not qualified.            | The silt content on the road was assumed to be 8.4% based on US EPA defaults.  |                                |   |  |           |                    |  |  |  |   |  |   |  |  |   |   |

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|      |  |                                |  | <p>The control efficiency for the materials handling is based on literature (control efficiencies stipulated by the National Pollutant Inventory) and referenced in the 2020 Air Quality Impact Assessment report.</p> <p>The baseline ambient levels of SO<sub>2</sub> and NO<sub>2</sub> was based on measurements from surveys conducted. The ambient levels were discussed qualitatively and referenced in terms of potential baseline levels for the area. In the absence of more recent ambient data the limitations of assuming this data to be representative of current conditions was listed in the Air Quality Impact Assessment. The measured ambient baseline levels were not used in the dispersion model. The gaseous emissions due to smelter operations, that was inputted into the dispersion model, was taken from Minimum Emission Standards (that the plant will need to comply with in terms of their Air Emission Licence for the facility). This is documented in the 2020 Air Quality Impact Assessment. It should be noted that the impacts on human health, through the inhalation pathway only, is discussed in the Air Quality Impact Assessment. The potential impacts of the gaseous pollutants on vegetation is provided in more detail in the Terrestrial Ecology Specialist Report.</p> |
| 6.21 |  |                                | <p><b><u>Impact on Biodiversity Offsets</u></b></p> <p>According to air emission modelling, dust deposition will not have an effect on the recently declared Biodiversity Offset properties purchased as part of the Gamsberg Biodiversity Offset Agreement (2013). It is however essential that this statement be supported through adequate monitoring and data collection on these sites.</p> | <p>We agree that adequate monitoring is essential to verify the predictions of the air quality modelling and impacts on vegetation in the wider area around the Gamsberg Zinc Mine and proposed Gamsberg Smelter footprint. In the absence of conclusive information on the actual impacts of dust deposition from the mine on vegetation, the ecology study and air quality model outputs used the same thresholds for dust deposition used to quantify the mine offset.</p>   |

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|   |  |                                | <p>It is argued that the proposed Smelter Project falls within the existing footprint of the Gamsberg Mine, and that impacts thereof are thus nullified by the existing Gamsberg Biodiversity Offset Agreement. Impacts and habitat loss were calculated on the air emissions footprint from 2013 modelling, on the assumption of 'complete loss of biodiversity' of all habitat units within the 50 mg/m<sup>2</sup>/day dust deposition zone, and all irreplaceable habitat units within the 20 mg/m<sup>2</sup>/day dust deposition zone. However, since air emission modelling has since been revised with the inclusion of the Smelter Project, the impacts on surrounding biodiversity should be revised as well.</p> <p>Also not taken into account during initial offset calculations is the difference in emission composition between ongoing mining activities and the proposed smelter. Offsets were largely based on the emission of heavy 'black dust' from open pit mining activities which are thought to have a largely physiological impact on surrounding vegetation, however, simulations for Smelter Stack emissions which mainly include SO<sub>2</sub>, NO<sub>2</sub>, Zn and Pb could have a much more adverse effect on soil chemistry, ambient air quality as well as plant morphology.</p> <p>While findings from the Air Quality Impact Assessment for the Gamsberg Smelter Project (Appendix H of the EMP), showed that dust depositions and emissions may be within the thresholds of the National Ambient Air Quality Standards (NAAQS), it conceded that the predictions on the effects of such emissions on surrounding vegetation and biodiversity have a low confidence level.</p> | <p>Although there are differences between the results of the two dust deposition models done for the Gamsberg Zinc Mine and for the Smelter Project, these differences are predominantly attributable to the influence of the mine and not the proposed Gamsberg Smelter Project. The additional dust impacts of the Smelter Project are predicted to be localised around the smelter project infrastructure and to remain within the area calculated for the mine offset. See Figure 15.2 of Appendix D that shows the limited contribution of dust from the smelter when compared to the mine.</p> <p>While smelter stack emissions such as SO<sub>2</sub>, NO<sub>2</sub>, Zn and Pb could have additional adverse effects on vegetation, the potential effects on arid biome vegetation is poorly documented and remains unverified. Therefore, the approach taken to determining the potential negative impacts of emissions on vegetation was to generate modelled outputs at a range of 'threshold' values including at values lower than globally accepted critical values. In the case of SO<sub>2</sub>, model outputs were generated for levels of 1, 2, 3 and 5 ug/m<sup>3</sup> annual concentration relative to the global critical value of 10ug/m<sup>3</sup> for lichens. The modelled emission or heavy metal fall out values were then compared to the dust deposition contours used to quantify the mine offset in order to determine whether vegetation outside of the area already technically offset for the mine could be affected. Results showed that modelled outputs for SO<sub>2</sub> at low levels of 2 ug/m<sup>3</sup> remained within the area used to determine the mine offset. Therefore, although actual impacts from air quality emissions or heavy metal fall out on vegetation around the smelter complex could have more</p> |

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|      |  |                                | <p>Additionally, the expansion and construction of infrastructure associated with the Smelter Project, including a new road, land fill site, transmission line, bulk water supply pipeline and transmission line further compound the ecological effects of this proposed development which were not considered in original offset calculations.</p> <p>With so many uncertainties as well as the compounded impact from the Smelter and other associated infrastructure, it is requested that the Gamsberg Biodiversity Offset Agreement first be reviewed prior to the commencement of any further developments including the Smelter Project.</p>   | <p>significant effects than mine dust deposition alone, no additional offset is warranted.</p> <p>Recalculation of the mine offset requirements taking into account the differences in the air quality model outputs, the additional air quality emissions from the Smelter Project, as well as other Black Mountain Mining (Pty) Ltd projects should be considered as a separate exercise to the Smelter Project EIA. The potential Smelter Project impacts are predicted to fall within the existing area used to determine the mine offset. It is recommended that prior to any recalculation exercise that the newly identified calcrete area (in the north) (~100 ha) should be evaluated to confirm its importance and correct boundary and this area should be included as part of the long term monitoring programme.</p> |
| 6.22 |  |                                | <p><b><u>Lack of monitoring and baseline information</u></b></p> <p>The Draft Environmental Impact Assessment and Environmental Management Programme reports do mention possible negative impacts on surrounding vegetation, however, these are currently mostly speculative due to a lack of monitoring and quantitative data. Since the inception of mining activities the exact impact of dust and other emissions on surrounding vegetation and accompanying biodiversity is still not known, thus data to adequately inform mitigation measures, especially in terms of heavy metal/chemical air emissions and dust deposition, is not available and requires further specialist research and monitoring.</p> | <p>Further monitoring has been recommended in the Terrestrial Ecology Specialist Report in order to better understand the potential impacts of air quality emissions and deposition of dust and metals on vegetation. A vegetation monitoring programme for Black Mountain Mine is underway and vegetation monitoring for the Smelter Project should be conducted under a comprehensive programme for the Gamsberg Zinc Mine and other Black Mountain Mining (Pty) Ltd projects in the area.</p>  |

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| 6.23 |  |                                | <p><b><u>Social and economic impacts on the environment</u></b></p> <p>Undoubtedly one of the main advantages of the proposed smelter project are the social and economic benefits that will be gained. Although not directly linked to this EIA and EMPr the greater effects of such social and economic developments should be taken into account. Concerns raised include the drastic increase in population number within the district and the pressure this will put on natural resources, specifically water, as well as associated infrastructure, triggering a plethora of high impact developments. Such developments can be seen as beneficial in a socioeconomic sense, however, since the mine only has a life expectancy of 30 years, the question needs to be raised as to what will happen to this exponential growth after decommissioning of the mine? While agriculture in the district has in all likelihood reached its commercial limit, other sources of economic stimulation will need to be pursued. Environmentally focussed activities, including ecotourism, could provide the biggest opportunity as a continued economic driver in the region. Biodiversity assets should be protected, and impacts thereon limited as much as possible.</p> | <p>The socio-economic benefits of the Gamsberg Smelter Project are assessed to have a high positive impact on the local community and local towns. This is primarily as a result of the spend of the project during both the construction and operational phases, together with the job and skills development opportunities that would be created for local communities.</p> <p>As mentioned, the greatest negative impact would be the loss of jobs at closure and the associated long term land use plans for the area. These have been considered in the Gamsberg Zinc Mine Closure Plan which would need to be updated prior to closure of the Gamsberg Zinc Mine and Smelter Project and focus on environmentally focussed activities.</p> <p>The calculated Closure Liability that needs to be provided by Black Mountain Mining (Pty) Ltd is to ensure that these closure requirements can be met.</p> |
| 6.24 |  |                                | <p><b><u>Consolidation of EIA's to better understand and quantify the impacts of planned developments associated with Gamsberg Mine</u></b></p> <p>It has been noted that while all relevant EIA procedures are followed before developments associated with Gamsberg mine are undertaken, the fact that these assessments are</p>  | <p>Thanks for your thoughts on this, the concept of a consolidated EIA and EMPr makes sense in the bigger picture, however, unfortunately the reality does not necessarily work out that way. The different projects have different applicants and different competent authorities and as such although they can be cumulatively assessed, a single application process at this stage is not feasible.</p>   |

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|      |  |                                | <p>all conducted separately impedes the ability to ascertain the total impacts and footprint of mining operations, present and planned. A case in point is the EIA for upgrading of the bulk water supply line from Pella from 20 mega litres to 40 mega litres completed earlier this year, while mention is made in the EMP of future plans for renewable energy development projects.</p> <p>While not a requirement it is strongly recommended that EIA's for future planned developments are clumped, affording the opportunity to accurately assess, quantify and mitigate the effects of the Gamsberg mining operations</p> | <p>Cumulative Impacts have been discussed in Section 36 of Appendix D, in an attempt to encourage more strategic planning and decision making.</p> <p>In addition, Section 36.1 of Appendix D considers the cumulative impacts of future development in the area and the proposed Special Economic Zone (SEZ) and the potential for cumulative impacts on biodiversity in the wider Aggeneys area. This includes both the expansion of the Gamsberg Zinc Mine (already authorised) as well as increasing renewable energy projects planned for the wider area. It is recommended that strategic planning be undertaken to understand the potential impacts due to future development.</p> |
| 6.25 |  |                                | <p><b>RECOMMENDATIONS:<br/>Implementation of a monitoring programme</b></p> <p>Adequate monitoring measures are required to ensure that the impacts of air emissions and dust deposition on vegetation and accompanying biodiversity is fully understood. It is recommended that specialists in this field are appointed to conduct such data collection and research activities which can be used to inform mitigation strategies for both the proposed Gamsberg Smelter Project as well as any future developments.</p>  | <p>Monitoring of the impacts of air emissions on the surrounding vegetation has been recommended in the Terrestrial Ecology Specialist Study and has been included in the EMP as a requirement should the Gamsberg Smelter Project be approved. See Section 6.21.</p>   |
| 6.26 |  |                                | <p><b>Monitoring of Biodiversity Offsets</b></p> <p>While current air emission modelling does not predict any effects on nearby offset sites, it is important that these</p>   | <p>As described in Section 7 of the Terrestrial Ecology Report, biodiversity offset areas should be included in a comprehensive monitoring programme to detect potential impacts from Black</p>   |



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|      |  |                                | <p>models are supported by the necessary infield data. Any impacts on these properties should be avoided at all costs due to the purpose they serve as biodiversity offsets for the Gamsberg Mine, with their requirement for protection further supported through the recent declaration as the Gamsberg Provincial Nature Reserve. Monitoring mechanisms as per point above should be put in place to measure and detect any adverse impacts on the Nature Reserve from activities directly linked to the Gamsberg Mine.</p>   | <p>Mountain Mining (Pty) Ltd's projects including the monitoring of natural changes due to climatic variability.</p>  |
| 6.27 |  |                                | <p><b><u>Revise Biodiversity Offset Agreement</u></b></p> <p>As discussed above Biodiversity Offsets for the Gamsberg Mine was based on air emission modelling from 2013. New modelling conducted as part of the Smelter Project however, depicts a different air emission footprint while the composition of emissions differs from those used in 2013 due to the smelting process. This coupled with the fact that the exact effects of these emissions on vegetation and neighbouring biodiversity offset sites is not yet known, supports the recommendation that the Gamsberg Biodiversity Offset Agreement should first be revised, taking monitoring findings above into account, before Environmental Authorization is granted for the Gamsberg Smelter Project.</p> | <p>See response in Section 6.20.</p>  |
| 6.28 |  |                                | <p><b><u>Long term development plan</u></b></p> <p>As a result of increased mine productivity, numerous additional developments are planned to support the</p>   | <p>BMM have commenced with the compilation of a Broader Biodiversity Strategic Plan that will take existing and potential future projects into consideration. This project will focus on conceptual design and planning, taking mitigation hierarchy into</p> |

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|      |  |   |                                | <p>delivery of increased outputs. As mentioned in the draft EIA and EMP these could include developments such as housing, water supply, expansion of new and existing infrastructure as well as renewable energy. Although many of these activities will not be restricted to the mining right properties, the cumulative footprint of such developments are directly linked to the Gamsberg Mine, the impacts of which will indirectly influence the implementation of the National Protected Area Expansion Strategy and the vegetation units it aims to protect. It is thus requested that a detailed long term development plan be provided, clearly indicating the extent and locality of such future planned developments, thus allowing for improved planning by both mining and conservation sectors.</p> | <p>consideration as a first building block. Baseline and cumulative impact assessment, including existing and proposed future development footprints, air quality modelling, groundwater and climate change will form part of this cumulative impact assessment looking at biodiversity and the ecological functionality of landscape will be taken into consideration.</p> <p>Existing and planned developments in the surrounding areas such as renewable energy projects and the Strategic Economic Zone will also be taken into consideration in determining cumulative impacts.</p> <p>Terms of reference in this regard will be compiled once all conceptual designs are in place with inputs from DENC, IUCN and other external specialists to generate a comprehensive scope of work for execution.</p> |
| 6.29 | Dr Philip Desmet (PD)  | X | Letter, 4 November 2020        | <p>Below are some specific comments relating to specific issues in Ecological Report:</p> <p>I would advise to include reference to the Namakwa District Biodiversity Sector Plan. This plan pre-dates the Northern Cape Biodiversity Sector Plan. The Northern Cape plan compliments the Namakwa District plan and does not replace it. They should be considered in tandem. The Namakwa District plan was prepared as a higher spatial resolution and therefore the spatial resolution is more compatible with the scale of the current development. The Namakwa District plan will provide important spatial resolution that is not present in the provincial product.</p>   | <p>The Namakwa District CBA map identifies the majority of the site and all of the preferred alternatives mapped as “Ecological Support Areas”. This is in contrast to the provincial CBA map which has the whole area mapped as a CBA. The Namakwa District map reflects the sensitivity mapping produced in the Terrestrial Ecology report and does not alter the findings of the study.</p>  |

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| 6.30 |  |                                | Throughout the report reference is made to impacts on succulent plants. All species of fauna and flora will be impacted by the development and not just succulent species. It is important not to create the impression that only succulents are of relevance.   | The ecological study includes a baseline analysis of most faunal groups including mammals, reptiles and avifauna as well as consideration of all plant functional types. Emphasis is placed on succulents as the majority of plant species of concern that might be affected by the development are dwarf succulents and which would potentially be especially vulnerable to impact from the development due to their life history, size and edaphic specialisation.   |
| 6.31 |  |                                | Nowhere in the document is reference made to blasting as a source of fugitive dust (e.g. Table 4). See my comments in the following section. Blasting is relevant and needs to be considered. No data is presented to suggest that blasting dust is not a relevant source of impacts.  | No blasting is proposed as part of the Gamsberg Smelter Project and therefore was not considered in the modelling for the impact assessment. Should any blasting be found to be required to prepare the foundations of the smelter plant or SLF this would be very localised and of short term duration with limited expected impact on surrounding vegetation relative to normal dust storm events.   |
| 6.32 |  |                                | The spatial analysis of the extent of the proposed development emission impacts relative to the current baseline need to be quantitative. Qualitative interpretation of the data does not provide a quantitative measure of their relative extents. As is discussed in the following section, this assessment has important implications for the interpretation of the development and existing mine impacts and the environmental obligations that arise as a result. | The figures referred to show the difference in the modelled outputs for the Gamsberg Zinc Mine only under each model and the smelter has a relatively small contribution to dust fallout. Therefore, any further quantitative analysis of the air quality dispersion models and implications for vegetation should be considered under any planned offset recalculations for the Gamsberg Zinc Mine. The potential Smelter Project impacts fall largely within the existing area used to determine the mine offset. The newly identified calcrete area (in the north) (~100 ha) may need to be evaluated to confirm its importance and correct boundary and be considered as part of the monitoring in terms of incremental impacts. |

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| 6.33 |  |                                | <p>Please remove Appendix 3. The Succulent Karoo is currently experiencing a pandemic of flora poaching for the collector trade. Making known the location of desirable collectable species (viz. <i>Titanopsis hugo-schlechteri</i>) in a public document is highly irresponsible. This information does not add value to interpretation of development impacts. Including a species x habitat list would be far more informative.</p>  | <p>Appendix 3 has been removed from the Terrestrial Ecology Specialist Study.</p> |
| 6.34 |  |                                | <p>Comments on the Air Quality Report</p> <p>The bulk of the development impact in terms of area affected is due to air quality impairments. Consequently, the air quality study is the most important study for determining the total extent of area impacted by the proposed development. The air quality study does not accurately and fully assess the potential impacts of the proposed development, and therefore, it is not possible to make any final pronouncement regarding the ecological impact until the deficiencies in the Air Quality Report have been addressed. In my opinion the air quality study is substantially deficient as it omits/ignores important parameters and fails to consider the precautionary principle when quantifying impacts.</p> <p>By way of context, for the air quality assessment it is important to understand the scale of the proposed development. Once complete, it will be the largest zinc smelter in the world. It will produce 300 000 t of zinc and 450 000 t of pure sulphuric acid annually. To illustrate it</p> | <p>See comments in following sections.</p>  |

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|      |  |                                | <p>another way – this is 25 000 articulated truck loads per annum or 70 trucks per day (29 for zinc and 41 for sulphuric acid) every day to evacuate the product from the site. Although the physical footprint of the proposed infrastructure is relatively small, the massive scale of the smelting operation and the very high sulphur content of the ore being processed needs to be considered very carefully and in detail before any definitive statements regarding the environmental impact of this development can be made.</p> <p>In order to understand the ecological impacts of the development, particularly the spatial extent of these impacts, I have reviewed the air quality study in detail and summarise what I view as flaws and deficiencies below:</p> |   |
| 6.35 |  |                                | <p>Ignoring the contribution of blast dust to PM<sub>10</sub> baseline. There is no reason given why blast dust is ignored in the total PM<sub>10</sub> contribution. Blasting is a weekly activity at the mine and from the formula provided on page 40 of the air quality report blast dust could contribute an additional 2 000<sup>1</sup> tpa or 30% to the annual materials handling PM<sub>10</sub> emissions.</p>   | <p>Blasting activities are intermittent (i.e. not a continuous operation). The general mining operations in the absence of blast activities (i.e. vehicle entrainment, materials handling, etc.) will cease during the preparation and undertaking of blast activities. These general mining operations also take time to commence again once the blast is completed. The total particulate emissions during blast activities (given that the duration for a blast is only a few minutes), is less than particulate emissions during normal continuous mining operations. As a conservative approach, continuous mining operations (without the interruption of blasting activities) was simulated for the air quality impact assessment.</p> |

<sup>1</sup> Assumes approximately 1000m<sup>2</sup> is blasted each week of the year. tpa = tons per annum

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| 6.36   |  |                                | <p>The analysis parameters are inconsistent with the 2013 mine EIA air quality study and so any comparisons made between the 2013 and this dust study are invalid. This air quality study assumes dust control efficiency of 75% applied to unpaved roads and 80% applied to crushing activities. The 2013 study assumes control efficiency of 75% applied to unpaved roads and 50% applied to crushing activities. Neither study considers blast dust. Additionally, no variation around these assumptions is considered. It would be better to generate a range of models with control efficiencies ranging between 50% and 90% firstly to determine which component of dust handling contributes most to emissions as this can focus where mitigation should be focused. Secondly, control efficiencies greater than 75% must be considered best case scenarios. We need to consider worst case scenarios as a central tenet of the precautionary principle.</p> | <p>The main differences between the modelling of the two air quality assessments is summarised in the table below (and is included in Appendix E of the 2020 Air Quality Impact Assessment – Appendix H).</p> <table border="1" data-bbox="1323 560 1982 1302"> <thead> <tr> <th data-bbox="1323 560 1627 592">2013 AQIA</th> <th data-bbox="1627 560 1982 592">Current assessment</th> </tr> </thead> <tbody> <tr> <td data-bbox="1323 592 1627 690">Meteorological data used: Pofadder for the period 2007-2009.</td> <td data-bbox="1627 592 1982 690">Meteorological data used: WRF data for a point extracted at site for the period 2016-2018.</td> </tr> <tr> <td data-bbox="1323 690 1627 844">High moisture ore (&gt;4%) emission factor used for the quantification of emissions from the crusher.</td> <td data-bbox="1627 690 1982 844">The moisture for the ore was provided as 0.4%. Low moisture ore (&lt;4%) emission factor used for the quantification of crushing emissions.</td> </tr> <tr> <td data-bbox="1323 844 1627 998">50% control efficiency assumed on all transfer points.</td> <td data-bbox="1627 844 1982 998">Control efficiency for materials handling was only assumed at the crusher transfer point (50% for wetting and a further 30% for enclosure).</td> </tr> <tr> <td data-bbox="1323 998 1627 1177">Mean weight of trucks assumed to be 320 t and 32 trucks used to haul ore.</td> <td data-bbox="1627 998 1982 1177">Provided that the trucks will be between 90t and 180t capacity. This equates to an average weight of between 120 t and 240 t and ~203 trips per day to move 10 Mtpa ore.</td> </tr> <tr> <td data-bbox="1323 1177 1627 1302">The silt content on the road was assumed to be 6.9%. this assumption was not qualified.</td> <td data-bbox="1627 1177 1982 1302">The silt content on the road was assumed to be 8.4% based on US EPA defaults.</td> </tr> </tbody> </table> | 2013 AQIA | Current assessment | Meteorological data used: Pofadder for the period 2007-2009. | Meteorological data used: WRF data for a point extracted at site for the period 2016-2018. | High moisture ore (>4%) emission factor used for the quantification of emissions from the crusher. | The moisture for the ore was provided as 0.4%. Low moisture ore (<4%) emission factor used for the quantification of crushing emissions. | 50% control efficiency assumed on all transfer points. | Control efficiency for materials handling was only assumed at the crusher transfer point (50% for wetting and a further 30% for enclosure). | Mean weight of trucks assumed to be 320 t and 32 trucks used to haul ore. | Provided that the trucks will be between 90t and 180t capacity. This equates to an average weight of between 120 t and 240 t and ~203 trips per day to move 10 Mtpa ore. | The silt content on the road was assumed to be 6.9%. this assumption was not qualified. | The silt content on the road was assumed to be 8.4% based on US EPA defaults. |
| 2013 AQIA  | Current assessment   |                                |   |   |           |                    |  |  |  |  |  |   |   |  |   |   |
| Meteorological data used: Pofadder for the period 2007-2009.                                       | Meteorological data used: WRF data for a point extracted at site for the period 2016-2018.   |                                |   |   |           |                    |  |  |  |  |  |   |   |  |   |   |
| High moisture ore (>4%) emission factor used for the quantification of emissions from the crusher. | The moisture for the ore was provided as 0.4%. Low moisture ore (<4%) emission factor used for the quantification of crushing emissions.                                 |                                |   |   |           |                    |  |  |  |  |  |   |   |  |   |   |
| 50% control efficiency assumed on all transfer points.   | Control efficiency for materials handling was only assumed at the crusher transfer point (50% for wetting and a further 30% for enclosure).                              |                                |   |   |           |                    |  |  |  |  |  |   |   |  |   |   |
| Mean weight of trucks assumed to be 320 t and 32 trucks used to haul ore.                          | Provided that the trucks will be between 90t and 180t capacity. This equates to an average weight of between 120 t and 240 t and ~203 trips per day to move 10 Mtpa ore. |                                |   |   |           |                    |  |  |  |  |  |   |   |  |   |   |
| The silt content on the road was assumed to be 6.9%. this assumption was not qualified.            | The silt content on the road was assumed to be 8.4% based on US EPA defaults.  |                                |   |   |           |                    |  |  |  |  |  |   |   |  |   |   |

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|      |  |  |                                |   | <p>The focus of the air quality assessment was on the proposed smelter activities. The existing mining operations were simulated in order to understand the baseline air quality impacts before the smelter activities commenced and how the smelter operations would alter the baseline air quality impacts when in operation. The baseline mining operations were thus merely simulated taking into consideration the existing operations and control efficiencies in place. The exercise of simulating the mine was not to identify the highest impacting source or to recommend mitigation measures. For this reason, varying mitigation measures were not simulated.</p>  |
| 6.37 |  |  |                                | <p>Better understanding the current baseline emission profiles is essential for determining whether the proposed development impact is within or exceeds the current emissions baseline. I have had the privilege of working at the site for 21 years and visiting the mine site several times in recent years during mine operation. Much of my attention has been focused on the eastern plateau of the Gamsberg as it is one of the most important sites for biodiversity in the Bushmanland area because of the fine grained quartz patches that occur there. I have noticed dust deposition in this area that is outside of the area of impact predicted by the 2013 air quality assessment. Additionally, some of this dust appears to be derived from blasting as it comprises minute quartz shards (implying particle size &gt;PM<sub>10</sub>) rather than fine grains. Ecological impacts that I have observed include high levels of plant mortality especially amongst CAM photosynthetic or stem/leaf succulent species and formation of physical soil</p> | <p>The difference between the 2013 and 2020 models has been noted above. Any additional impacts of mine dust on vegetation to the east of the Gamsberg inselberg would need to be quantified through monitoring and evaluated under a future revised offset calculation for the mine. It should not be considered a requirement under the current Smelter EIA. The implications of the increased dust deposition observed to the east of the inselberg is a mine impact, not related to the Gamsberg Smelter Project, the latter which will contribute insignificant dust deposition relative to the mine. The modelled air quality impacts for the smelter and associated infrastructure fall within the area already quantified for the mine offset as determined in the 2013 EIA for the Gamsberg Zinc Mine. See Section 10 (impact on vegetation due to dust) and 11 (impact on vegetation due to increased air emissions) of the Impact Assessment (Appendix D) where this has been assessed.</p> |

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|      |  |                                | <p>crusts. These observations beg the question as to the parameterisation of the air quality models. From my simple observations I conclude that the 2013 dust emission model underestimates the extent of mine dust impacts. A possible source of error in the air quality models could be that the atmospheric conditions of the mountain plateau where most of the dust generation takes place are very different to that of the plains. The 2020 dust emission model predicts a current baseline extent that is more in line with my observations on the ground. This model (see Figure 1 at end of this document – Appendix B6.2 of EIA Report) predicts that the current baseline is as much as 2 700 ha more than what was predicted in 2013. This will naturally have to be considered with any revision of the biodiversity offset agreement.</p> |  |
| 6.38 |  |                                | <p>The emission models are truncated at the end of the maps presented in the reports and during the biodiversity report-back meeting. To fully evaluate impacts it is important to propagate models to their full extent of predicted emission and not truncate them based on a pre-determined area of interest.</p>   | <p>The polygons shown on the maps reflect the extent of the modelled area used in the air quality model. While it would have been better to see the full extent of the 20 mg/m<sup>2</sup>/day dust deposition contour to compare with that generated in 2013, given that the modelled output is predominantly generated by the mine it is not considered necessary for the purposes of the Gamsberg Smelter to re-run the model. The dust deposition contribution from the smelter project remains negligible and within the area determined for the mine offset.</p> <p>In the case of gaseous emissions, the model generated outputs for a range of levels including levels significantly lower than globally accepted critical values. For instance, modelling outputs were prepared for as low as 1 ug/m<sup>3</sup> for SO<sub>2</sub>, which is ten times below the critical value for lichens of 10 ug/m<sup>3</sup>. It is only at a low level of</p> |



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|      |  |                                |   | <p>2 ug/m<sup>3</sup> and 1 ug/m<sup>3</sup> does the contour for SO<sub>2</sub> get cut off at the top. At these low levels of SO<sub>2</sub>, the area affected remains almost entirely within the area used as the basis for the Gamsberg Mine offset. Further, the concentration of pollutants at the offset sites are likely to be lower than 1 ug/m<sup>3</sup> and therefore are considered highly unlikely to have any impact on the vegetation of these areas.</p>  |
| 6.39 |  |                                | <p>The dust monitoring data presented is poorly located relative to the environmental receptors; is inconsistent (i.e. missing data); is not replicated; and, there are no control sites. This data is therefore of minimal scientific value in verifying or calibrating the dust emission models. This is unfortunate as quantitative monitoring data is essential for managing the mine's environmental impacts as well as contextualising the impacts of this proposed development. It is essential that a scientifically acceptable environmental monitoring program be implemented forth with.</p> | <p>The monitoring of dust fallout is essential for gaining a clear understanding of the current and future dust fallout from the mining operations and its impacts on vegetation. However, as indicated above, the potential impact of dust deposition due to the Gamsberg Smelter Project is predicted to be very low. Widespread dust monitoring is, however, recommended as part of an integrated monitoring plan (Chapter 29 of the EIA/EMPr report). There is an extensive existing monitoring plan for the Gamsberg Zinc Mine which would be expanded should the smelter be approved as a requirement of the EMPr.</p> |
| 6.40 |  |                                | <p>The model parameterisation assumes name plate emission without exploring real world emission scenarios. As with the PM<sub>10</sub> assessment, the presented model considers only a single set of emission parameters provided by the proponent. These must be considered as name plate emissions scenarios derived from the engineering design of the project. In reality, name plate production or emissions are never consistently achieved. For example, the stated emission parameter for SO<sub>2</sub> is approximately 3 000 tpa (page 41).</p>   | <p>As per the Dispersion Modelling Guideline: for assessing air quality impacts of new or modified existing sources, the maximum allowed amount, volume, emission rates and concentration of pollutants that may be discharged to the atmosphere should be considered to demonstrate compliance with NAAQS. The maximum emission rates must be based on emissions standards as stipulated in Section 21 of the National Environmental Management: Air Quality Act (NEM:AQA) (Act No. 39 of 2004).</p>  |

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|      |  |                                | Based on the volume of SO <sub>2</sub> produced this would imply a smelter operation efficiency of greater than 99%. I think that is unrealistic and in the interests of the taking the precautionary approach it would be prudent to explore a range of emission scenarios such as 98% (approximately 8 000 tpa SO <sub>2</sub> ) or 95% efficiency (approximately 20 000 tpa SO <sub>2</sub> ).   | As the smelter operations trigger listed activities stipulated in Section 21 of the NEM:AQA, these minimum emission standards (MES) were simulated.   |
| 6.41 |  |                                | The air quality assessment only reports on ground level concentrations for emissions. It does not consider emissions that remain in the air column. The proposed smelter is located at 900m above sea level with a smoke stack of 70m. The mountains neighbouring the site have an elevation of 1100m, therefore, the mountains are 130m above the level of the emissions source. If the emission profiles conform to those presented in Figure 3-4 of the air quality report then it is reasonable to expect that the emission column will intersect the mountains on occasion. As the mountains surrounding the site contain many of the biodiversity features of conservation, from an ecological impact assessment perspective understanding the spatial dimension of this impact is critical to fully evaluate the developments impacts. | The dispersion model takes into consideration hourly meteorological data for a 3 year period. It thus takes into consideration all meteorological conditions (during this simulated period) and outputs highest ground level concentrations at every grid intercept point for that time period. The maximum concentrations (i.e. hour or day) per grid point are independent of each other and will thus correspond to the same meteorological hour or day. The output is thus conservative and provides the maximum possible ground level concentrations.<br><br>Topography (if slope is greater than 1 in 10) can be inputted into the model to allow for the impact prediction on undulating features. |
| 6.42 |  |                                | Recommendations<br><br>The air quality study needs to be completely revised implementing the recommendations I have proposed here and others that may have been proposed.   | The 2020 air quality model run by Airshed provides sufficient basis for confirming the relative contribution of dust deposition from smelter compared to the mine to demonstrate that the smelter would not lead to significant additional dust impacts. Further the modelled SO <sub>2</sub> annual ground level concentrations at low levels of less than 3ug/m <sup>3</sup> also show that the levels remain well under  |

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|      |  |                                |  | global critical values of 10 ug/m <sup>3</sup> and fall within the area already considered technically offset for the mine.   |
| 6.43 |  |                                | <p>It is not possible to state as yet what the emissions impact footprint is of the smelter relative to the current baseline. It is likely that when considering emissions impacts based on “worst case scenario” [precautionary principle] rather than “best case scenario” the extent and significance will be different to what is currently reported. This change could trigger the need for a biodiversity offset. As it currently stands, the revised current baseline dust emissions scenario presented in the Air Quality Report increases the mine impact extent by as much as 2 700 ha. It is recommended that the amended biodiversity offset agreement currently being considered by BMM that covers the residual impact of this as well as other developments taking at the mine considered under other EIAs be a precondition for this development. This requirement should be a condition of the development ROD.</p> | <p>The 2020 air quality model for the Smelter Project is not considered a ‘best case scenario’ and incorporated realistic variables including several more precautionary parameters such as higher silt content and increased trucks per day. As indicated above, the 75% control efficiency level used was also realistic given that the road between the smelter and SLF is to be paved. Further, the modelled outputs for the Smelter Project incorporated significantly lower critical values of SO<sub>2</sub> than the most conservative global values of 10 ug/m<sup>3</sup> and used the same threshold for dust as the mine offset of 20 mg/m<sup>2</sup>/year and 50 mg/m<sup>2</sup>/year.</p> <p>The stated figure of an increased mine impact of 2700ha has not been determined in the Smelter EIA and is not substantiated by any quantification done to date, and is applicable to the mine impacts only. While the air quality model does indeed shows a shift to the east relative to the 2013 model produced for the mine the difference between the 20 mg/m<sup>2</sup>/day contours for 2013 and 2020 would potentially impact more irreplaceable habitat on the east of the inselberg than originally calculated in the mine offset. This is because only the irreplaceable habitats between the 50 mg/m<sup>2</sup>/day and 20 mg/m<sup>2</sup>/day contour were included in the offset calculations. It is estimated that the additional irreplaceable habitats affected by the shift in model outputs to the east to be in the order of ~300 ha.</p> <p>However, any modelled outputs require validation through implementation of a robust monitoring programme to demonstrate the causes of impact and to verify the offset requirements. Any</p> |

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|      |  |   |                                |  | <p>further recalculation of offset requirements should be done once sufficient monitoring data is obtained to confirm the extent of actual impacts.</p> <p>Given that the Smelter Project impacts on vegetation are predicted to fall within the area already quantified for the mine offset, the recommendation for a recalculation of the offset requirement is not considered a valid condition for the Smelter Project RoD but may well be valid for the mine impacts.</p> <p>Nonetheless, quantifying the predicted impacts using the new model would be a useful exercise to help confirm areas targeted for the monitoring programme to ensure areas falling under the new modelled outputs are included.</p> |
| 6.44 |  |   |                                | Implementation of the environmental monitoring program should be a condition of the ROD for this development.  | The requirement for the implementation of a stringent monitoring programme for both air quality and the related ecological impacts has been included in Chapter 29 of the EIA & EMPr report and will be a requirement of the EMPr should the Gamsberg Smelter Project be approved.   |
| 6.45 |  |   |                                | Because the emissions footprint is mostly located within the existing determinant of the current biodiversity offset, full implementation of the current biodiversity offset agreement should be a condition of the ROD for this development.          | Implementation of the mine offset falls outside of the Smelter Project scope and assessment requirements. This recommendation will need to be considered by the competent authority.   |
| 6.46 | Elsabe Swart,<br>DENC: Scientific<br>Manager:<br>Grade B             | X | Letter,<br>4 November<br>2020  | Preliminary comments on the Gamsberg Smelter Project: Draft Environmental Impact Assessment and Environmental Management Programme were received from the Northern Cape Department of Environment and Nature Conservation (NCDENC) on 4 November 2020. | These comments were received after the closing date for the public comment period (1 November 2020).   |

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|           | Research and Development Support Unit                                |   |   | The NCDENC has also indicated that they will submit comments directly to the DMRE by 13 November 2020.   | SLR was unable to address these comments prior to submitting the EIA and EMPr for the Gamsberg Smelter Project to the DMRE due to the NEMA regulated timelines for submission.<br><br>SLR has included NCDENC's comments in Appendix B6.2.<br><br>SLR will in due course respond to NCDENC's comments and forward these responses to both NCDENC and the DMRE.   |
| <b>7.</b> | <b>Key Stakeholders Focus Group Meetings</b>                         |   |   |  |  |
| 7.1       | Dr Philip Desmet (PD)  | X | Biodiversity Focus Group Meeting, 27 October 2020 | Was a separate EIA undertaken for the pipeline and why?  | The pipeline, as required under NEMA with DENC as the competent authority, was part of a separate basic assessment (BA) process as the applicant for the pipeline (which is outside of the mining right area) is Sedibeng Water. The pipeline proposed within the mining right area as well as the proposed smelter complex, have been assessed within the same Scoping and EIA process as the Gamsberg Smelter Project with DMRE as the competent authority and Black Mountain Mining (Pty) Ltd as the applicant. |
| 7.2       |  |   |   | What is included as part of materials handling in the air quality report? There doesn't appear to be a section where the sources of dust are listed. Was blasting included in the modelling? The previous model for the mine did not include blasting. | Materials handling as a baseline activity refers to the on-going activities of the mine, i.e. hauling of ore and ore processing activities, etc.   |
| 7.3       |  |   |   | With reference to the vegetation thresholds table (on page 12 of the presentation), it is not clear if they apply just for the smelter complex and whether the scenarios in column 3 were run only for the Gamsberg Smelter Project?                   | Scenarios were run for both the Gamsberg Zinc Mine alone (baseline) and with the mine and Gamsberg Smelter Project together.   |

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| 7.4 |  |                                | There seems to be conflicting contour data sets between some of the contours on the maps for the current dust modelling and ERM 2013 modelling.  | See response in Section 6.19.  |
| 7.5 |  |                                | No quantitative analysis of the differences between the mine and smelter impacts on vegetation types 'affected' by the ERM 2013 model and the Airshed 2020 model has been undertaken. The shift in the Airshed 2020 model to the east could have a significant effect on the identified irreplaceable areas to the east of the project site and have implications for the offset calculations. The Airshed model is probably more indicative of the situation on the ground but this has not been quantitatively assessed. | The figures referred to show the difference in the modelled outputs for the Gamsberg Zinc Mine only under each model and the smelter has a relatively small contribution to dust fallout. Therefore, any further quantitative analysis of the air quality dispersion models and implications for vegetation should be considered under any planned offset recalculations for the Gamsberg Zinc Mine. The potential Smelter Project impacts fall largely within the existing area used to determine the mine offset. The newly identified calcrete area (in the north) (~100 ha) may need to be evaluated to confirm its importance and correct boundary and be considered as part of the monitoring in terms of incremental impacts. |
| 7.6 |  |                                | On Slide 18 (SO <sub>2</sub> ) there are some sections where the 1 ug/m <sup>3</sup> exceeds the 20 mg/m <sup>2</sup> /day   | Almost all the model contour outputs fall within the 20 and 50 mg/m <sup>2</sup> /day area used as the basis for the mine offset, apart from some small area on the 1ug/mg/day contour which is mainly in one area of low sensitivity (i.e. no irreplaceable habitats that would suggest an additional offset requirement).  |
| 7.7 |  |                                | What is the total discharge of SO <sub>2</sub> into the atmosphere from the smelter on an annual basis that was used in the model. Initial calculations, assuming a 95 % efficiency was about 20 000 tonnes per annum of sulphur from the stack.   | The SO <sub>2</sub> emissions were modelled from the acid plant stack and the casting stack. The emissions from these two stacks were based on Minimum Emission Standards (MES) that the process would need to comply with in terms of their Atmospheric Emissions Licence (AEL).<br><br>It should be noted that the air quality assessment is based on human health considerations. SLR co-ordinated with Airshed to generate model outputs at different concentrations to be able to   |

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|      |  |                                |  | extrapolate results to potential impacts on vegetation using available thresholds as a guide.  |
| 7.8  |  |                                | Human receptors to dust and gaseous emissions are very different to plants which are not as well understood. A 10% deviation from the baseline would give a better indication for understanding the impact. However, long term monitoring would be required to better understand the effect on vegetation.   | The current ambient air quality emissions for SO <sub>2</sub> would be largely related to localised outputs from vehicles and machinery used at the Gamsberg Zinc Mine and is not expected to be significant, and therefore modelling a 10 % increase is difficult. Rather a range of thresholds much lower than globally available critical values for SO <sub>2</sub> was modelled, starting with the most conservative one of 10ug/m <sup>3</sup> annual concentrations of SO <sub>2</sub> (for lichens) and including smaller levels of 5, 3, 2 and 1ug/m <sup>3</sup> .   |
| 7.9  |  |                                | It is not easy to get the bigger picture for the landscape from this modelling as the threshold has been cut off at 1ug/m <sup>3</sup> . In addition the contours for the air quality model terminate to the south and north of the Gamsberg Zinc Mine and do not show the full extent, so how do we know the lower levels do not affect the offset areas? It would be good to see the full extent of the affected area without a cut off at 1 ug/m <sup>3</sup> . | The polygons shown on the maps reflect the extent of the modelled area. Air quality impacts for impacts on vegetation were modelled for a range of levels including levels significantly lower than globally accepted critical values. For instance, modelling outputs were prepared for as low as 1 ug/m <sup>3</sup> for SO <sub>2</sub> . Which is ten times below the critical value for lichens of 10 ug/m <sup>3</sup> . Even at this low level of 1 ug/m <sup>3</sup> for SO <sub>2</sub> , the area affected remains almost entirely within the area used as the basis for the Gamsberg Mine offset. The concentration of pollutants at the offset sites are likely to be lower than 1 ug/m <sup>3</sup> and therefore are considered highly unlikely to have any impact on the vegetation of these areas. |
| 7.10 |  |                                | Please provide a copy of the Air Quality Impact Assessment Specialist Report.  | A link was sent out on 2 October 2020, however, it can be resent if required.  |
| 7.11 |  |                                | The modelled dust was based on a 75 % control efficiency which is likely to be the best-case scenario. My feeling is that 30 % efficiency for a mine is more likely. Using the precautionary approach 30% should have been modelled.   | The bulk of the dust is coming from the Gamsberg Zinc Mine with only minor amounts coming from the Gamsberg Smelter Project.<br>Further assessment of residual mine impacts and offset recalculations could consider different model outputs. The 75%  |

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|      |  |   |                                |   | control efficiency was applied to the unpaved haul roads due to existing mining activities. This control efficiency on unpaved roads can be achieved through water suppression according to literature. See also Section 6.19.  |
| 7.12 |  |   |                                | <p>I am happy with the Biodiversity Report in general, including the baseline data, impact assessment, and the location of the infrastructure in the context of consolidating the existing mine infrastructure. If the site were a greenfield site there would be a different outcome.</p> <p>The main reservations relate to uncertainties in the model parameters and the scale and resolution of the model outputs to provide a more comprehensive picture of the additional impacts and the qualitative approach taken to the analysis.</p> | Agreed that a quantitative analysis of the two models used to generate different outputs for the mine would be useful as part of a future recalculation of the offset, but should not be considered part of the scope for the Smelter Project. This is because the potential biodiversity impacts of the Smelter Project are predominantly confined within the area that is already technically offset for the mine. No impacts of the Smelter Project are predicted to impact on irreplaceable vegetation outside the 20mg/m <sup>2</sup> /day area. |
| 7.13 |  |   |                                | The other issue is the assessment of cumulative impacts which is always a problem in EIAs and can include different types of projects from Vedanta – specific projects (e.g. Swartberg Mine, pipeline etc) to renewable energy and the IDZ.   | See response in Section 6.23.   |
| 7.14 |  |   |                                | Quantitative monitoring is essential for quantifying actual impacts over time and providing a basis for improved predictions and confirmation of the offset determination.  | Quantitative monitoring has been recommended by the Terrestrial Ecology Specialist Study and is included in Chapter 29 of the EIA and EMPr report.  |
| 7.15 | Katherine Forsythe   | X | Biodiversity Focus Group       | Supports the comments raised by Phil Desmet. A recalculation of the biodiversity offset area for the Gamsberg Zinc Mine needs to be looked at given the   | The Smelter Project impacts based on the air quality model results fall within the area used as the basis for the mine offset. The additional new calcrete area to the north is approximately 100 ha  |



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|      |  |   | Meeting, 27 October 2020  | results of the air quality dispersion model and new calcrete patch.  | and could be potentially affected by air emissions. However, it is first necessary to validate the size and quality of the area and possibly include it in an integrated monitoring plan to confirm any changes over time (taking into consideration natural variability in rainfall).   |
| 7.16 |  |   |   | What are the timelines for the project going forward?  | The 30-day public comment period concludes on 1 November 2020. All comments and/ or queries should be submitted by that date.  |
| 7.17 | Khâi-Ma Local Municipality Ward Councillors                          | X | Khâi-Ma Local Municipality Ward Councillors Focus Group Meeting | Are there health implications due to the SO <sub>2</sub> and NO <sub>2</sub> emissions?  | There are potential health implications should high levels of SO <sub>2</sub> and NO <sub>2</sub> be emitted. However, as discussed in Chapter 15.2.2 of Appendix D and Appendix H (Air Quality Study) the modelled impact on human health is assessed to be low prior to mitigation measures being implemented and very low with mitigation due to measured levels falling well within the National Ambient Air Quality Standards and nearby sensitive receptors. |
| 7.18 |  |   |   | The mitigation measures for noise. What are you referring to?  | Any machinery that generates significant noise would be placed inside noise reducing infrastructure, where practical. Noise minimisation also includes keeping equipment in good condition, using new equipment and using the latest noise abatement technology. See Chapter 16 of Appendix D for the proposed noise mitigation measures.  |
| 7.19 |  |   |   | What are the white circles on the visual map?  | Those are the distances from the noise generating machinery with the smallest being 2km, then 4km, 6km, and 12km.  |
| 7.20 |  |   |   | Under the Economic Study findings, it states that 'new developments could improve the financial positions of the local municipalities. Can you elaborate more on this? | The municipality would receive additional revenue through levies or taxes and as such could stimulate the local economy. In the Gamsberg Zinc Mine Social and Labour Plan there are certain  |

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|      |  |                                |  | <p>requirements for investment and stimulus in the local economy which could be enhanced by the development of the Gamsberg Smelter Project. Other opportunities for local businesses could also be created. In addition, the development of the smelter project opens up opportunities for secondary industries e.g. the use of by-products from the smelter process. See Chapter 27 of the EIA and EMPr report and Chapters 23-27 and 31-35 of the Impact Assessment (Appendix D) for a full description of the impacts and mitigation measures for economic and social impacts respectively.</p>   |
| 7.21 |  |                                | <p>'Health, safety, and security' has a medium rating, why medium?</p> | <p>According to the study undertaken by the social specialist (Chapter 35 of the Impact Assessment - Appendix D) the impact on community health, safety and security is rated as medium prior to any mitigation measures being implemented and can be reduced to low.</p> <p>The rating takes into account the impact of:</p> <ul style="list-style-type: none"> <li>• Health risks due to air emissions and noise pollution during the construction and operation activities;</li> <li>• Safety risks (e.g. risk due to increased traffic);</li> <li>• Reduced health due to stress of actual and perceived negative impacts and feelings of insecurity; and</li> <li>• Increase in the spread of communicable diseases and social pathologies due to population influx.</li> </ul> <p>During the construction phase, construction workers would stay on the mine property and not in Pofadder/ Pella thus limiting community interaction.</p> |

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| 7.22 |  |                                | Does the impact study consider the health and safety of the surrounding communities?   | As per 7.21 the study assessed the impact on Community Health, Safety and Security (Chapter 35 of Appendix D). The safety of mine or smelter employees is governed by the Mine Health and Safety Act.   |
| 7.23 |  |                                | How much water will you use daily?   | Water demand for the Gamsberg Smelter Project is discussed in Section 3.2.5 (Table 3-15) of the EIA and EMPr report. The smelter will use approximately to 8 ML/day.  |
| 7.24 |  |                                | Will the increase in water use and the pipeline project affect our communities?  | Black Mountain Mining (Pty) Ltd, on behalf of Sedibeng Water, have proposed to upgrade Pella's water works and remove and upgrade the existing underground pipeline so that the additional water use due to the smelter project does not take away from what is in the existing system, thus ensuring that towns currently supplied with water would not be impacted. (The Pella Bulk Water Pipeline is subject to a separate application to the Northern Cape Department of Environment and Nature Conservation). DMRE is the authority to approve environmental studies on the mine lease area and DENC/DEFF approve environmental authorisations outside these mining areas. |
| 7.25 |  |                                | That pipeline runs on a servitude and the municipality benefits from job creation. At Sedibeng we had a meeting and met with the Premier. We understand their situation. They are also dependent on us. These investments, you pay for it, you build the pipeline, I understand right? How can they just receive, but our poor communities cannot pay for their services, but now look how the municipality has to pay for them and at the same time we get jobs but in between these big investments come | Black Mountain Mining (Pty) Ltd is building the pipeline on behalf of Sedibeng Water. Once construction of the pipeline is complete the pipeline will be handed over to Sedibeng Water for the operational phase. However, as per the Basic Assessment Report submitted to DENC in October 2020, should the project be approved, during the construction process Black Mountain Mining (Pty) Ltd would maximise the employment of local people.   |

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|      |  |   |   | <p>which are not for our benefit. So when you are done, do you give it to them?</p> <p>If they get a pipeline, they can write off our R5 million debt. This is a request I want on behalf of the municipality because we cannot pay Sedibeng. We are poor communities that cannot keep up with payment for services. As before, that servitude at Pella is unfortunately out of hand. It's Sedibeng servitude, but Sedibeng will pay for it.</p> | <p>This agreement would need to be made with Sedibeng Water as it is an independent supplier to both Khâi-Ma and Black Mountain Mining.</p>   |
| 7.26 |  |   |   | <p>The acid produced and by-products, what are the risks the community will get their hands on it?</p>   | <p>The products are stored in bulk on the mine site and are stored in access controlled areas. Therefore, even employees are restricted from gaining access. It is therefore unlikely that the community would come into contact with these by-products. The highest area of risk would be during the transportation of these products/ by-products to harbour via Springbok. However, the transportation is subject to significant levels of risk control, so the risk is very low. There are hazardous substances like cyanide inside, but access is strictly controlled, often even to Gamsberg Mine personnel for their own safety.</p> |
| 7.27 | Elsabe Swart, DENC   | X | Biodiversity Focus Group Meeting, 3 November 2020 | <p>The scope did not specify landscape context and connectivity. Was this taken into consideration, specifically in terms of CBA's i.e. if the current biodiversity offset is addressed in the context of BMM, the Gamsberg Mine and future projects such as the smelter project and</p>   | <p>Landscape context and connectivity was not specified as a key task in the scope, however, the impact assessment for the project does consider the impact of the project within the surrounding landscape. Connectivity issues and fragmentation of the landscape aspects were considered in the assessment of the alternatives for the development of the Gamsberg Smelter Complex (Chapter 5 of Appendix G – Ecological Study). Alternative sites considered for the</p>  |

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|      |  |                                | the SEZ and whether the CBA connectivity aspects have been addressed and assessed?  | <p>development of the Gamsberg Smelter Complex were located on the northern as well as southern sections of the N14. These sites were also ranked in terms of potential impacts associated with biodiversity to identify areas of most/ least impact. The selection of the preferred site for the development of the Gamsberg Smelter Complex was based on the fact that the area to the south of the N14 is in close proximity to the Gamsberg Zinc Mine (as it is within an already disturbed footprint), therefore resulting in less fragmentation of the landscape.</p> <p>In addition, Black Mountain Mining (Pty) Ltd have commenced with the compilation of a Broader Biodiversity Strategic Plan that will take existing and potential future projects into consideration. This project will focus on conceptual design and planning, taking mitigation hierarchy into consideration as a first building block. Baseline and cumulative impact assessment, including existing and proposed future development footprints, air quality modelling, groundwater and climate change will form part of this cumulative impact assessment looking at biodiversity and the ecological functionality of landscape will be taken into consideration.</p> |
| 7.28 |  |                                | This project is specifically for the smelter. But on some of the website information, there is talk of a sinter plant. Are you aware of that? | This EIA is for the Gamsberg Smelter Project only and Black Mountain Mining (Pty) Ltd is not planning the development of a sinter plant. SLR is however aware of plans to create a Special Economic Zone around the mine and smelter and the cumulative impact of this will need to be considered.  |
| 7.29 |  |                                | For clarity, did you only use the 2013 EIA dust model or was a revised dust deposition model done for the                                     | SLR did not use the 2013 EIA dust model. The baseline dust due to the Gamsberg Zinc Mine was remodelled by the air quality specialist, Airshed, in 2020. The Air Quality Impact Assessment  |

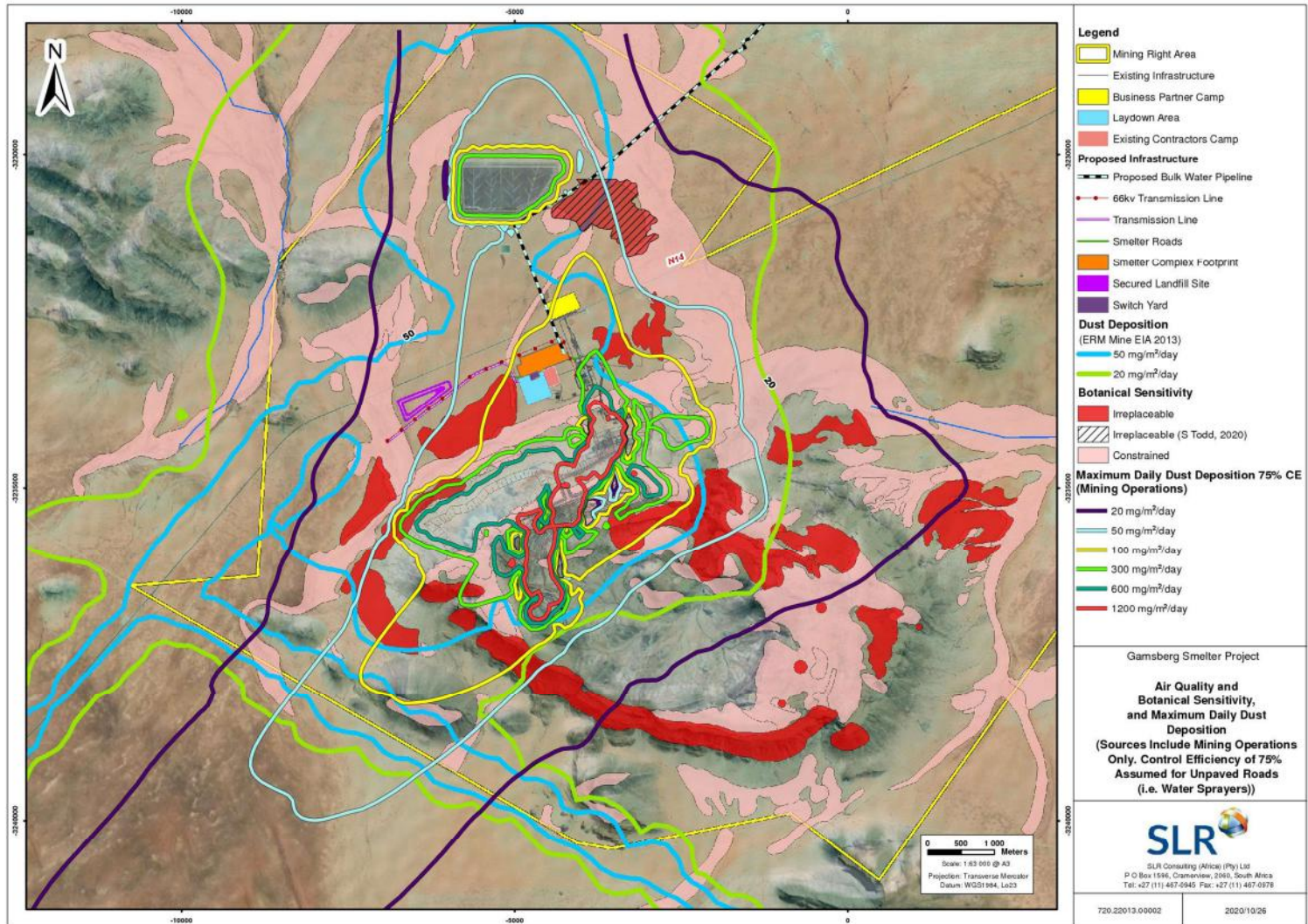
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|      |  |                                | Gamsberg Smelter Project as well as modelling for the smelter?   | <p>Report is included in Appendix H. There are some differences between the 2013 and the 2020 model outputs for the 20 mg/m<sup>2</sup>/day and 50mg/m<sup>2</sup>/day dust deposition from the mine. These differences are discussed in Section 6.36 above and are depicted in Annex 1 and Annex 2 of this Appendix.</p> <p>The Air Quality Impact Assessment Report compares the dust deposition of the mine and the smelter (Annex 2) and shows that the bulk of dust deposition in the area is due to the mining operations and that the additional impact due to the smelter would be negligible.</p>  |
| 7.30 |  |                                | Will the SO <sub>2</sub> emissions settle out as particles thus generating acidic conditions on the soil surface and/ or the plants? | <p>The Air Quality Impact Assessment Report modelled SO<sub>2</sub> emissions in the atmosphere i.e. ambient air quality. This indicates that the SO<sub>2</sub> in the atmosphere was not likely to present an issue due to the low concentrations predicted to be emitted. One concern is if the SO<sub>2</sub> does not dissipate as quickly as predicted and there is fog present which could result in an acid rain effect. However, this impact is expected to be localised. It is also possible that dust emissions from the mine could also form an acidic solution when they react with water which could cause acidification of the soil in the area.</p> <p>A monitoring plan in consultation with key biodiversity stakeholders and specialists (as recommended in the Chapter 29 of the EMPr) needs to be developed that will allow for the measurements of the potential impact of ambient air quality on sensitive vegetation types.</p> |
| 7.31 |  |                                | Would you justify the current model in comparison to the previous one?   | A conservative approach was undertaken during the determination of the biodiversity offset area for the Gamsberg Zinc Mine as part of   |

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|      |  |  |                                |   | <p>the original 2013 EIA. Our approach in the current Gamsberg Smelter Project assessment was to determine whether the development of the smelter would result in the requirement of an additional offset area.</p> <p>When Black Mountain Mining (Pty) Ltd undertake the broader Biodiversity Strategic Plan, it is proposed that the Airshed model be used for understanding the cumulative impact assessment on biodiversity in line with existing and potential future projects for the mine. Further modelling should only be used to guide the monitoring programme. Should monitoring show direct impacts outside of the original off-set area, then additional offsets may be required. However, conversely, if monitoring shows no impact, then theoretically the offset could be reduced.</p> |
| 7.32 |  |  |                                | <p>The consideration of post-graduate studies to start getting more information on environmental impacts is something that I would support, in particular as the terrestrial ecology specialist found during his research that there is limited literature on environmental impacts in arid environments.</p> | <p>Black Mountain Mining (Pty) Ltd already has a couple of research topics included in the monitoring protocols that can be considered for implementation as research projects by M.Sc. and/or Ph.D. students. This would be a good opportunity for industries to collaborate with academic institutions to contribute to the body of knowledge and thus be able to make more informed decisions.</p>   |
| 7.33 |  |  |                                | <p>Can you just provide the timeframe for the project going forward?</p>  | <p>Written comments on the proposed Gamsberg Smelter Project can be submitted to the EAP before Friday 6 November 2020 for inclusion in the EIA and EMPr report. The EAP will, however, not be able to respond to the comments within the Comments and Response Report submitted to DMRE, due to the tight regulatory times frames. However, in this regard, SLR will respond to NCDENC's comments and distribute these responses to both NCDENC and</p>  |

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|      |  |   |   |   | DMRE. Other comments received after this date will be submitted directly to the DMRE for their consideration.  |
| 7.34 | Peter Cloete, DENC District Ecologist                                | X | Biodiversity Focus Group Meeting, 3 November 2020 | The construction of the pipeline, is it only for the purpose of the smelter?            | <p>The main reason for the construction of the proposed pipeline is the Gamsberg Smelter Project, however, the existing underground pipeline is old and does require an upgrade. Therefore, it is an opportune time to replace the existing underground pipeline thus ensuring adequate supply of water to the Gamsberg Smelter Project and the surrounding towns of Pella, Pofadder and Aggeneys.</p> <p>The Pella Bulk Water Pipeline has been applied for under a separate Basic Assessment process and was submitted to the NCDENC on 22 October 2020 for decision making.</p>   |
| 7.35 |  |   |   | When you did the assessment did you consider the wind direction and the wind intensity? | Meteorological aspects are key inputs that drive the air dispersion model . In the air quality specialist study, details of the wind roses and additional information used in the formulation of the model are provided (see Chapter 3.2 of the Air Quality Impact Assessment – Appendix H)  |
| 7.36 |  |   |   | Are the mitigation measures site-specific or general?                                   | The mitigation measures as stipulated in both the Impact Assessment (Appendix D) and the EMP are applicable to the entire site for the Gamsberg Smelter Project and would need to be implemented for the duration of the project life cycle. Further detail regarding the mitigation measures is included in the individual specialist reports. Monitoring would also need to be undertaken in certain areas as specified in the EMP some of which will be outside the Mining Right Area in order to understand potential impacts on neighbouring areas as well as the offset areas. |



ANNEX 1 Dust Deposition for the Mine Only



ANNEX 2 Dust Deposition for the Mine and Smelter

